

**An Investigation into the Application of Open-Book Accounting (OBA): A Case Study  
of Saudi Arabian Companies**

**Ameera Hakami**

A thesis submitted in partial fulfilment of the requirements for the degree of  
Doctor of Philosophy

02 June 2023



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Faculty of Social Sciences  
School of Management

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## **Declaration**

*I, Ameera Hakami, confirm that the Thesis is my own work. I am aware of the University's Guidance on the Use of Unfair Means ([www.sheffield.ac.uk/ssid/unfair-means](http://www.sheffield.ac.uk/ssid/unfair-means)). This work has not been previously been presented for an award at this, or any other, university.*

## Acknowledgements

I would like to take this opportunity to express my deepest gratitude and appreciation to all those who have contributed to the successful completion of my PhD thesis. Without their unwavering support, guidance, and encouragement, this achievement would not have been possible.

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## Abstract

This study investigates the adoption of open-book accounting (OBA) in Saudi Arabian companies and identifies the challenges that must be addressed before this can occur. Strong structuration theory (SST) was used as the theoretical framework to explain the underlying restrictive factors and explore the internal and external factors influencing OBA's operation and performance. Additionally, this study aims to evaluate the significance of the maturity of supply-chain networks with regard to OBA application in the Saudi Arabian context.

This study used a dialectical ontology and interpretive epistemology. These two concepts acknowledge the limitations of objective knowledge and place emphasis on the context and interpretation of subjective experiences for understanding social phenomena. A qualitative research method guided by an interpretive philosophy was utilised, recognising the significance of individuals' subjective experiences and the meanings they ascribe to their own actions. The case-study approach was employed, and inductive reasoning was used to explore the perspectives of the key stakeholders. The research was built around two supply chain case studies, each representing different stages of maturity in their relationships. These case studies provided an opportunity to conduct a comparative analysis, allowing for valuable insights into the impact of structural factors on the development of OBA in supply chains. Primary data were collected through semi-structured interviews and observations, and secondary data were collected through the Saudi Vision 2030 document, as well as government reports and company reports and documents collected from different organisations' websites. The thematic analysis approach was used to analyse the obtained data and to identify the key themes and patterns in the findings.

The evidence suggests that OBA is in an early stage of implementation in Saudi Arabia. However, various factors driving its successes and challenges were evident. One noteworthy aspect is the influence of cultural norms and the legal environment amongst other elements on individual behaviour. These cultural norms are leading many Saudi companies to hesitate and resist OBA adoption. Moreover, what sets Saudi Arabia apart is the active advocacy among practitioners for standardized regulations governing OBA practices. Finally, this research finds that a high level of supply chain maturity alone may be insufficient to ensure successful OBA adoption because of the cultural norms of confidentiality and privacy as well as the legal environment existing in Saudi Arabia.

## **List of contents**

Declaration	page 3
Acknowledgements	page 4
Abstract	page 5
Table of Contents	page 7
List of Tables	page 11
List of Figures	page 12
List of Abbreviations	page 13

## **Table of Contents**

<b>List of Tables .....</b>	<b>11</b>
<b>List of Figures.....</b>	<b>12</b>
<b>List of Abbreviations .....</b>	<b>13</b>
<b>Chapter 1: Introduction .....</b>	<b>14</b>
<b>1.1 Introduction .....</b>	<b>14</b>
<b>1.2 Background of the Research: The Saudi Arabian context .....</b>	<b>15</b>
<b>1.3 Research Gap.....</b>	<b>17</b>
<b>1.4 Motivations and Significance of the Research .....</b>	<b>18</b>
<b>1.5 Overview of the Key Aspects .....</b>	<b>19</b>
<b>1.6 Research Aim and Objectives .....</b>	<b>21</b>
<b>1.7 Research Questions.....</b>	<b>21</b>
<b>1.8 Summary of the Research Methodology .....</b>	<b>23</b>
<b>1.9 Contribution of the Research.....</b>	<b>24</b>
<b>1.10 Structure of the Thesis .....</b>	<b>25</b>
<b>Chapter 2: Literature Review.....</b>	<b>27</b>
<b>2.1 Introduction.....</b>	<b>27</b>
<b>2.2 Overview of Open-Book Accounting .....</b>	<b>27</b>
2.2.1 Definition .....	27
2.2.2 Actors in an OBA System .....	31
2.2.3 Design of the OBA Process.....	32
2.2.4 Use and Application of OBA .....	34
2.2.5 Dimensions of OBA .....	37
<b>2.3 Factors that drive OBA adoption by companies.....</b>	<b>41</b>
2.3.1 Internal Factors Driving OBA Adoption.....	41
2.3.1.1 Organisational culture: .....	41
2.3.1.2 Leadership: .....	42
2.3.1.3 Resources: .....	43
2.3.1.4 Training and Education .....	43
2.3.1.6 An Effective Internal Auditing Department: .....	45
2.3.1.7 An Inventory-management Strategy.....	45
2.3.2 External Factors Driving OBA Adoption.....	46
2.3.2.1 Government regulations .....	46

2.3.2.2 Investor pressure .....	47
2.3.2.3 Trust .....	47
2.3.2.4 Competitive advantage .....	48
2.3.2.5 Standardised form of sharing information.....	49
2.3.2.6 Fear of opportunism .....	49
2.3.2.7 Communication barriers during Covid-19.....	50
2.3.2.8 Dependency and power asymmetry.....	50
<b>2.4 Opportunities, Challenges and Benefits of OBA Best Practices .....</b>	<b>51</b>
<b>2.5 Impacts of Network Lifecycle on OBA application .....</b>	<b>55</b>
<b>2.6 Effects of Supply-Chain Maturity on OBA Implementation .....</b>	<b>57</b>
<b>2.7 OBA and Inter-Organisational Cost Management Practices .....</b>	<b>58</b>
<b>2.8 Theoretical paradigms .....</b>	<b>61</b>
2.8.1 Strong structuration theory (SST) .....	61
2.8.2.Actor-Network Theory (ANT).....	66
2.8.3Translation Theory (TT).....	68
2.8.4 Transaction Cost Theory .....	70
2.8.5 Social Exchange Theory.....	71
2.8.6. Rationale of the Theoretical Framework .....	72
<b>2.9 Conclusion .....</b>	<b>73</b>
<b>Chapter 3: Overview of OBA in the Saudi Arabian Context .....</b>	<b>74</b>
<b>3.1 Introduction .....</b>	<b>74</b>
<b>3.2 Brief History .....</b>	<b>74</b>
<b>3.3 Cultural Position and Heritage .....</b>	<b>75</b>
<b>3.4 The Legal Environment of Saudi Arabia and Some Related Laws .....</b>	<b>77</b>
<b>3.5 The Economic Environment of Saudi Arabia.....</b>	<b>87</b>
<b>3.6 Saudi Vision 2030.....</b>	<b>89</b>
<b>3.7 The Saudi Vision 2030 and OBA .....</b>	<b>95</b>
<b>3.8 Supply-Chain Operations in Saudi Arabia.....</b>	<b>97</b>
<b>3.9 Domestic Entities that Manage the Supply Chains.....</b>	<b>99</b>
<b>3.10 OBA Practices in Saudi Arabia .....</b>	<b>100</b>
<b>3.11 Conclusion.....</b>	<b>105</b>
<b>Chapter 4: Research Methodology.....</b>	<b>106</b>
<b>4.1 Introduction.....</b>	<b>106</b>



<b>4.2 Research Methodology.....</b>	<b>106</b>
<b>4.3 Research Design/case study .....</b>	<b>112</b>
<b>4.4 Data Collection .....</b>	<b>114</b>
<b>4.5 Data Analysis .....</b>	<b>120</b>
<b>4.6 Ethical Considerations.....</b>	<b>137</b>
<b>4.7 Enhancing Qualitative Research: A Comprehensive Approach.....</b>	<b>139</b>
<b>4.8 Conclusion .....</b>	<b>142</b>
<b>Chapter 5: Research Findings .....</b>	<b>143</b>
<b>5.1 Introduction.....</b>	<b>143</b>
<b>5.2 Summaries of the Case Studies .....</b>	<b>144</b>
5.2.1 Case Study 1: The Manufacturer and its Supplier .....	144
5.2.2 Case Study 2: The Pharmaceutical Factory and the Supplier .....	147
<b>5.3 Current Status and Trends of OBA in Saudi Arabia .....</b>	<b>149</b>
<b>5.4 Factors Influencing OBA Adoption in Saudi Arabia.....</b>	<b>150</b>
5.4.1 Effects of Covid-19 and Communication .....	151
5.4.2 Competition.....	154
5.4.3 Lack of Regulation and a Standardised Form of Information Sharing .....	155
5.4.4 Data Security .....	157
5.4.5 Fear of Opportunism .....	160
5.4.6 Government Support and Adequate Techniques .....	162
5.4.7 Employee Competence.....	164
5.4.8 An Effective Internal Auditing Department .....	167
5.4.9 Dependency and Power Asymmetry .....	169
5.4.10 Inventory Management Strategy .....	170
5.4.11 Level of Trust.....	172
<b>5.5 Supply-Chain Maturity: Lifecycle .....</b>	<b>174</b>
<b>5.6 Opportunities for OBA adoption .....</b>	<b>180</b>
<b>5.7 The Benefits of Successful OBA Implementation .....</b>	<b>182</b>
<b>5.8 Challenges associated with OBA Implementation .....</b>	<b>185</b>
<b>Chapter 6: Discussion of the Findings .....</b>	<b>190</b>
<b>6.1 Introduction.....</b>	<b>190</b>
<b>6.2 The current status of OBA in Saudi Arabian Companies .....</b>	<b>191</b>
6.2.1 Cultural norms.....	191
6.2.2 Language.....	192

6.2.3 Religious beliefs .....	192
6.2.4 Organisational culture .....	193
6.2.5 Legal Environment.....	194
6.2.6 Data security.....	195
<b>6.3 Factors Influencing OBA Adoption in Saudi Arabia.....</b>	<b>196</b>
6.3.1 Effects of Covid-19 and Communication.....	197
6.3.2 Competition.....	199
6.3.3 The Legal Environment and a Standardised Protocol for Sharing Information.....	201
6.3.4 Data Security .....	202
6.3.5 Fear of Opportunism .....	204
6.3.6 Government Support .....	206
6.3.7 Employee Competence.....	208
6.3.8 Effective Internal-Auditing Departments .....	210
6.3.9 Dependency and Power Asymmetry .....	212
6.3.10 Inventory-Management Strategy .....	214
6.3.11 The Level of Trust.....	216
<b>6.4 Impacts of Supply-Chain Maturity Level on OBA Implementation.....</b>	<b>217</b>
<b>6.5 Opportunities, Benefits and Challenges of Implementing OBA in Saudi Arabia.....</b>	<b>230</b>
<b>6.6 Implications of OBA Adoption in Saudi Arabia for SST.....</b>	<b>238</b>
<b>Chapter 7: Conclusions and Recommendations .....</b>	<b>241</b>
7.1 Introduction.....	241
7.2 Summary of the Key Research Findings.....	241
7.3 Aims, Objectives, and Research Questions.....	242
7.4 Limitations of the Research .....	242
7.5 Contributions to Knowledge and the Literature .....	244
7.6 Recommendations and Managerial Implications .....	246
7.7 Recommendations for Future Research .....	247
<b>Appendix 1: Email Interview Guide .....</b>	<b>288</b>
<b>Appendix 2: Consent form .....</b>	<b>289</b>
<b>Appendix 3: Participant Information Sheet.....</b>	<b>292</b>
<b>Appendix 4: Interview schedule .....</b>	<b>296</b>

### **List of Tables**

Table 1 List of Interviewees .....	<b>Error! Bookmark not defined.</b>
Table 2 Data Analysis Framework .....	<b>Error! Bookmark not defined.</b>
Table 3 The themes, sub-themes and codes.....	125

## List of Figures

Figure 1 Structure of the Thesis.....	<b>Error! Bookmark not defined.</b>
Figure 2 Case-1 Supply Chain .....	<b>Error! Bookmark not defined.</b>
Figure 3 Case-2 Supply Chain .....	<b>Error! Bookmark not defined.</b>
Figure 4 Relationship between OBA factors and supply chain maturity case 1.....	<b>Error! Bookmark not defined.</b>
Figure 5 Relationship between OBA factors and supply chain Maturity case2 .....	<b>Error! Bookmark not defined.</b>

## **List of Abbreviations**

ANT	Actor-network theory
IFRS	International Financial Reporting Standards
IOCM	Inter-organisational cost management
OBA	Open book accounting
QFP	Quality-function-price
SST	Strong structuration theory
TC	Target costing
TT	Translation theory

## **Chapter 1: Introduction**

### **1.1 Introduction**

Open-book Accounting (OBA) is a method whereby one company discloses its internal cost data and the related details to another company. This practice has gained recognition as a strategy for strengthening partnerships in the realm of management accounting. Essentially, OBA facilitates a systematic exchange of sensitive financial and non-financial details between business entities that are legally separate, thereby effectively managing their interconnectedness (Sadeghi and Jokar 2014; Schneider 2018). In many instances, manufacturers provide information about their product costs, direct and indirect payments, company and manufacturing overheads, logistics, research and development, as well as their after-sales services (Kulmala 2004)

Over the last few years, there has been increasing interest in how OBA can help companies to manage their operations around the world. OBA rose to prominence and companies realised that OBA has an impact on its operations and performance across companies. Although there is an increasing acceptance of the use of OBA, companies are often uncertain about how to create a competitive advantage, and so find themselves under pressure to achieve cost reductions. This is due to a general lack of guidance on what those charged with using open-book accounting should strive for, how they should validate and interpret the information received, and how open-book information should be used in practical ways (Windolph and Möller 2012).

With the increased globalisation, the growing complexity of products and rapid technological development, the interdependency of firms has significantly increased (Kraus and Lind 2007), along with their global spending on products and services (Gadde and Håkansson 2001; Gadde et al. 2010). This has created a need for closer, more efficient buyer/supplier interaction and relationships. According to Cooper and Slagmulder (2004), such complex products require close interactions between buyers and suppliers to guarantee the optimum specifications and manage trade-offs in functionality, quality, and cost between both parties.

In the accounting field, one major issue is that only price information is exchanged between firms (Kulmala 2002), meaning that buyers are knowledgeable about the purchasing price of certain products and services but are unaware of the costs and processes related to the

production or the upstream supply-chain. In contrast, the supplier has no information from customers about the consequential costs of the production process for a specific product or service. This lack of insight makes the design of effective products and linked processes difficult from a total cost perspective. Thus, the exchange of additional non-financial and financial information is required to manage this interdependence of intricate supply networks and chains (Mouritsen et al. 2001; Agndal and Nilsson 2010; Caglio and Ditillo 2012; Alenius et al. 2015). This non-financial and financial information exchange is the major subject in the OBA literature, with OBA providing an alternative to simply buying and selling on the free market.

Recent research has suggested that OBA offers numerous advantages over traditional accounting systems, including improved transparency and accountability, increased cost savings through reduced overhead costs, greater customer satisfaction due to better communication between the stakeholders involved in the financial transactions and more efficient decision-making processes. However, there is limited research on the current state of OBA practices in Saudi Arabia, the challenges that need to be addressed before the method can be widely adopted and its potential benefits for organisations operating within this region. Further research is needed to understand more clearly the challenges related to implementing OBA in a Saudi Arabian context. These may include cultural resistance on the part of the stakeholders due to an unfamiliarity with OBA concepts, a lack of awareness among accounting professionals about how to implement an open-book system, legal issues related to data-privacy regulations, and technical difficulties associated with integrating existing systems into an open-book framework.

## **1.2 Background of the Research: The Saudi Arabian context**

The application of supply-chain open-book accounting (OBA) in Saudi Arabia has become a topic of increasing interest over the past decade. This research investigates how OBA can be applied in Saudi Arabia's unique business environment, as well as its potential benefits and challenges for businesses operating there. According to the World Bank (2019), Saudi Arabia is the largest economy in the Middle East and North Africa (MENA) region, with a GDP of \$717 billion USD. The oil sector has traditionally been the main driver of the country's economy, accounting for around 80% of government revenue and 40% of GDP. However, the government has been implementing economic reforms, aimed at diversifying the economy and

reducing its dependence on oil, with a focus on developing non-oil sectors such as manufacturing, construction, and services (World Bank 2019). The Saudi government has implemented various initiatives to reduce its oil dependence, including Vision 2030, which aims to reduce the country's reliance on hydrocarbons by increasing the investment in sectors such as renewable energy and technology. As Saudi businesses continue to grow in size and complexity, the use of OBA solutions is likely to increase (Al-Sulaiman 2020).

OBA was first introduced in Saudi Arabia in the early 2000s as part of the country's efforts to modernise its public financial management system. The government recognised the importance of transparency and accountability in promoting public trust and confidence in its financial management system. Therefore, it launched several initiatives to implement OBA in its public sector entities, including the establishment of the General Authority of Zakat and Tax (GAZT) in 2018, which mandated that all taxpayers should maintain accurate, transparent financial records (Alharbi and Alamoudi 2021).

OBA is a relatively new concept in Saudi Arabia, but there have been some notable successes among the companies that have adopted this system for their supply-chain operations. For example, Almarai Co., one of the largest food producers in the Middle East region, adopted an OBA system in 2017 that allowed them to manage their costs more efficiently across their entire supply-chain network (Almarai Co. 2017). According to a study by the King Abdulaziz City for Science and Technology, "The Adoption of (OBA) Solutions in Saudi Arabia" (2019), there has been an increase in the number of organisations using OBA solutions, with more than half of the surveyed organisations adopting some form of this technology. The most common applications are customer-relationship management systems, enterprise resource planning systems, supply-chain management (SCM) systems, and business intelligence (BI). Additionally, many organisations have expressed an interest in exploring other potential uses for OBA, such as predictive analytics and machine learning.

According to Al-Hares (2019), the adoption of OBA in Saudi Arabia has been slow but steady, mainly due to cultural norms resistance. While the country has made significant progress in implementing OBA in some of its public sector entities, such as the Saudi Arabian Oil Company (Saudi Aramco), many others are yet to embrace the practice fully. The slow adoption of OBA in Saudi Arabia is attributed to a lack of awareness and understanding of the technology by organisations, as well as a shortage of skilled professionals to implement and manage the system effectively. Furthermore, concerns regarding data privacy and security have



also hindered the adoption of OBA, as many organisations are cautious about sharing sensitive financial information on digital platforms. Nevertheless, the government has continued to promote OBA by implementing policies and regulations that require public sector entities to maintain transparent, accurate financial records. Furthermore, as more organisations in the country recognise the benefits of OBA, such as improved decision-making and increased efficiency, it is expected that the adoption rate will continue to increase.

OBA implementation in Saudi Arabia has faced several challenges, including the lack of technical expertise and cultural resistance to change. According to Alharbi and Alamoudi (2021), many public sector entities nationwide lack the technical expertise to implement OBA effectively. This is particularly true for smaller entities, that may lack the resources to hire qualified accountants and financial analysts. Another challenge facing OBA implementation in Saudi Arabia is cultural resistance to change. According to Alharbi and Alamoudi (2021), many of the stakeholders in the country's public sector may be unfamiliar with OBA and so regard it as unnecessary. This can lead to resistance to change, particularly among senior officials who may prefer to maintain the status quo. Therefore, there is a need for increased awareness and education regarding the benefits of OBA and its role in promoting transparency and accountability within organisations.

The above literature provides evidence that OBA could be successfully applied in Saudi Arabia's business environment. However, despite OBA's potential benefits, several challenges need to be addressed before it can be widely adopted in Saudi Arabia. These include a lack of awareness and understanding among businesses about how OBA works and cultural barriers, such as resistance to change in the traditional accounting practices. There are also difficulties associated with integrating the new OBA technology into the existing systems. Additionally, further research is needed into the legal implications of implementing an open-book system in Saudi Arabia's regulatory framework.

### **1.3 Research Gap**

A review of the literature revealed a paucity of evidence on OBA, with the majority of the OBA research having been conducted in the US, the UK, and Japan, with few studies focusing on Saudi Arabia. Thus, this study reveals new aspects of OBA that have not been discussed in the prior literature. Specifically, it is necessary to examine the challenges that Saudi companies

face when implementing OBA, such as cultural barriers or the current legal environment. The purpose of this thesis is to examine OBA in selected Saudi firms in order to enhance our understanding of their practices by evaluating two related issues: first, when and why Saudi Arabian enterprises adopt OBA and, second, whether the organisations that utilise OBA are rewarded with benefits and improved performance.

There exists a research gap regarding the challenges that Saudi Arabian companies face when implementing OBA. It is also unclear whether OBA is an effective tool for improving supply-chain performance and efficiency in Saudi Arabia and identifying the best practices from other countries which have successfully adopted this approach. Further study into how supply chain maturity affects OBA application will also help to refine the prior literature while also leading to new discoveries.

#### **1.4 Motivations and Significance of the Research**

In the vibrant landscape of Saudi Arabia, which is characterised by rapid economic development, technological advancements, and as Saudi businesses expand in scale and complexity (Al-Awsat 2019), also the interdependency of firms have reached unprecedented levels. In addition, Vision 2030, is a visionary initiative, aimed at diversifying the nation's economy and reducing its dependence on the traditional oil revenues (Al-Aswat 2019). Vision 2030 stands as a testament to Saudi Arabia's commitment to financial transparency and accountability (Saudi Arabia's Vision 2030). Open Book Accounting emerges as a pivotal tool in realising these ambitions. The integration of OBA within supply chain companies is not merely a choice but a necessity. OBA instils trust, fosters credibility, and stimulates investment.

In the evolving landscape of accounting practices, OBA represents a paradigm shift (Al-Sulaiman 2020). Despite its potential, comprehensive research within the Kingdom of Saudi Arabia is notably scarce. The dearth of localised studies underscores the urgency of this research. The OBA literature discusses the relevance of OBA across diverse global contexts and suggests the need for OBA research in different countries and scenarios (Linhares, 2018). This research explores in-depth the implications and challenges associated with OBA within the unique context of Saudi Arabia. By addressing this gap, this study provides a robust foundation for understanding how OBA operates within the intricate network of the Saudi supply chain companies.

By investigating the application of OBA within the intricate tapestry of the Saudi supply chains, this research lays the foundation for a future where transparency is not merely an aspiration but a tangible reality, thereby fostering an environment in which businesses thrive and economies flourish.

## **1.5 Overview of the Key Aspects**

### **1.5.1 Supply-Chain Maturity: Evidence from Two Sectors**

Berry et al. (2000) delineate three stages in the evolution of inter-firm relationship maturity: the stage of serial dependence, wherein customers are dominant; the stage of reciprocal dependence, characterized by collaboration between buyers and suppliers; and, finally, the stage of mutual dependence, which is characterised by partnerships. The first phase signifies the start of the collaborative partnership. This means identifying dominant or preferred suppliers and encouraging them to commit to the partnership by investing in the required production capacity and managerial expertise (Lamming 1993). The management of suppliers is prioritised, and SCM is given greater strategic priority. The second phase involves tight cooperation with suppliers (Berry et al. 2000), which is seen as highly significant (Lamming 1993), with information often shared across organisational boundaries and sophisticated management systems being employed to manage supply chains (Lockamy and McCormack 2004). In the final phase, there is cooperation with suppliers and the emphasis shifts to partnership formation and the management of the collaborative relationship. Standardised collaboration and well-established performance metrics are employed to govern the supply chain (Lockamy and McCormack 2004).

According to the supply chain maturity model, as time progresses, the relationships between supply chain partners become closer, and there is an increased exchange of accounting information. Open-book accounting, which involves sharing financial information, is found in all three stages identified by Berry et al. (2000). However, the use of open-book accounting differs depending on the stage of the relationship. In the early stage, which is characterised by a dominant customer and serial dependence, open-book accounting may be used primarily by the customer to exert control. In contrast, as the relationship progresses to the reciprocal and mutual dependence stages, open-book accounting is more likely to be used in a collaborative

manner, indicating a shift towards a more cooperative approach between the partners in managing the supply chain (Cullen and Meira 2010).

Yang et al. (2017) found that supply-chain maturity was positively associated with successful OBA implementation. A high level of supply-chain maturity is necessary for effective OBA implementation because this allows organisations more effectively to manage complex supply-chain networks, characterised by high levels of collaboration and trust, which facilitates communication between the partners and information sharing.

This research reports case studies of two supply chains, each of which involves a customer and one of its suppliers. In the first case study, the customer, “AV”, develops two kinds of maturity with its suppliers (reciprocal maturity and mutual-dependence phase). AV’s approach to supplier relationships has successfully developed reciprocal maturity and mutual dependence. The findings provide empirical evidence of how the company has successfully implemented a supplier strategy, focused on creating partnerships and reducing risks, as well as increasing collaboration between their suppliers, while also enhancing consumer trust and decreasing the transaction risk. Additionally, this research shows how standardised OBA formats for sharing information have nurtured trust and cooperation between suppliers and customers, leading to increased supply-chain maturity.

In the second case, the customer, “BA”, is in a serial-dependency phase, or the primary maturity stage. Although BA has made some progress in implementing OBA practices across its supply-chain network, there remain issues of trust and power asymmetry between the company and its suppliers. These issues must be addressed if there is to be further collaboration, as the company is in a serial-dependency phase. Additionally, investment in technology (such as IT and cost-accounting systems) should be considered in order to make data sharing more efficient and secure.

### **1.5.2 Factors Relevant to SST and OBA**

According to Al-Harbi, Al-Mudimigh, and Alzahrani (2019), Strong Structuration Theory (SST) has an effective framework for understanding and predicting the adoption of Open Book Accounting (OBA) in Saudi Arabia. Broader factors, such as culture, the organisational structure, and the legal environment, are key influences on the direct external and internal

factors related to OBA implementation nationwide. Chapter 2 will provide a comprehensive analysis of these factors and their relevance to OBA implementation in Saudi Arabia.

## **1.6 Research Aim and Objectives**

This research investigates OBA application in selected Saudi firms. It explores how OBA can be used as a tool for improving supply-chain transparency, accountability, and performance in the country's organisations. Additionally, it examines the challenges or obstacles that can hinder its successful implementation in Saudi Arabia, such as cultural barriers and the lack of infrastructure. The research aims to provide recommendations for best-practice OBA implementation in Saudi Arabia, based on the findings.

The aim of this research is to increase our understanding of OBA practices to achieve the following research objectives:

- To investigate OBA practices and analyse OBA application in general and in Saudi Arabian companies in particular
- To identify the key factors (external and internal) related to OBA implementation in Saudi companies
- To evaluate the possible outcomes (challenges and benefits) related to implementing OBA in general and in Saudi Arabian companies in particular
- To evaluate the significance of the maturity of supply-chain networks on OBA application in the Saudi Arabian context

## **1.7 Research Questions**

This research poses the following questions:

1. What is the current status of OBA application in Saudi Arabian companies?
2. What are the key internal and external factors driving OBA adoption in Saudi Arabia?
3. What are the challenges and benefits associated with OBA adoption in Saudi Arabia?
4. How does supply-chain maturity affect OBA implementation in Saudi Arabia?
5. What are the implications of strong structuration theory for OBA adoption in Saudi Arabia?

The first question is designed to identify and describe OBA practices in Saudi Arabia, using a case-study approach to examine the supply-chain network. OBA is defined in this study as the domain of management accounting and controls in inter-relationship settings.

The second question concerns the lack of research on the factors that may influence OBA implementation. In certain transactions or financial dealings, for example, there may be a greater emphasis on confidentiality and privacy. This could influence the degree to which companies are willing to disclose financial information to their stakeholders. While the concepts of OBA may be similar worldwide, differences in how it is practised and regulated may remain due to the influence of external and internal factors as well as broader restrictive factors. The findings of this study will help to understand these factors in the Saudi context.

The third question focuses on whether the use of OBA can increase transparency and trust in inter-organisational relationships by enabling the sharing of financial information with the stakeholders. In this way, companies can demonstrate their honesty and transparency. This can add to the literature on business or economics because it demonstrates the importance of transparency and trust in the Saudi context. Another possible contribution is that OBA can be viewed as an example of a broader trend in Saudi companies toward displaying greater accountability and responsibility. This may add to the literature regarding ethics, social responsibility, and corporate governance.

The fourth question explores the impact of the network lifecycle and supply chain maturity on OBA. The literature on the issue of the lifecycle or maturity of supply-chain development is scarce at present, so empirical findings in the Saudi context contribute to the literature.

The final question considers the implications of OBA for strong structuration theory in Saudi Arabia for SST. SST is used as a theoretical lens in this study to reveal the critical factors that affect OBA implementation in Saudi companies. The current study is among the first to provide empirical evidence from the management accounting field on how OBA is practised and implemented. By adding an academic dimension to the empirical findings and drawing evidence from multiple sources, the findings related to the final question contributes to the academic literature on OBA, which is currently particularly limited in terms of interpretive research.

## **1.8 Summary of the Research Methodology**

This research uses a case-study method and inductive reasoning to investigate OBA practices in Saudi Arabia. Primary data were collected through semi-structured interviews and limited observations, while the secondary data sources included the Saudi Vision 2030 document, government reports and companies reports related to accounting, finance, and business practices in Saudi Arabia, including the use of open book accounting, as well as documents gathered from the different organisations' websites. The data were then subjected to thematic analysis. Ethical considerations were addressed throughout the research process, with informed consent being obtained from the participants, data confidentiality maintained, and all sensitive information protected.

The selected research methodology provided a suitable framework for the current study, as it guided the researchers in an effective manner (Adams, Khan, and Raeside 2014). According to Williams (2007), a research methodology should define all of the tools and techniques necessary for data collection and analysis, providing objective and systematic methods to explore knowledge and identify solutions to research problems.

To address the research objective, a qualitative research method was adopted, guided by an interpretive epistemology and a dialectical ontology philosophy. As stated by Creswell (2011), qualitative research methods are most appropriate for developing a comprehensive understanding of a phenomenon within its natural setting. This study follows an inductive approach to theory development, collecting and analysing empirical data to identify patterns in the theory. This contrasts with deductive studies that begin with hypotheses and test them using collected data. Walliman (2017) explains that inductive reasoning starts with specific observations or sensory experiences, leading to the development of a general conclusion.

Considering the research strategy, a case study approach was chosen due to the focus on a specific geographical context. Mabry defines a case study as the empirical investigation of a specified or bounded phenomenon (Mabry 2008). The use of a case study approach is justified by its ability to discover and understand the participants' experiences and perspectives within their operational environments, thereby enhancing the researcher's understanding of their voices regarding OBA practices.

Once the participants had been selected, the researcher carried out qualitative data collection using semi-structured interviews, which allowed for a deeper exploration of the participants'

views (Dornyei 2007; Kvale and Brinkmann 2009). Interviews, according to Cohen et al. (2007), facilitate the exploration of meaning construction and negotiation within a natural setting. The interviews were conducted on a one-on-one basis in Saudi Arabia, based on a consideration of the convenience of both the respondents and the researcher. Due to the Covid-19 lockdown, the number of interviews was limited to 19 participants.

To ensure data reliability, similar themes were focused on in the interview questions presented to the participants. The researcher formulated questions that were as clear and unambiguous as possible, using language that was easily understandable to the participants. While it is recognised that all research questions are shaped by the researcher's own assumptions and perspectives, the researcher made a conscious effort to minimise their influence on the questions. Following the data collection, the content was subjected to thematic analysis, and the collected data were then categorised into themes and sub-themes, and comparisons drawn.

### **1.9 Contribution of the Research**

This research contributes to the literature by providing an empirical account of OBA implementation in Saudi Arabian firms. It uses SST as a theoretical lens to explain the OBA's implementation in Saudi companies and explores the internal and external factors that may influence OBA's operation and performance as well as the benefits and challenges. Thus, this study contributes to the academic literature on OBA by employing SST as a theoretical lens through which to interpret the critical factors affecting OBA implementation. Additionally, this study investigates how supply chain maturity influences OBA application practices.

This research contributes to the literature on management accounting, broadening the knowledge on the barriers to effective OBA implementation. The findings of this study will provide insights into those differences between countries that necessitate further investigation. Cultural and social norms and the legal environment are likely to play a role in the identified factors, with a greater emphasis on confidentiality and privacy.

Although the significance of OBA practices is widely recognised in the literature, few studies address the broader restrictive factors. Some (external and internal OBA) factors could have a more direct influence, while others operate more indirectly (the broader cultural and legal factors that shaped the context in which the OBA factors emerged). This study explores the



broader contextual factors that create conflict among different actors in the adoption process as well as the internal and external factors that influence OBA implementation.

Therefore, this study uses an SST-based model to investigate OBA application by exploring internal and external factors. This model can be extended by including several structural features to refer to the broader underlying factors that shape how the agents interact with these external and internal factors, such as cultural norms, religion, the legal environment, and the technological infrastructure. These contextual factors will help to clarify the findings with regard to the Saudi context.

### **1.10 Structure of the Thesis**

The thesis is divided into six chapters. This chapter has provided an introduction to the research, including the background (the research gap, significance, aim, and objectives), research questions, a summary of the methodology, and the contribution. The structure is as follows.

Chapter 2 reviews the literature on OBA, providing an overview of the topic and detailing the design of the OBA process, its use and application, dimensions, gaps in adoption, interdependence, the factors driving adoption, the opportunities and challenges, the benefits and best practice, the impact on the buyer/supplier relationship and the network lifecycle, supply-chain maturity, and the theoretical paradigms.

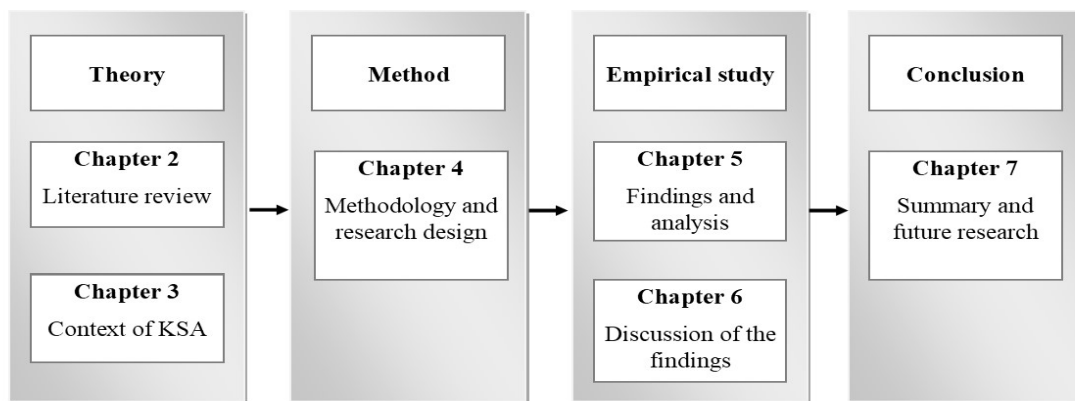
Chapter 3 provides an overview of OBA in the Saudi Arabian context, including a brief history of the region, its cultural position and heritage, its legal and economic environments, the Saudi Vision 2030, supply-chain operations, the domestic entities that manage the supply chains, and OBA practices in Saudi Arabia.

Chapter 4 outlines the research methodology, including the philosophical justification, research design, data collection and analysis, ethical considerations, validity, and reliability.

Chapter 5 presents and analyses the research findings, by exploring the research questions.

Chapter 6 presents the key research findings and theoretical paradigms and critically evaluates them, addressing the research objectives.

Finally, Chapter 7 discusses the conclusions and contributions, identifies the limitations, and offers recommendations for future research. Figure 1.1 below illustrates the study's structure.



*Figure 1 Structure of the Thesis*

## **Chapter 2: Literature Review**

### **2.1 Introduction**

The purpose of this literature review is to provide an overview of the current state of the OBA research. Specifically, it examines how OBA has been implemented and used by companies, the factors affecting its implementation, how supply-chain maturity affects OBA implementation, the impact of network lifecycle on OBA application, the possible outcomes of OBA implementation, and the implications for strong structuration theory (SST). This chapter will review the literature on Open Book Accounting (OBA) and a potential theoretical framework to provide a comprehensive understanding of the concept and its application in different contexts. The rest of this chapter is organised as follows. Section 2.2 provides an overview of OBA. Section 2.3 explores the factors driving OBA adoption. Section 2.4 outlines the opportunities and challenges faced by companies seeking to implement OBA. Section 2.5 discusses the benefits derived from the best practices of OBA. Sections 2.6 and 2.7 focus on the effects of the network lifecycle and supply-chain maturity levels on OBA. Section 2.8 outlines OBA and inter-organisational cost management practices. Section 2.9 presents the theoretical paradigms. The next chapter will then examine the current state of OBA in Saudi Arabia and identify any gaps in the existing literature that this research will seek to address.

### **2.2 Overview of Open-Book Accounting**

#### **2.2.1 Definition**

OBA is an accounting system that allows multiple stakeholders to access and analyse financial data in real time. It is a transparent accounting system that enables all members of an organisation to access the same financial data. It allows the stakeholders to review the financial performance and make informed decisions (Ahlgren and Lind 2022), thus creating transparency and accountability in the financial records of a business. It involves sharing the company's financial information with all of the stakeholders, including employees, customers, and investors. OBA is becoming increasingly popular as a tool for companies to employ in order to foster trust, collaboration, and engagement (DhaifAllah et al. 2020).

OBA is an approach to management accounting that encourages greater transparency and involvement for the stakeholders in the financial management of a business. It is defined as a

system of accounting in which “all relevant information regarding the company’s finances is openly available to everyone involved” (Lam and Shehata 2016, p. 544). It involves making all financial information available to those with a legitimate interest in the business and providing them with the information they need to understand its financial position (Waweru 2010). This includes the annual financial statements, budget, and key financial metrics, such as the gross margin and returns on investment (Taschne and Charifzadeh 2020). The aim is to provide the stakeholders with the financial information they need to make informed decisions and so better support the long-term financial success of the organisation (DhaifAllah et al. 2016).

Open Book Accounting (OBA) lacks a definitive, universally accepted description. However, it is generally perceived as the practice of sharing internal cost information—encompassing purely financial or a combination of financial and non-financial data—among companies with the intention of strengthening their collaborative efforts regarding management accounting (Schneider 2018). Essentially, it is a methodical approach to disclosing cost information between autonomous firms, extending beyond the corporate boundaries, with the ultimate objective of decreasing individual costs and enhancing profitability (Suomala et al. 2010). The discourse around this technique is prevalent within the literature on inter-organizational cost-management (Mouritsen et al. 2001; Cooper and Slagmulder 2004; Agndal and Nilsson 2008). OBA has been posited not only to act as a tool for cost reduction but also as a mechanism for improving the relationships between buyers and suppliers (Suomala et al. 2010). Mouritsen et al. (2001) define OBA as a “strategy that leads towards cooperation between firms situated in a supply chain, and this information is used to influence the flow of products and services between such firms”. Through OBA, information that was previously kept secret by default is made available to supply-chain partners. Interdependence, in terms of business activities, offers a framework for interaction and communication (Ford and Håkansson 2006) and thus for information exchange. In the same way, all exchanges of “change information” can be referred to in business terms as OBA (Hoffjan and Kruse 2006; Caglio and Ditillo 2012).

Along with financial information (Hoffjan and Kruse 2006; Schneider 2018), non-financial information has also been highlighted as significant for managing interdependency among firms (Mouritsen et al. 2001; Kajüter and Kulmala 2005; Agndal and Nilsson 2010). Primarily, non-financial information - such as the rate of inventory turnover, setup times, lead times, and production capacity - has been found to clarify financial information (Mouritsen et al. 2001).

Furthermore, non-financial information is useful for the mitigation of risks that are difficult to depict in absolute financial terms, but which can lead to severe negative financial results. Agndal and Nilsson (2010) observed that the failure of OBA was due to problems related to quality and delivery among their suppliers. Firms generally manage risks by thoroughly analysing and monitoring the non-financial determinants, including their suppliers' production capacity and delivery precision, along with consistently assessing the financial policies and strengths of their suppliers in relation to purchasing, risk, product development, product quality, ethics, and risk management (Agndal and Nilsson 2010; Kumra et al. 2012).

Moreover, various kinds of non-financial information are provided by buyers to their suppliers, including production schedules and access to new product development data. This information is valuable for organising and synchronising the firms' work (Tomkins 2001; Dekker 2004). Given the need for confidentiality and discretion, the provision of this information might also be regarded as an expression of confidence and trust, thus significantly expanding the mutual interdependence among business partners (Cooper and Slagmulder 2004). Therefore, it is important to include non-financial information, as these details might otherwise be ignored or missed (Gulati and Singh 1998; Hoffjan and Kruse 2006). The exchange of financial and non-financial information between supply-chain partners must be discrete and confidential, and the information must not be accessible by any other means, in order for it to be regarded as OBA (Hoffjan and Kruse 2006; Caglio and Ditillo 2012). Furthermore, OBA information should be exchanged in an organised manner, rather than on an informal or impromptu basis (Kajüter and Kulmala 2005; Caglio and Ditillo 2012).

The literature highlights the advantages of OBA and recognises that its application benefits all of the parties involved (Kajüter and Kulmala 2005, Agndal and Nilsson 2008; Alenius et al. 2015). To reduce costs and maintain their competitive advantage, enterprises look upstream and downstream of their supply chains and across organisational boundaries, sharing cost information, reducing their supply-chain costs, and seeking mutual benefits. Windolph and Moeller (2012) discovered the problems and prerequisites of OBA implementation. Thus, previous studies have assumed that organisations will have full access to their suppliers' product-cost data, yet OBA implementation is challenging. In addition, in some cases, OBA is not necessarily the best way to ensure cost transparency among business partners.

Researchers argue about the advantages and disadvantages of Open Book Accounting (OBA). Some assert that OBA increases accountability and trust among the stakeholders, allowing

them to understand the company's finances more fully (Romano and Formentini 2012). They suggest that it can reduce costs by allowing the stakeholders to identify areas in which money could be saved or invested more efficiently. Supporters also argue that OBA can lead to improved communication between the company and its stakeholders, which can result in better decision-making (Windolph and Moeller 2012).

On the other hand, the disadvantage of OBA is that it can increase the risk of confidential information being misused, which can have negative consequences for the company. It is claimed that it can also lead to decreased profits if competitors are able to gain access to sensitive financial data. Furthermore, opponents note that OBA is unsuitable for some companies due to their respective size and level of complexity. They also contend that, unless managed properly, OBA can lead to increased bureaucracy and paperwork (Windolph and Moeller 2012). One limitation of OBA systems is related to data security concerns. Since everyone involved in the organisation has access to sensitive financial information, there may be an increased risk of its unauthorised use or disclosure by malicious actors, who could gain access through employee accounts or other means. Additionally, due to its decentralised nature, there is the potential for data inconsistency or inaccuracy, if the information shared between the stakeholders is not properly monitored and updated. Another limitation of OBA systems is their implementation costs. Since OBA requires significant training and investment in technology and other resources in order to be successful, it can be expensive for organisations to launch. Additionally, since employees must learn how to use the new software and understand financial concepts in order to launch an effective OBA system, there may be additional personnel-related costs associated with its implementation. While OBA has been shown to increase employee engagement by creating transparency around financial decisions and allowing employees to become more involved in decision-making, it can also lead to decreased productivity if employees become too focused on the financial details of their work. Since OBA systems require collaboration between the stakeholders, there may also be issues with communication and coordination that could impede progress or cause delays in the decision-making processes.

### 2.2.2 Actors in an OBA System

The success or failure of such systems depends on the roles played by the various actors within them. This literature review examines some of the key players in OBA systems and discusses their respective contributions to their effectiveness.

The first actor identified in most OBA systems is the company management. Management plays a critical role in setting up and maintaining an OBA system, as they are responsible for deciding which financial information to share with the stakeholders and how it should be presented. They must also ensure that all parties have access to the same data so that decisions can be made based on accurate information. In addition, the managers must develop policies and procedures to protect confidential data from being misused or abused by any of the participants in the OBA system (Kajüter and Kulmala 2005).

The second actor is the shareholders or investors who use the system when making investment decisions. Shareholders may be using these records not only for analysis purposes but also to monitor the performance of a company and its management, in order to assess whether their investments are being managed responsibly and identify any potential risks associated with investing in that particular business (Kajüter and Kulmala 2005).

The third actor is the employees who access the OBA systems to view financial information related to their own salaries and benefits packages. This allows them to make informed decisions about what they should be earning for their work, thus ensuring fair wages for all workers in the organisation. Furthermore, when they have an overview of the company's finances, employees may become more engaged with the organisational goals, as they will understand where the resources are allocated within an organisation and why (Timming and Brown 2015).

The fourth actor is the public, who may include customers, investors and any other members of the general public who have an interest in the company's financial performance and operations. These individuals may use open book accounting systems to access information about the company's financial statements, accounting practices, and other relevant data to help them to decide whether or not to engage with the company in various ways, such as making a purchase or investing in it. The public can access financial and other information about a company through open book accounting systems which may be provided by the company itself, which are typically online platforms or databases (Ellström and Hoshi-Larsson 2017).

While OBA can help build trust between companies and their customers and also increase the accountability of organisations that are open about their finances, it also raises concerns about data security (D'Angelo and Grunewald 2019). Companies that choose to implement OBA must carefully balance the benefits of transparency and accountability with the risks of exposing sensitive information to competitors, hackers, or other potential threats (McInerney and Van Etten 2018). One potential solution is selectively to disclose only certain types of financial information to the public while keeping other information confidential for competitive or other reasons (Cohen et al. 2017).

Finally, regulators such as government agencies also play an important role in OBA systems, ensuring compliance with the applicable laws and regulations related to accounting practices. Regulators with access to financial information through these systems are able to monitor corporate activities more closely compared with previously, while enjoying greater insights into how resources are allocated within the organisation (Laughlin 2007).

### **2.2.3 Design of the OBA Process**

Many researchers have noted that OBA lacks clear, explicit statements about what it involves and requires (Hoffjan and Kruse 2006; Agndal and Nilsson 2010), but some have attempted to improve OBA's theoretical precision and clarity by distinguishing between its use and design (Agndal and Nilsson 2010; Schneider 2018). Gordon et al. (1978) proposed the general model of accounting-information system design, that was used to conceptualise the design of OBA. According to this model, the design of an accounting system includes three features: (1) a preparer, (2) a recipient, and (3) the information features (i.e., the characteristics of the specific information to be exchanged). The first element (the preparer of the information) requires a clarification of the difference between the preparers and the recipients, which may benefit the study of the intra-organisational flow of information. An individual firm can act as both a recipient and preparer at the same time. Gordon et al. (1978) also emphasised that it is important to consider the individuals who are allowed to receive and share specific types of information, as well as those who are excluded from such exchanges. More recently, Lamming et al. (2001) suggested that the term "participants in the information exchange" should be adopted as a more general, inclusive descriptor of those participants and groups of participants who both receive and provide information at the same time.



The second element (the recipient) is the various participants who are, directly and indirectly, involved in the information exchange (Gordon et al. 1978). Firms employing OBA generally comprise the focal supplier and buyer, but can also involve indirectly linked firms, such as competitors and sub-suppliers to any of the participants (Dekker 2003; Kulmala 2004). The final aspect is the characteristics of the information that is being traded and exchanged. Gordon et al. (1978) observed that various data items can be communicated, including the inventory levels and production rates. In the context of this thesis, the relevant information features are the characteristics of the financial and non-financial data. Many prior studies have found that the design of OBA can differ in terms of the data elements being shared (Cooper and Slagmulder 2004; Agndal and Nilsson 2010; Schneider 2018). These can include data on the logistics of specific relationships (Dekker 2003; Dekker and Goor 2010) or on manufacturing operations alone (Mouritsen et al. 2001; Kajüter and Kulmala 2005).

The key components of modern OBA are open-data access, accounting software, financial reporting, and data security. “Open-data access” refers to the ability of every stakeholder to access the same financial data. Accounting software is used to generate financial reports, which can then be accessed by all of the stakeholders. Financial reporting is used to provide the stakeholders with the desired information (DhaifAllah et al. 2016).

The process of designing an OBA process starts with setting up the OBA system and creating a chart of the accounts, that details all of the categories of expenses and revenue that the company plans to track. After creating this chart of accounts, the company sets up financial software to track all transactions. This is typically achieved using a software program such as QuickBooks or FreshBooks. All transactions - including income, expenses, and transfers - are then tracked by the software. The accounts must be reconciled on a regular basis to ensure their accuracy (Vakilifard and Khorramin 2015). The monitoring of spending ensures that the company stays within its budget. This may involve setting up budgeting tools and tracking metrics to manage the finances. A company can then begin sharing its financial data with the key stakeholders through an open-book process. This helps those stakeholders to make informed decisions and helps the organisation to track its performance (Chhabra and Dixit 2015).

Recent developments in OBA practices include the emergence of cloud-based accounting software, which allows the stakeholders to access financial information from any location (Khanom 2017). In addition, many companies are using artificial intelligence and machine

learning to automate certain aspects of their accounting processes. This helps to reduce errors and improve accuracy (Zhang et al. 2020; Hasan 2021). Furthermore, companies are increasingly using data analytics to gain insights into their financial performance and make better decisions (Deniswara et al. 2020).

#### **2.2.4 Use and Application of OBA**

The use of OBA is becoming increasingly popular in organisations of all sizes and in various industries, from small start-ups to large corporations, and by government agencies, non-profit organisations, and educational institutions. A company can start using OBA by investing in quality accounting software and then training its staff on how to use it. Companies should also ensure that their financial information is secure and protected from unauthorised access (Díaz et al. 2016). Moreover, they should ensure that their the stakeholders are aware of the OBA system and understand how to access and interpret the financial information (Alenius et al. 2015).

OBA is used in many countries around the world, including the United States, Canada, the United Kingdom, Australia, and New Zealand. It is also becoming increasingly popular in other countries, such as India, China, and South Africa (Zhang et al. 2020). OBA is recently also used in Saudi Arabian companies, as it allows for greater transparency and accuracy in financial reporting. Each country has its own regulations regarding OBA which companies must adhere to in order for their financial statements to be accurate and transparent (Zhang et al. 2020).

Simon et al. (1954) found that reports are utilised to direct attention towards drifts and trends, usually to matters that are often skipped during direct supervision, and also to the underlying reasons for daily issues. Furthermore, OBA draws attention to the interdependency with both directly and indirectly linked partners (Cooper and Yoshikawa 1994; Kulmala 2004; Dekker and Goor 2010). Cooper and Yoshikawa (1994) analysed OBA's directing of buyer attention towards indirect interdependency with sub-suppliers. The links between these parties can include a range of interdependencies that can potentially be observed and evaluated, depending on the chosen OBA design. In other words, the design affects which interdependencies draw the attention of business partners. Mouritsen et al. (2001) conclude that a certain OBA design can direct the attention of business partners towards interface and functional requirements in one application, whereas another might draw attention towards direct and indirect manufacturing costs. Thus, it is clear that OBA would be closely linked to its specific use in a particular situation.

Interdependence among the business stakeholders is essential for businesses to succeed. It allows different parties to work together and leverage each other's strengths to achieve a common goal. By working together, the stakeholders can share resources, knowledge, and ideas that will help the business to grow and succeed. Interdependence also helps to build trust between parties, leading to better communication and collaboration. This ultimately results in increased efficiency, productivity, innovation, customer satisfaction, and profitability for the company as a whole (Heger and Rohrbeck 2012).

However, inter-organisational relationships are complex and dynamic, and accounting plays an important role in their management. Ahlgren and Lind (2022) found that the use of accounting information in inter-organisational relationships is context dependent. Different contexts require different types of accounting information to ensure effective coordination and resource-allocation decisions; and accounting practices vary significantly between organisations due to differences in culture, strategy, technology, structure, size, and so on, which affect how they interact with each other through accounting processes and systems (Ahlgren and Lind 2022).

There are several challenges to this pursuit of interdependence between the business' stakeholders. Interdependence requires effective communication between all parties to ensure that everyone shares understanding and works together towards a common goal. Business stakeholders must coordinate their efforts to maximise their efficiency and minimise conflicts of interest (Aarikka-Stenroos and Ritala 2017). This can be difficult when different stakeholders have their own interests and goals but is essential for successful collaboration. Building trust between business stakeholders is critical for successful interdependence because, without trust, there will be no willingness to work together and share resources and information. When disagreements arise among business stakeholders, they must find ways to resolve them quickly and effectively so that progress can continue. As the business environment changes, the stakeholders must adapt quickly to remain competitive and successful. This requires flexibility and an understanding of how different stakeholders' needs may change over time. Overcoming these challenges is necessary to reap the benefit of interdependence (Senyo et al. 2019).

Effective communication and collaboration are essential components of successful inter-organisational accounting practices, as they enable the sharing of information and resources that can lead to better decision-making across organisational boundaries (Cullen and Meira

2010). In addition, the achievement of effective inter-organisational accounting requires an understanding of each organisation's goals, objectives, processes, systems, and culture in order to ensure that there exists an alignment between their respective needs and expectations. It is also important to consider the different perspectives of the various organisations when designing and implementing inter-organisational accounting systems. This can help to ensure that all parties are able to benefit from the system in a mutually beneficial way (Cullen and Meira 2010).

The lack of a common language and understanding between organisations is one of the most significant obstacles to successful inter-organisational costing approaches. Poor data quality, inadequate resources, and limited access to information can also impede the success of inter-organisational costing initiatives (Bastl et al. 2010). Bastl et al. (2010) found that differences between organisations were another obstacle to the implementation of an effective inter-organisational costing approach, as different organisational cultures include varying views of cost-management practices and processes. The authors also conclude that a lack of trust between organisations can prevent the successful implementation of an inter-organisational costing approach, with the parties being unwilling to share confidential and sensitive information with one another. According to the same research, a lack of a clear, well-defined strategy for implementing an inter-organisational costing approach can lead to confusion, delays, and ultimately failure (Bastl et al. 2010).

To facilitate interdependence, a formal system of communication should be established between the stakeholders to ensure that all parties are kept up to date on the progress and status of the project. This can include regular meetings, emails, and other forms of electronic communication (Liu et al. 2020). This enhances the collaboration and decision-making, as well as improving the trust among the stakeholders in the long run. Performance metrics should be developed for each stakeholder involved to measure success and identify areas for improvement. This will help to ensure that all the stakeholders are held accountable for their contributions and performance (Senyo et al. 2019). Data analysis tools such as dashboards and reports can provide valuable insights into how well each stakeholder is performing and where improvements may be needed. These tools can also identify the areas in which resources should be allocated to maximise the returns on stakeholder investments (Liu et al. 2020).

### **2.2.5 Dimensions of OBA**

Cost data directly affect company profitability and are thus among the most sensitive and confidential forms of company information. Access to such information may be closely guarded within companies (i.e., restricted to certain personnel), and firms are generally highly reluctant to share it with other companies, even their own supply chain partners (Mouritsen et al. 2001; Dekker 2003; Cooper and Slagmulder 2004). Since the practice emerged in the 1990s, different studies have focused on various dimensions of OBA. Previously, it was suggested that there are three dimensions to OBA practices: the direction of information exchange (Lamming 1996; McIvor 2001; Lamming et al. 2004); the degree of quality disclosure (Munday 1992; Mouritsen et al. 2001; Axelsson et al. 2002); and the boundaries of information openness (Kulmala 2004; Kajuter and Kulmala 2005).

#### **2.2.5.1. Direction of information exchange**

The direction of information exchange was discussed by Lamming (1996), McIvor (2001), and Lamming et al. (2004). According to Windolph and Moller (2012), information exchange can be unilateral or bilateral in nature. Unilateral means that only one of two collaborating companies will open their accounting books to the other or otherwise disclose data (Lamming 1996). In relationships between customers and suppliers, customers often demand one-way transparency, but there are instances where powerful suppliers will behave opportunistically. Bilateral disclosure involves both parties having mutual goals and benefits in mind while sharing accounting information with one another (Lamming et al. 2004). Another direction can be multilateral information disclosure, which is applicable in complex environments that involve at least three independent parties or firms (Windolph and Moller 2012). It has been argued that all of these instances have the ability to affect the coordination of activities in an open-book relationship; by extension, they can either build or ruin supply chain relationships. Regardless of the direction of the information flow, it will elicit reactions from the members of the supply chain, which can impact the coordination of activities and thus contribute to the overall success or failure of the OBA relationships (McIvor 2001; Windolph and Möller 2012).

### **2.2.5.2 Degree of quality disclosure**

The degree of quality disclosure was developed by Munday (1992), Mouritsen et al. (2001), and Axelsson et al. (2002). This dimension is related to the detail in the information and the kind of transparency that is expected. According to Windolph and Moller (2012), information can be divided into actual cost data and other supporting information. While their viewpoint is generally biased towards cost management, it is clear that open books can serve as a technique that can be used to disclose cost-relevant information, like forecasts and budgets (Windolph and Möller 2012). Naturally, transparency among the members of a supply chain is a big factor in determining how well the activities will be coordinated and how long an open-book relationship will last. If one party feels like not enough is being shared by the other(s), they will probably either terminate the relationship altogether or resort to withholding information that is critical in an open-book relationship (Mouritsen et al. 2001).

### **2.2.5.3 Boundaries of information openness**

The boundaries of information openness in OBA were evaluated by Kulmala (2004) and Kajuter and Kulmala (2005). It has been argued that there exist restrictions on transparency because of agreements among the company stakeholders or certain inherent company limitations, and hence certain information cannot be disclosed. This is why some information is never shared with external third parties (Windolph and Moller 2012). However, in a complex business network involving more than three firms, the flow of information is almost unlimited but more extensive than in dyads, so open books can function. Their perspective indicates that OBA is multidimensional in nature, a view that is shared by other experts in this field. There is no single approach to OBA; rather, there are different approaches, depending on the situation at hand (Kajuter and Kulmala 2005). The determined boundaries draw a line between what kind of information can be shared and with whom. Anyone operating outside the limits of the set boundaries may negatively affect the coordination of activities in the supply chain. Operating outside the set boundaries ranges from sharing critical information with third parties regarding any member of the supply chain to holding back from being completely open with their counterparts. Again, how individual supply chain members decide to operate, with regards to the set boundaries, definitely affects the effectiveness and success of open-book relationships (Kulmala 2004; Kajuter and Kulmala 2005; Windolph and Möller 2012).

There is no universal view regarding the dimensions of OBA. Different researchers have adopted various dimensions, depending on their specific research contexts and needs Agndal and Nilsson (2010) identified additional dimensions of open book accounting. Here is a breakdown of these dimensions:

#### **2.2.5.4 Nature of the Data and Accounting Data Disclosure Practices:**

This dimension focuses on the type and level of financial data that are disclosed in open book accounting. It examines the scope of the information shared, such as cost breakdowns, pricing details, profitability data, and other relevant financial metrics. The nature of the data refers to the specific financial information that is disclosed, while accounting data disclosure practices refer to the methods and processes used to share this information.

#### **2.2.5.5 Uses of the Disclosed Accounting Data:**

This dimension examines how the disclosed accounting data are utilised by the buyer and supplier. It includes an analysis of how the shared financial information is used for decision-making, cost control, performance evaluation, strategic planning, and other relevant purposes. Understanding the uses of the disclosed accounting data helps to determine the extent to which the information contributes towards improving the efficiency and effectiveness of the supply chain relationship.

#### **2.2.5.6 Conditions of Open Book Accounting:**

This dimension refers to the specific conditions or circumstances under which open book accounting is implemented. It explores the factors that influence the decision to adopt open book accounting, such as the nature of the relationship, level of trust, mutual dependence, contractual agreements, and overall strategic objectives of the buyer and supplier. Considering the conditions of open book accounting helps to provide a context for its implementation and assess its suitability in different supply chain contexts.

### **2.2.5.7 Cost Implementation:**

This dimension focuses on the costs associated with implementing open book accounting. It examines the expenses incurred when sharing, analysing, and managing the disclosed accounting data. Cost implementation encompasses both tangible costs, such as investments in information systems and resources, as well as intangible costs, such as the time and effort required to establish and maintain the open book accounting process. Understanding the cost implications is essential for evaluating the feasibility and benefits of adopting open book accounting practices.

These additional dimensions provide a more comprehensive perspective on open book accounting, covering the nature of the data, its uses, implementation conditions, and the associated costs. They offer insights into the practical aspects and considerations involved in implementing and leveraging open book accounting in supply chain relationships.

On the other hand, OBA adoption typically comprises three dimensions: financial transparency, organisational alignment, and employee engagement. Financial transparency involves providing all of the stakeholders with access to the organisation's financial information. Organisational alignment involves ensuring that all of the employees understand the organisation's objectives and how their individual roles contribute towards meeting these goals. Employee engagement involves cultivating a culture of ownership and continuous improvement by motivating the employees to become active participants in the organisation's financial process (Diirr and Cappelli 2018; Akyuz and Gursoy 2020; Clack 2020).

Financial transparency is an important part of OBA. This means making financial information available to all of the stakeholders, including the customers, shareholders, and employees. For example, OBA involves making financial statements available for review by all of the stakeholders and helps to make decisions about future strategies. Financial transparency also helps to ensure that OBA is being used correctly. When financial information is available, it is easier to identify discrepancies and ensure that the accounting system is being used as intended. This can prevent fraud and ensure that the company's finances are being properly managed (Akyuz and Gursoy 2020).

Organisational alignment is essential to the success of any OBA system. OBA requires everyone in the organisation to have a shared understanding of the goals and objectives of the organisation. When the objectives and strategies are aligned with the OBA system, this allows



more efficient and accurate reporting and decision-making. This alignment also ensures that everyone in the organisation is working together to achieve the same goals, thus leading to improved efficiency and performance (Diirr and Cappelli 2018).

Employee engagement is critical for the success of OBA implementation. The system relies heavily on employees' involvement in - and understanding of - the company's financial context. Therefore, engagement is essential to ensure that the employees understand the importance of OBA and are willing to participate in the process. Employee engagement can be achieved by providing training and education on the purpose and benefits of OBA. In addition, the company should create communication channels, such as forums or surveys, to gauge employee sentiment and obtain feedback on how to improve the system. Finally, the company should recognise and reward employees for their contributions to the OBA system. This will make employees more likely to participate in, understand, and take ownership of the system, leading to a more successful implementation (Clack 2020).

## **2.3 Factors that drive OBA adoption by companies**

Companies are increasingly turning to OBA because it offers numerous benefits, such as improved decision-making, increased efficiency, and cost savings. This section explores some of the key factors driving the adoption of OBA by organisations in Saudi Arabia. It considers the technological advances that have enabled the more efficient use of data, the customer demand for the greater visibility of company operations, and the regulatory changes that encourage firms to adopt OBA practices.

### **2.3.1 Internal Factors Driving OBA Adoption**

The literature shows that various internal factors are driving the adoption of OBA.

#### **2.3.1.1 Organisational culture:**

Organisational culture can have an impact on OBA adoption. An organisation with a positive attitude towards technology is more likely to adopt OBA than one resistant to change and new technologies. Organisational culture also plays an important role in the success of OBA. OBA requires a shift in mindset, away from the traditional accounting practices, which can be difficult for some organisations to accept. A strong organisational culture that values

transparency and collaboration is essential for successful implementation. This type of culture encourages employees to share information openly and work together to achieve common goals (Willis et al. 2016). It also promotes an environment in which everyone understands the importance of financial literacy and how it affects the organisation's overall performance. In addition, a positive organisational culture can ensure that all of the stakeholders are on board with the changes associated with OBA, making it easier to implement and maintain (Elsbach and Stigliani 2018).

Equally, the organisational culture can hinder OBA application in a company by creating an environment that is resistant to change (Elsbach and Stigliani 2018). If the employees are used to traditional accounting methods, they may be reluctant to embrace new systems. In addition, if there is a lack of trust between the management and staff, this can make it difficult for the employees to feel comfortable sharing financial information with each other. If the organisational culture does not value transparency and open communication, it may be difficult for OBA to succeed (Willis et al. 2016).

### **2.3.1.2 Leadership:**

Leaders play an important role in driving OBA adoption in their organisations. They must provide a clear direction and support for its implementation, as well as ensuring that all of the employees are properly trained how to use it effectively. The leaders must create an environment that encourages transparency and collaboration, while also providing clear direction and guidance. They must ensure that the stakeholders understand the benefits of OBA and are committed to its success. The leaders should also provide resources and support to help the employees to learn how to use OBA effectively (Jakubik and Berazhny 2017). They should be willing to take risks and experiment with new ideas to maximise the potential of OBA. Equally, the leadership can hinder OBA application in a company by failing to provide the required support and resources. The leaders may be resistant to change, thus encouraging resistance among the employees. In addition, the leaders may not understand the benefits of OBA or how it works, leaving them unwilling to invest in its implementation. Leaders who are unwilling to take risks and try new things may be reluctant to embrace OBA as an accounting system (Cortellazzo et al. 2019).

### **2.3.1.3 Resources:**

Adopting OBA requires resources, such as time, money, personnel, and a technological infrastructure, which may not always be available or affordable. The availability of resources and finance thus plays a critical role in OBA adoption. Resources are needed to develop and implement the systems, while finance is necessary to fund the development and implementation of these systems. Resources are needed to ensure that the system is properly designed, implemented, and maintained. This includes hiring personnel with the necessary skills and expertise and training staff how to use the system effectively. In addition, resources are needed for the ongoing maintenance of the system (e.g., software updates and hardware upgrades). Finance is also essential for OBA adoption. The cost of developing and implementing an OBA system can be significant. In addition, organisations must budget for the ongoing maintenance costs associated with keeping the system up-to-date. Finally, organisations need additional funding to finance the changes and improvements required over time (Gelsomino et al. 2016).

The role of the technological infrastructure in OBA adoption is critical. OBA requires a secure, reliable, and efficient technology platform to ensure the accuracy and integrity of the financial data. This includes cloud-based accounting software that provides real-time access to financial information from any device with an internet connection. In addition, it requires robust security measures - such as encryption and authentication protocols - to protect sensitive data from unauthorised access. Finally, it is vital to have a comprehensive system for tracking changes in financial records over time, so that users can easily identify discrepancies and errors. Without these components, OBA adoption will be difficult or even impossible (Büyüközkan and Arsenyan 2012).

### **2.3.1.4 Training and Education**

For OBA to be effective, the employees need to be properly trained and educated regarding how to use it. Without proper training, the employees may not understand its full potential. Training and education are thus essential for successful implementation. Training helps the employees to understand the principles of OBA, how to use the system, and how to interpret financial data. Education facilitates a deeper understanding of the underlying concepts and theories that drive OBA (Pan and Seow 2016). The training should teach the employees how to use the software, interpret financial data, and identify areas for improvement. It should also

cover topics such as budgeting, forecasting, cost analysis, and performance measurement. Employees should be taught how to use the system to maximise its potential benefits (Apostolou et al. 2016).

Education is important for helping employees to understand the underlying principles of OBA and how it can be used to improve business performance. This includes topics such as accounting principles, financial statement analysis, cost-benefit analysis, risk management, and strategic planning. Education can also help the employees to understand the competitive landscape in which their organisation operates. By providing training and education, organisations can ensure that their employees have a comprehensive understanding of the system and its capabilities. This will enable them to make informed decisions about how best to utilise OBA to achieve the organisational goals (Pan and Seow 2016).

A lack of training and education can hinder OBA adoption by creating a resistance to change. Employees may be reluctant to learn new processes and procedures or struggle to understand the benefits of OBA. In addition, employees who are not properly trained may struggle with implementation and become frustrated. In conclusion, if the company does not provide adequate support for the employees during the transition period, this can lead to confusion and further resistance to OBA adoption (Apostolou et al. 2016; Pan and Seow 2016).

### **2.3.1.5 Data security**

Organisations that use OBA must ensure that their data are secure, as any breach can have serious consequences. They must take steps, such as implementing strong authentication protocols and encrypting the data before they are stored on the cloud. Data security ensures that the financial information shared through OBA remains secure and confidential. It also helps to protect against unauthorised access and the manipulation of data. The data-security measures include encryption, authentication, access control, and monitoring. Such measures can ensure that only authorised users are able to view and/or modify the data (Achar 2022). In addition, data-security measures protect against malicious attacks, such as malware and ransomware. Data security is essential for any business using OBA because it helps to maintain the integrity of the financial information shared with the stakeholders. Without proper data-security measures in place, businesses risk exposing sensitive financial information to unauthorised parties or having their systems compromised by malicious actors (Achar 2018).

Data security is a major concern in the context of OBA adoption. OBA involves the sharing of sensitive financial information with the external stakeholders, such as customers, suppliers, and other third parties. This means that the data must be protected from unauthorised access or manipulation. Companies must ensure that their systems are secure and comply with the industry standards. In addition, they must consider the risks associated with storing confidential information on an open system. These risks include data breaches, malicious attacks, and even insider threats. Companies are unlikely to adopt OBA without having the proper security measures in place (Achar 2022).

#### **2.3.1.6 An Effective Internal Auditing Department:**

The role of an effective internal audit in OBA adoption is to ensure that the organisation's financial records are accurate and up-to-date. Internal auditors review the accuracy of the data entered into the system, as well as any changes to it. They also assess whether the system is being used properly and if there are any potential risks associated with its use. In addition, they evaluate the effectiveness of the controls in place to protect against fraud or errors. Finally, they provide an assurance that all transactions are recorded accurately and in accordance with the applicable laws and regulations (Drogalas et al. 2017).

Without internal auditing, organisations may be unable to assess the accuracy and reliability of their financial data properly. This can lead to inaccurate or incomplete information being used to make OBA decisions, resulting in poor decision-making and a lack of trust in the system. In addition, without internal auditing, organisations may lack adequate controls to ensure that all transactions are properly recorded and reported. Thus, without these controls, organisations cannot guarantee that their financial data are accurate and reliable. Without internal auditing, organisations may lack the necessary resources or expertise effectively to implement OBA processes and procedures (Ibrahim et al. 2021).

#### **2.3.1.7 An Inventory-management Strategy**

Inventory-management strategies can have a significant impact on the success of OBA adoption. These strategies can ensure that inventory levels are kept at optimal levels, thereby reducing the costs associated with overstocking and understocking. Accurate inventory data also allow the better forecasting and planning for future needs. This helps to reduce waste and

improve efficiency throughout the supply chain. Furthermore, access to accurate inventory data facilitates better pricing decisions and improved customer service by ensuring that products are available when needed. Inventory-management strategies also reveal how resources are being used in the organisation (Ghasemi et al. 2022). This visibility helps to identify areas for improvement and also how resources are being allocated across departments and projects. Organisations that understand these patterns can make better informed decisions about their operations and make the most efficient use of their resources (Mashayekhy et al. 2022).

However, inventory-management strategies can hinder OBA adoption by creating a disconnect between the accounting and inventory departments. This disconnect can lead to discrepancies in the data used for financial reporting, which can make it difficult accurately to track the costs and profits. In addition, unless inventory management is properly integrated with OBA, it can be difficult accurately to forecast future demand and plan for the necessary resources. Unless the inventory management is properly aligned with OBA, it can be difficult to identify areas of waste or inefficiency that could be addressed by cost-savings initiatives (Ghasemi et al. 2022).

### **2.3.2 External Factors Driving OBA Adoption**

The literature shows that various external factors are driving the adoption

#### **2.3.2.1 Government regulations**

To ensure transparency, governments worldwide are increasingly introducing regulations that encourage companies to adopt innovative collaborative practices, such as Open Book Accounting (OBA). While there are no specific regulations that have been designed exclusively for OBA, these broader regulations can serve as a significant driver for OBA adoption. Additionally, these regulations can offer incentives for businesses to embrace OBA, such as tax credits and financial benefits, and protect consumers by ensuring that accurate, up-to-date accounting practices are utilized. Essentially, government regulations are instrumental in holding businesses accountable for their financial decisions and actions (Brooks and Oikonomou 2018).

However, government regulations can also pose challenges regarding OBA adoption. For instance, the regulations might necessitate adherence to the accounting standards, such as the Generally Accepted Accounting Principles (GAAP) or the International Financial Reporting Standards (IFRS; Brooks and Oikonomou 2018), which may be incompatible with OBA,

potentially hindering its adoption. These regulations might also limit the public sharing of certain financial data, thereby impacting the openness of OBA systems. Moreover, restrictions on data storage and access could pose difficulties in implementing effective OBA systems. Additionally, some regulations might cause businesses that adopt Open Book Accounting (OBA) to incur additional expenses. For example, businesses might have to pay fees to use specific software or services that enable the implementation of OBA systems. These costs could arise due to the compliance requirements or the need for specialized tools and technologies to ensure that the OBA practices are aligned with the regulatory standards (Hopper et al. 2017).

### **2.3.2.2 Investor pressure**

Investors may pressure companies to adopt OBA as it provides them with greater transparency and insights into the financial performance of the business, allowing them to make better informed decisions about their investments. Investors are increasingly demanding greater transparency and accountability from companies, and OBA provides a way for them to gain access to more detailed financial information (Aldowaish et al. 2022). By providing investors with more detailed financial information, companies can demonstrate their commitment to good corporate governance and increase investor confidence. This increased confidence can lead to higher stock prices and improved investor relations. In addition, investors may be more likely to invest in companies that have adopted OBA due to its provision of better insights into the companies' operations and performance. As such, investor pressure can be a powerful motivator of OBA adoption (Velte 2023).

### **2.3.2.3 Trust**

According to Luhmann (1979), trust - in its broadest sense - is simply the assurance that one's expectations will be met. At this level of analysis, trust applies not just to people and their systems, but also to objects. Trust is crucial when handling transactions between businesses (Agndal and Nilsson 2010; Vosselman and Meer-Kooistra 2009; Caglio and Ditillo 2008; Langfield-Smith and Smith 2003). Axelsson et al. (2002, p. 56) conclude, "Building trust is a crucial aspect of employing this method [OBA]". It is said that trust is both needed for and a

result of OBA. Consequently, by fostering confidence between buyers and sellers, OBA facilitates the elimination of uncertainty in inter-business transactions.

The adoption of OBA can lead to improved levels of trust between organisations in a global supply chain. For example, one study found that supplier firms that implemented OBA systems experienced higher levels of trust from their customer firms due to the increased visibility around their financial performance (Liu et al. 2018). In addition, another study found that, when customer firms adopted OBA, they experienced greater trust in their suppliers due to the increased transparency and visibility around supplier performance (Liu et al. 2018). In addition to improving trust between organisations, OBA can also lead to improved collaboration among supply-chain partners. For example, one study found that when customers implemented OBA systems with their suppliers, this led to increased cooperation between them and better communication about pricing and delivery schedules (Kumar and Sharma 2019). In addition, another study found that, when customer firms adopted OBA with their suppliers, this led to improved coordination of activities, such as inventory management and production scheduling (Sarkis et al. 2011).

OBA can lead to improved levels of trust and collaboration between organisations in a global supply-chain. By providing increased transparency into financial performance, customer firms are able to better understand their suppliers' capabilities and make better informed decisions about pricing and delivery schedules. By allowing greater visibility around supplier performance, customer firms are able to build stronger relationships with their suppliers, which improves the coordination of the activities across the entire supply chain (Somapa 2018).

#### **2.3.2.4 Competitive advantage**

Companies may implement OBA to gain a competitive advantage over their rivals by providing their customers with better visibility of their finances and operations, ultimately leading to increased sales and profits. For example, by sharing financial information with their customers, businesses can demonstrate their commitment to transparency and trustworthiness. This can help them to build customer loyalty and attract new customers (Hartley et al. 2013). Similarly, by sharing financial information with their suppliers, businesses can negotiate better terms and prices for goods and services. This can help them to reduce their costs and increase their profits. In addition, businesses may adopt OBA to stay ahead of the competition. By becoming the first



in its industry to adopt OBA, a business can gain a competitive edge over its rivals who are still using traditional accounting methods. This could provide an advantage when it comes to attracting new customers or negotiating better terms with suppliers (Hoffmann et al. 2018).

Without competition, there would be fewer incentives for businesses to adopt OBA. Without the pressure of competing with other businesses that have adopted OBA, businesses may be less likely to invest in the technology and resources needed for implementation. In addition, without competition, there are fewer incentives for vendors to develop innovative solutions or offer competitive pricing. This can lead to higher costs and slower adoption rates (Wu 2012).

#### **2.3.2.5 Standardised form of sharing information**

Standardised forms provide a consistent, reliable way of sharing financial information between the stakeholders (e.g., customers, suppliers, and other third parties). This helps to ensure that all of the parties involved have access to the same data and can make informed decisions based on accurate information. In addition, standardised forms help to reduce the amount of time spent manually entering data into the accounting systems - which can be a major barrier for small businesses considering OBA adoption. Moreover, standardised forms help to ensure that all of the stakeholders are able to understand the financial information being shared, which is essential for successful OBA adoption (Chinosi and Trombetta 2012; Wolfert et al. 2017).

The inconsistent sharing of information can hinder OBA adoption by making it difficult for the stakeholders to access the necessary data and understand the financial performance of a business. Without consistent, accurate, and timely information, the stakeholders may be unable to make informed decisions about their investments and other activities related to the business. In addition, the inconsistent sharing of information can lead to confusion among the stakeholders regarding the accuracy of the financial statements and reports produced by OBA. This can lead to mistrust in the system and ultimately discourage the stakeholders from choosing to adopt OBA (Bell et al. 2010).

#### **2.3.2.6 Fear of opportunism**

The fear of opportunism in OBA adoption is a valid concern. Opportunism can occur when one party takes advantage of another's lack of knowledge or resources to gain an unfair advantage.

This could be done by manipulating the data, misreporting information, and taking advantage of loopholes. To prevent this, organisations should ensure that all of the parties involved in the OBA process are well-informed and have access to the same resources (Ciobanu et al. 2014; Yam and Chan 2015). In addition, organisations should establish clear policies and procedures for reporting and verifying financial information, as well as implementing internal controls to detect any potential fraud or abuse. Moreover, organisations should consider using third-party auditors to review their OBA processes and provide independent assurance that these are being conducted properly (Um and Kim 2018).

### **2.3.2.7 Communication barriers during Covid-19**

The Covid-19 pandemic has had a significant impact on the rate of OBA adoption. Companies are now seeking ways to communicate their financial performance more effectively to their stakeholders, which has resulted in more companies adopting OBA solutions and investing in the technology to support them. The pandemic has also changed how companies communicate with the stakeholders about their financial performance (Markovic et al. 2021). Companies are using digital platforms such as webinars and video conferencing to provide updates on their financial situation. This shift towards digital communication has made it easier for companies to share information quickly and efficiently with their stakeholders, which is beneficial for those who are using OBA solutions (Kumar and Ayedee 2021). Moreover, the pandemic has highlighted the importance of data security when sharing financial information with stakeholders. Companies must ensure that they have adequate security measures in place when using OBA solutions so that confidential information remains secure. This is especially important given the rise of cybercrime during the pandemic. The Covid-19 pandemic has encouraged the adoption of OBA solutions by businesses worldwide. The increased need for transparency and communication between businesses and their stakeholders have driven a demand for these solutions, while highlighting the importance of data security when sharing sensitive information online (Li et al. 2021; Kang et al. 2021).

### **2.3.2.8 Dependency and power asymmetry**

Power asymmetry can have a significant influence on OBA adoption. “Power asymmetry” refers to the unequal distribution of power between two or more parties, which can lead to

imbalanced decision-making. In the OBA context, this could mean that one party has more control over the decision-making process than another. This could lead to a situation in which one party is able to dictate terms and conditions that are not beneficial to the other party - such as requiring them to accept certain accounting practices or procedures with which they may feel uncomfortable. In addition, power asymmetry can lead to a lack of trust between the parties involved in OBA adoption. If one party feels that they lack sufficient control over the decision-making process, they may be less likely to trust the other party and their decisions. This lack of trust can make it difficult for both parties to reach an agreement on how best to implement OBA (Cheng 2011; Zhang and Cao 2018).

Power asymmetry can thus create barriers. Organisations with more power may be less likely to adopt OBA due to their greater ability to control information and maintain secrecy. In addition, those with less power may lack the resources or knowledge necessary to understand and use the system effectively. Therefore, it is important for organisations to consider how power asymmetries may affect OBA adoption (Cuevas et al. 2015).

## **2.4 Opportunities, Challenges and Benefits of OBA Best Practices**

OBA offers companies a number of advantages, such as increased transparency and improved collaboration between departments. However, there are also challenges associated with the adoption of this new technology which must be addressed before it can be widely adopted by businesses. This section will discuss the opportunities and challenges associated with OBA adoption.

### **2.4.1 Opportunities Associated with OBA**

OBA has been gaining traction in recent years due to its potential to produce cost savings, increase transparency, improve supplier relationships, and enhance decision-making. The first opportunity associated with OBA is cost savings. By sharing financial data between the parties in the supply-chain process, companies can identify areas where costs may be reduced without sacrificing the quality or service levels (Kumar and Kumar 2020).

OBA can offer increased transparency, ensuring that all of the stakeholders have up-to-date information and are thus able to make better decisions (Kumar and Kumar 2020). In addition,

OBA can help to reduce fraud and corruption and improve compliance with the regulatory requirements. OBA has the potential to improve supplier relationships, fostering collaboration among the suppliers and other stakeholders (Kumar and Kumar 2020). This can lead to better communication, more efficient operations, and improved supplier relationships. In addition, OBA can help companies to identify areas for improvement in terms of quality or service levels (Narayanan et al. 2015).

OBA offers opportunities for better decision-making, leading to better informed decisions about resource allocation (Kumar and Kumar 2020). In addition, OBA can help companies to identify potential risks and opportunities and develop strategies for mitigating threats (Buijs and Wortmann 2014). OBA can also help companies to identify potential areas for improvement and make informed decisions about how to allocate resources.

#### **2.4.2 Challenges Associated with OBA**

OBA brings challenges. It can be difficult to ensure that all stakeholders have access to the same information and that the financial records are accurate and up-to-date. In addition, there is a risk that stakeholders will use the information in ways that are not beneficial for the company. Furthermore, OBA can be costly and time-consuming to implement, as it requires the company to invest substantial resources. OBA is still a relatively new concept, and there is no universal standard for its implementation. This means that different companies may have different interpretations of the same principles, making it difficult to ensure consistency across the supply-chain (Chinosi and Trombetta 2012). The lack of standardisation of OBA adoption is a major challenge. This means that each business must develop its own system and processes. This can lead to confusion and inconsistency across organisations, making it difficult for them to compare financial data. In addition, without a standardised approach, it can be difficult for businesses to ensure accuracy and compliance with the applicable laws and regulations (Wolfert et al. 2017). Additionally, implementing OBA can be expensive, as it requires significant investment in technology and training. In addition, there may be costs associated with the transition from traditional accounting methods. For example, additional staff or consultants may be needed to help with the transition process. Finally, there may also be ongoing costs associated with regular updates and upgrades (Austin and Seitanidi 2012). OBA involves complex calculations and data analysis, which can be difficult to manage without specialised software or expertise. In addition, the sheer amount of data involved in global

supply chains makes it difficult accurately to track all of the transactions and ensure accurate reporting. The complexity of OBA adoption depends on the size and complexity of the organisation itself. For larger organisations, the process can be more complex due to the need to integrate the existing systems and processes with the new ones. In addition, there may be a need to train staff on the use of OBA and ensure that all of the stakeholders understand its benefits and implications. Furthermore, organisations must also consider any relevant legal or regulatory requirements (DhaifAllah et al. 2020).

Furthermore, as with any system involving sensitive financial information, there are security risks associated with OBA adoption. Companies must take steps to protect their data from unauthorised access or manipulation by implementing robust security measures such as encryption and authentication protocols. OBA systems store sensitive financial data, which can be vulnerable to cyber-attacks and data breaches. Hackers may seek to access confidential information, such as customer records, bank account numbers, and other financial details (Achar 2022). In addition, OBA systems are complex and require regular maintenance and updates to ensure that they remain secure. If these updates are not performed regularly, the system could become vulnerable to malicious attacks or exploitation by hackers. As OBA systems are open source, it is possible for users to modify the code to commit fraudulent transactions or manipulate the system for their own gain. Without proper security measures in place, unauthorised users may be able to access the system and view confidential information or make changes without permission (Friday et al. 2018).

### **2.4.3 Benefits of Best OBA Practices**

As mentioned earlier, OBA allows companies to share financial information with their employees and other stakeholders, providing greater transparency regarding the company's finances and encouraging collaboration between the stakeholders, as all financial information is readily available to everyone. By adopting this system, businesses can benefit from improved communication between departments, increased accountability for all parties, better decision-making processes, and improved monitoring of the company's resources. The rest of this section reports on the literature about the best practices that permit the realisation of those objectives.

OBA encourages communication between the management and staff. This helps to ensure that everyone is working together towards a common goal. It also allows more transparency, which encourages trust and collaboration between the stakeholders (DhaifAllah et al. 2020). OBA encourages engagement among the employees. When employees have access to financial information, they have a better understanding of the organisation's finances and can be more involved in the decision-making (Clack 2020). OBA encourages accountability among managers and employees. When everyone is held accountable for their decisions and actions, this helps to ensure that the organisation runs efficiently and effectively (Clack 2020).

Furthermore, with access to financial information, managers and employees can make better informed decisions. This helps to ensure that the organisation is making decisions that are in line with its overall objectives and strategies (Buijs and Wortmann 2014). Best practices in OBA are essential for ensuring the accuracy and reliability of financial information. They help to ensure that all of the stakeholders have access to accurate, timely financial information, that is critical for making informed decisions. Best practices also help to reduce the risk of fraud or errors in the accounting process. OBA can help to monitor the cash flow by providing detailed reports on income and expenses, as well as forecasting future cash needs (Huerta and Jensen 2017). Analytics can provide valuable insights into the business operations and performance, allowing organisations to make better informed decisions about how best to allocate resources and optimise the processes. OBA can help to leverage analytics by providing detailed reports on key metrics, such as sales trends, customer segmentation, inventory levels, and so on (Huerta and Jensen 2017).

Open book accounting also helps to reduce the costs associated with inventory management by providing the stakeholders with access to real-time data about the inventory levels and usage rates. This information can then be used to optimise the inventory management processes, resulting in reduced costs for all of the parties involved in the supply chain network. Goh et al. (2019) found that open book accounting led to significant cost savings due to improved inventory management processes.

Open book accounting can also improve collaboration between the stakeholders in the supply chain by providing them with access to real-time data about the supplier performance, inventory levels, and usage rates. This information can be used to identify areas for improvement and ensure that suppliers are meeting their contractual obligations. Moreover, open book accounting can enhance the customer service levels by allowing the customers to

view real-time data about the supplier performance and inventory availability. Lee et al. (2020) found that open book accounting led to improved collaboration between the stakeholders in the automotive industry, resulting in better customer service levels. In summary, open book accounting can improve the visibility of supplier performance, reduce costs associated with inventory management, increase the collaboration between the stakeholders, and enhance the customer service levels.

The key factors that shape the implementation and outcomes of OBA practices have been outlined. The next section sheds light on the significance of considering the network lifecycle and supply chain maturity when implementing OBA strategies and how the various stages of a network lifecycle and supply chain maturity influence the adoption and effectiveness of OBA within companies.

## **2.5 Impacts of Network Lifecycle on OBA application**

OBA is an innovative approach to financial management, so careful consideration is required when implementing it into the existing networks. This section will explore how different stages of the network lifecycle can affect OBA adoption, with reference to the literature.

### **2.5.1 Network Lifecycle**

The network lifecycle is the process of designing, building, operating, and optimising a supply-chain network. This includes activities such as selecting suppliers and locations for warehouses and distribution centres, determining the transportation modes, setting up information systems, and developing strategies for managing the inventory levels. The goal of the network lifecycle is to create an efficient, cost-effective supply chain that meets the customers' needs. This is an important concept in supply-chain management, used to ensure that the network is mature and efficient. The network lifecycle consists of four stages: planning, design, implementation, and optimisation. Each stage is important in its own right, as it helps to ensure that the network is operating at its full potential (Hearnshaw and Wilson 2013).

The planning stage of the network life cycle is the most important one, as this is when the objectives and goals are determined. During this stage, the organisation identifies the key stakeholders, their needs, and the desired outcomes of the network. It also develops a strategy

for the network, which includes the resources and capabilities required to achieve the desired outcomes (Farahani et al. 2014; Eskandarpour et al. 2015). The design stage follows, when the actual network is created. During this stage, the organisation identifies the nodes and links of the network, as well as the rules and regulations that govern it. The organisation also develops the necessary processes and procedures to ensure that the network is operating efficiently (Farahani et al. 2014; Eskandarpour et al. 2015).

The implementation stage is the next step. Here, the organisation ensures that the network is properly integrated with the other systems and processes, and that the necessary resources and capabilities are in place to ensure that the network is operating efficiently (Farahani et al. 2014; Eskandarpour et al. 2015). The optimisation stage of the network lifecycle is the final step. During this stage, the organisation identifies any areas for improvement and develops strategies to address these. It monitors the performance of the network and makes adjustments as needed (Hearnshaw and Wilson 2013).

### **2.5.2 Impacts of the Network Lifecycle**

The network lifecycle has a significant impact on OBA implementation. This is because it involves the development, deployment, and management of the network infrastructure, which are key components of the OBA system. The development phase of the lifecycle is critical for successful implementation. During this phase, designers must ensure that the network infrastructure meets the needs of the OBA system, including its scalability, reliability, and security. If the network architecture is not designed correctly, this can lead to errors and security vulnerabilities, thereby reducing the effectiveness of the system (Cullen and Meira 2010; Alenius et al. 2015).

The deployment phase of the network lifecycle is also important for OBA implementation. Network engineers must ensure that the network is properly configured and that the necessary hardware, software, and services are in place to support the system. If the network is not properly configured, the system may not function correctly (Aarikka-Stenroos and Ritala 2017). The management phase is important for maintaining the performance and security of the OBA system. Network administrators must ensure that the network is regularly monitored and maintained and that any changes to the network are properly tested and implemented. This



helps to ensure that the system is secure (Cullen and Meira 2010; Aarikka-Stenroos and Ritala 2017).

## **2.6 Effects of Supply-Chain Maturity on OBA Implementation**

Network lifecycle is an important concept in supply-chain management. It refers to the various stages of the supply-chain network, defining their respective degrees of maturity and specifying distinct forms of connection, beginning with independent companies and progressing through various phases of collaboration (Cullen and Meira 2010).

Supply-chain maturity is a measure of how well an organisation's supply-chain processes are developed and optimised. It is typically measured by assessing the effectiveness of the organisation's supply-chain strategy, operations, technology, and performance. The higher the level of maturity, the more efficient and effective the supply chain will be in meeting the customers' needs. OBA involves sharing cost information about relevant processes, both within each organisation and across the organisations in the supply chain. The purpose is to identify non-value-adding processes that could be withdrawn without negatively affecting the customer. Indeed, withdrawal is likely to improve the customer service (Cullen and Meira 2010; Alenius et al. 2015). There are several possible factors at work here:

- ***Organisational readiness:*** Companies with more mature supply chains have better visibility and control over their operations, making them more likely to be ready to implement OBA. In contrast, less mature supply chains may require more time and resources to get their processes in order before they can effectively implement OBA.
- ***Data accessibility:*** More mature supply chains may have better data systems in place for providing the required information. This can include information on costs, inventory levels, and production schedules, all of which are necessary for transparency and accurate reporting. Less mature supply chains may have limited or unreliable data, making implementation more difficult.
- ***Supplier relationships:*** In more mature supply chains, suppliers may evidence higher levels of trust and collaboration, which can facilitate information sharing and OBA implementation. In less mature supply chains, suppliers may have more adversarial relationships, making implementation more difficult.

## **2.7 OBA and Inter-Organisational Cost Management Practices**

Inter-organisational relationships are developed, sustained, and improved to attain the goals and objectives of the firms that are usually difficult to achieve autonomously (Cheng 2011). The uncertain, complex nature of modern markets directs firms to emphasise their core competencies in order to ensure their market competitiveness and increase their value for their customers (Prahalad and Hamel 2017). Consequently, firms are progressively outsourcing their non-core functions and activities from their external suppliers and vendors while emphasising their own core competencies (Belcourt 2006; Ghodeswar and Vaidyanathan 2008).

Relationships associated with the supply chain are divided into four main categories: firms' reciprocal dependence relationships, whereby they affect each other's work ethic; arm's length relationships; deeper mutual dependence relationships; and serially dependent relationships (where an organisation produces output which is directly used by another organisation in its production process) (Berry et al. 2005). The output of one department in a reciprocal interdependence model becomes the input for another department. In this model, the departments interact to the maximum because of the nature of their work. It is the most difficult model to manage, since the failure of one unit can affect the performance of the others. For example, in a software company, the roles are often split between engineering and development teams, who work together to create the product, and the marketing team in charge of generating and maintaining sales. These cycles work together to create products and generate revenue for the company but, if one cycle fails, this will adversely affect the others (Wolk et al. 2012).

An arm's length relationship refers to a relationship where both the buyer and seller act independently, without being influenced by each other (Hoyt 2000). This relationship emphasises the need for each party to act in a manner that supports their own self-interest, without being subjected to any pressure by the other party, thus ensuring that there is no collusion. This ensures that there is fairness for both parties, with both having equal access to information related to transactions. The parties should not be associated with each other outside the transaction for it to be classified as an arm's length relationship. The parties may display an almost antagonistic approach to each other to ensure that the choices are beneficial for themselves. Hence, the final agreement made always embeds a fair representation of the current market values and sentiment of the buyers and suppliers. In this way, management control is paramount in supply chain relationships to show the transitions between the stages.

Management control does not affect inter-organisational issues but acts as a dominant actor in controlling the costs of buyers and suppliers, thereby helping to develop a “jointly constructed financial representation of the supply chain” (Berry et al. 2005). It shows the development of cooperative relationships and maintains interdependence among organisations, whereby IOCM takes place. Cooper and Slagmulder (1999) state that this is a structured approach that coordinates the different activities of the firms to reduce the costs within the supplier networks.

Target costing (TC) aims to identify the total cost of manufacturing the product, by estimating the costs. Before developing the product, this cost is identified by examining the market factors, then the expected profit is subtracted from the selling price to determine the cost (Kato et al. 1995; Ellram 2000). In this way, TC helps to analyse the cost of a product by considering its whole life (i.e., from the point of manufacture to the point of sale). A major challenge during the adoption of TC is to develop a product that satisfies the customers’ needs in full, determine the right target cost, and apply TC by using different philosophies and techniques. Kato (1993) determines that the availability of detailed cost information is necessary in order effectively to apply target costing during the design and manufacture phase of the product. According to Ibusuki and Kaminski (2007), in order to break down the target cost into different components, supplier involvement is also necessary.

In this way, TC becomes an important component of the interorganisational cost management (IOCM), because it pushes cost pressure along the entire supply chain (Tanaka et al. 1993; Seuring 2002b). However, the importance of the supply chain in the existing literature on TC is undervalued. For instance, Ansari and Bell (1997) pointed out that “in achieving full TC, an optimised supply chain becomes a critical element”. In a similar way, Sakurai (1996) contended that direct material costs and direct conversion costs are the primary components of the target cost. Therefore, combining the arguments of Sakurai (1996) and Ansari and Bell (1997), the supply and purchase functions are less relevant to the target cost technique.

In TC, the price of a product is analysed based on its market value rather than determining its actual cost, which means that the cost of the supplier is less relevant to the target cost at the component level, and the market value is considered important in deciding the price (Cooper and Slagmulder 1999). Therefore, the target cost can be analysed using the arm’s length cost IOCM technique. Ellram (2000) argued that the target cost should be achievable based on the market value, because buyers consider the supplier cost when determining the product price.

This means that buyers can reach suppliers when determining the target cost at the component level, but the degree of cooperation may vary.

According to Ellram (2006), when a purchased component is considered to have a significant economic impact, organisations spend more time and effort on selecting the right supplier, the right materials for products, and the best design characteristics. Components with lesser economic impact are attached less importance, and competitive bidding strategies are commonly used. Ellram (2006) further argues that product development activities are usually considered critical, so communication and cooperation between suppliers and buyers becomes significant. In this way, to achieve an effective target cost, concurrent engineering, inter-organisational cost investigations, and quality/function/price (QFP) trade-offs can also be used.

DhaifAllah et al. (2020) found that product complexity has a positive effect on Inter-organisational Cost Management (IOCM) and OBA. Moreover, the quality of the communication between buyers and suppliers has a significant impact on IOCM and OBA in buyer/supplier relationships. Buyers who have higher levels of trust in their suppliers are more likely to engage in high-quality communication, which leads to increased IOCM and OBA activities. Suppliers that provide timely information about product availability, pricing, delivery times, etc., can increase the level of trust between themselves and their buyers, leading to improved IOCM and OBA outcomes for both parties. DhaifAllah et al. (2020) also suggested that buyers should take into account the level of product complexity when designing their supply chain strategies, as well as ensure high levels of communication with their suppliers to promote effective cost management practices, such as IOCM and OBA initiatives. The relationship between product complexity and communication quality is significant for both IOCM and OBA in buyer/supplier relationships, indicating that these two factors are interrelated when it comes to cost management practices (DhaifAllah et al. 2020).

The outsourcing of management accounting can help organisations to reduce their costs, increase their efficiency and improve the quality of their financial information. Organisations should consider a variety of factors when outsourcing management accounting services, including the cost effectiveness, data security and confidentiality, service level agreements and regulatory compliance. To ensure that outsourced management accounting is effective and legitimate, organisations must have adequate control over the process by establishing clear objectives for the project; setting up appropriate governance structures; monitoring performance; providing feedback on the results; and ensuring that all of the stakeholders are

involved in decision-making process. Organisations should also develop strategies to manage the risks associated with outsourcing, such as fraud or errors in financial reporting, which could lead to reputational damage. Organisations should ensure that the outsourced management accounting services are aligned with their overall strategy and objectives in order to build legitimacy and trust among their stakeholders (Lepistö et al. 2020).

## **2.8 Theoretical paradigms**

Theoretical paradigms are the overarching frameworks that guide and inform research. They comprise sets of assumptions, concepts, values, and practices that define particular approaches to understanding phenomena (Burrell and Morgan 1979). Theoretical paradigms provide frameworks for researchers to understand the world and guide their research. Theoretical paradigms also provide a tool for comparing different studies and drawing conclusions from them. By understanding the underlying assumptions of a theoretical paradigm, researchers can more effectively evaluate the validity of their findings and make better informed decisions about how to apply their research in practice (Burrell and Morgan 2017).

Theoretical paradigms play an important role in OBA research. They provide a framework for understanding the underlying principles of OBA and how this approach can be applied to different contexts. They also help researchers to identify areas for improvement and to develop new and more effective and efficient approaches. With these theoretical foundations, researchers can understand the implications of their findings more clearly and make better informed decisions about how to apply them in practice. In addition, theoretical paradigms can help to guide the development of new technologies and processes, as well as informing policymakers on how best to regulate OBA's use (Lukka 2010; Scapens and Bromwich 2010).

This researcher had a particular interest in exploring the following theoretical dimensions and so adopted the theoretical foundation of this study:

### **2.8.1 Strong structuration theory (SST)**

From a social, organisational and political perspective, accounting is seen as more than just numbers; looking at OBA through this lens can help to uncover the driving forces that shape it (Remi 2006). Agency and structure are interrelated, as they both play a role in the development

of social behaviour. Agency is an individual's ability to make choices, while structure refers to external factors, such as norms or rules, which shape those decisions. Together, agency and structure can help individuals to understand how their actions fit into the wider societal patterns and expectations. According to the structuration theory (ST), society is shaped by a combination of human behaviour and social structures (Giddens 1984). It suggests that social systems are not simply external forces that shape individuals' behaviors but are continuously created and reproduced through the actions and interactions of individuals within those systems. According to Structuration Theory, social structures are made up of rules and resources that guide human behavior, which are constantly being reproduced and transformed through the actions of individuals. The theory emphasizes the duality of structure, highlighting that structures both enable and constrain human agency (Giddens, 1984).

According to Giddens (1984), all actions by external and internal actors are seen as part of a continuous process, with each new action being informed by the structure that preceded it (Bryant 2011). According to Giddens (1984, p.4), structuration is a combination of creating something new while still being connected to past actions and processes. He argued that all action involves both a production of something fresh as well as existing in continuity with what has come before it. Structure should not be seen as an obstacle to action, but rather is integral to the production of change (Giddens 1984). Even with regard to radical social transformation, this process still occurs over time.

The people using systems and their structures conform, comply, and act in a way that maintains the existing expectations and social norms (Coad and Glyptis 2014), thus allowing them to continue. Critics of this theory have suggested returning to an ontological understanding of the social reality by integrating micro-level analysis with macro-level analysis. Giddens (1984) suggested that institutions, systems and practices are composed of domination, signification and legitimisation, which must be taken into account as the rules and routines enforced by agents. This creates an entrenched culture within the institution (Humphrey and Scapens 1996). Social practices were highlighted to explain why some customs become institutionalised, making them difficult to alter (Giddens and Pierson 1998).

Giddens' (1984) Structuration Theory (ST) was revised, developed and synthesised in the Social Structure Theory which also addressed how social theory can be used for empirical research. Structuration Theory (ST) is a sociological framework that focuses on the interplay between social structure and human agency (Giddens, 1984).

In the context of accounting within organizations and society, the revised and developed version of Structuration Theory, known as Social Structure Theory, provides insights into how accounting practices and systems are influenced by and influence the social structures within which they operate. It examines how accounting practices both shape and are shaped by the social context in which they are employed (Hopwood, 1987; Dillard & Yuthas, 2002; Mouritsen & Thrane, 2006). Additionally, the theory acknowledges the implications for individual agents and teams in times of changes, recognizing that changes in social structures can create challenges and opportunities for individuals and groups (Covaleski, Dirsmith, & Samuel, 1996; Scapens, 1994). By understanding the interplay between structure and agency, the theory can offer insights into how accounting professionals and teams can navigate and adapt to organizational and societal changes (Covaleski et al. 1996; Scapens, 1994)

Scapens and Roberts (1985) suggested that ST is a beneficial approach to comprehending the importance of accounting in the production and reproduction of organisational life. It refutes the positivist Kantian ontology, which claims that there exists an overall law governing social life. Instead, it endorses critical theory's perspective that human beings are imaginative, thoughtful actors who create their own realities, thus making it impossible accurately to anticipate their future actions. ST suggests that operational structures are not self-replicating, but rather are created by the agents and their practices. Structures consist of rules and resources which enable actions to take place. In terms of accounting, ST has the potential to transcend the traditional boundaries (Mintzberg et al. 2009). Accounting experts are encouraged to explore meso-level analysis and their associated systems (in between the macro- and micro-levels). This has opened the door for accounting to be studied as a set of social practices, both inside and outside organisations (Vinten 2019).

Giddens (1984) proposed the concept of methodological bracketing, which requires researchers to choose between an institutional analysis that focuses solely on structural practices and excludes agent or manager conduct, or a strategic conduct analysis that ignores all of the structures involved (Stones 2005). In accounting research, institutional analysis is used to examine the motivations behind why systems and practices become established in organisational behavior (Jack and Kholeif 2007). In Giddens' (1984) original theory, strategic conduct analysis was mentioned briefly. Jack and Kholeif (2007) provided examples of how the theory could be applied at a micro-level, yet its abstract nature remained unchanged.

Additionally, Structuration Theory's treatment of agents as a homogenous group limited its scope and required expansion.

Gerdin and Englund (2014) suggested that accounting scholars have failed to take full advantage of the ST due to their lack of critical engagement with its assumptions. Gerdin and Englund (2014) postulated that agents possess both reflexive and knowledgeable characteristics. He proposed three modalities to symbolize the rules and resources employed in the execution of intentional actions: norms, facilities, and interpretive schemes.

In many structurally-based research studies, two key questions are often overlooked: the role of individual accountants in designing and maintaining the accounting structures, as well as how the daily decision-making contributes to certain practices (Gibson and Leech 2020). In 2005, sociologist Steven Stones proposed the Strong Structuration Theory (SST) for the further development of ST and encouraged researchers to conduct empirical case studies involving particular agents and structures. This would involve examining how individual agents interpret their situation within a web of position-practice relations that form part of large communication networks. By focusing on an agent or cluster of agents in this way, it is possible to gain insights into the structure within which they operate (Stones 2005). Stones (2005) proposed a theory of active agency, which examines whether agents will reproduce existing patterns and practices or choose an alternative approach. This focus on active agency allows researchers to observe the agent's decision-making process in order to assess the outcomes.

Stones (2005) argued that duality is best understood through a quadripartite framework of internal and external structures, active agency, and outcomes. Jack and Makrygiannikis (2016) highlighted the importance of analysing the various spatial relations that exist between the actors within these structures to gain an insight into how they mutually interact. According to Stones (2005), SST focuses on analysing the institutional structures and their output, such as accounting systems and reports. This analysis examines how knowledge is used by people to make decisions and take actions. SST emphasises how agents perceive the options and limitations that influence their decisions. It focuses on who said what, why, where, and when, and its effects on social relationships at different levels (Moore and McPhail 2016).

It has been argued that Strong Structuration Theory provides a more comprehensive view of accounting by focusing on the perspectives of accountants, managers and other users of accounting systems (Jack and Kholief 2007; Avez and Déjà 2017). Vinnari and Lukka (2014) explain that SST is a way of understanding how accounting is used to control and shape



structures, as well as the effects of communication decisions. It views accounting in its social context in order to gain insights into society by examining the creation and communication of accounting practices. Jack and Makrygiannikis (2016) conducted a retrospective field study to examine the causes, timing, methods of implementation, and responsible parties for changes in budgeting and other control processes within a Greek hospitality organisation. Using SST as their analytical framework, they demonstrated how contextual factors can be endogenous triggers of change.

Pierce and Feeney (2016) sought to explore the role of accounting information in product development through Strong Structuration Theory (SST). Their objective was to gain a better comprehension of how its web-like nature could influence the structuration processes. Jack and Makrygiannikis (2016) suggested that how managers and accountants use accounting information is influenced by their individual preferences as well as external structures, such as formal or informal accounting data. This idea was further developed from Jack and Kholeif's (2007) research, concluding that these factors shape how people interact with the available information. Pierce and Feeney (2016) highlighted the interconnectedness of the external and internal structures when multiple the stakeholders are involved. Their research demonstrated how accounting information can be linked to those who use it, as well as by their environment.

In conclusion, SST encourages researchers to contemplate why certain accounting practices become institutionalised and what it takes for them to keep up with the changing times. This involves analysing the behavior of influential actors as well as the kinds of procedures that are encouraged in organisations and external business communication networks (Scarpens and Roberts 1995; Jack and Kholief 2007; Jack and Makrygiannikis 2016). In terms of accounting, this theory allows researchers to consider why a budgetary decision adopted by one institution may not be accepted by another.

In 2016, Jack and Stones agreed with Gerdin and Englund's (2011) assessment that there is a lack of critical engagement with the SST in the accounting literature, which tends to prioritise structural analyses over agency. Gerdin and Englund (2011) argued that SST provides a more progressive way to conduct case study research in the accounting field, as it shifts the focus from an accountant's point of view to one which takes into account external factors. Stone (2015) used a hypothetical example to illustrate how the knowledge, actors, relationships and actions must be examined by the agents before they act.

SST can be applied to OBA, which refers to a system of financial reporting where all of the relevant information about an organisation's finances is made available publicly or internally through various means, such as websites, the intranet, etc., so that the stakeholders have access to it at all times. The application of SST to OBA research has been used to explain how OBA implementation can be seen as a process of structuration, where both structure and agency are involved in shaping the organisational behaviour. For example, SST has been applied to research on the adoption of open book accounting practices by organisations. This research suggests that, while external factors such as government regulations may influence an organisation's decision to adopt OBA, internal factors such as management attitudes towards transparency also play an important role in this process. Furthermore, it is suggested that these two forces interact with each other over time so that they shape and reshape one another until a particular outcome has been achieved; i.e., the successful adoption or rejection of OBA by an organisation (Kumar and Sharma 2017). SST has also been used to explain the effects of OBA on organisational performance. Research suggests that open book accounting can lead to improved financial transparency, increased accountability and better decision-making (Kumar and Sharma 2017). Furthermore, SST provides an understanding of how these changes in structure are related to individual agency; i.e., how individuals within organisations interact with one another and make decisions based on their own interests as well as those of the wider organisation (Kumar and Sharma 2017).

### **2.8.2. Actor-Network Theory (ANT)**

Accounting researchers have employed Actor-Network Theory (ANT) to gain insights into the dynamic nature of change (Ezzamel 1994; Lowe 2001c; Jones and Dugdale 2002). ANT is used to analyse how networks are established and sustained as well as the role that various actors (both human and non-human) play in these changing accounting processes. This "tool box" was developed by Latour in the 1970s, along with his colleagues Michael Callon from the Centre de sociologie de l'Innovation at the Ecole nationale supérieure des mines in Paris and John Law from Britain (Law 2007; Vidmar-McEwen 2008). ANT was initially intended to clarify social construction within the field of science and is an analytical framework that is used to examine the roles of humans and non-humans in creating new knowledge. ANT focuses on the networks between people, their ideas and technology that are necessary for knowledge production (Latour 2005; Callon 1986; Law 1986). Law (2007) describes ANT as a material-

semiotic method that maps the relationships between things and concepts. This approach emphasises how everything in both the social and natural worlds is created by networks of actors, rather than existing independently. The production of accepted facts or knowledge is the result of a complicated interplay between humans and non-humans, as well as their involvement in networks that involve both construction and reconstruction (McNamara, Baxter and Chua 2004).

The growing popularity of ANT in the accounting research has been evident over the past two decades, with its application to a variety of topics and settings. For instance, it has been used to study the changes in management accounting practices, such as implementing new costing systems within public sector organisations like hospitals (Lowe 2001a; Preston et al. 1992). Robson (1991) used this theory to analyse the genesis of accounting standard setting in the UK, Robson (1992) studied quantification's dominance in accounting, Jones and Dugdale (2002) examined the embedding of activity-based costing into practice, while Mouritsen et al. (2001) focused on intellectual capital statement development. These studies have gone beyond a specific institutional setting to address wider questions within the field of accounting.

The literature on ANT has identified several themes, such as the potential for accounting to be used for long-distance control (Quattrone and Hopper 2005; Mouritsen et al. 2001; Robson 1992), its ability to facilitate institutional or system change (Preston et al. 1992), its capacity to adapt in order to maintain legitimacy and autonomy (Jones and Dugdale 2002; Robson 1991) and the interconnectedness of the actors involved in facilitating reforms (Cuganesan and Lee 2006).

It appears that ANT is an appropriate theoretical framework for accounting research, as it allows the examination of how a group of actors (both human and non-human) work together to create a "truth" through their use of accounting. This process involves debate, dialogue and struggle (Mouritsen et al. 2001). Lowe (2001b) argued that it is only after all of the necessary resources, such as computer software, accountants, IT personnel and computers, have been used effectively that controversies can be resolved and black boxes created. Despite its popularity, ANT has been criticised by a number of studies for suggesting that non-human factors can be the participants or actors in systems and networks. For instance, Winner (1993) argued that ANT implies that humans and non-humans have a similar intentional attribution while Shapiro (1997) concluded that anomalies are not an essential component of the theory.

Although it is possible to adopt political and moral positions which would change the intentional attribution, one must firstly describe the network.

In OBA research, ANT can be applied to understand how different stakeholders interact with each other within organisations during the implementation of new technologies or systems like open books accounts. For example, researchers have utilised this framework to examine stakeholder relationships in the context of open book accounting systems, such as how different actors interact with each other and influence the decision-making. Additionally, ANT has been used to explore the role that technology plays in organisational change processes related to OBA implementation. In terms of empirical research using ANT for OBA studies, a number of studies have demonstrated its usefulness when examining stakeholder interactions within organisations during changes associated with new technologies or systems like open books accounts (Lukka et al. 2022). For example, one study found that the stakeholders' perceptions about their roles had an important influence on the decision-making processes regarding the adoption and use of an open book system; another study explored how trust between the stakeholders was essential for the successful implementation and utilisation of an OBA system; while yet another examined the impact on communication and collaboration between the stakeholders when an OBA system was introduced. Accordingly, ANT has been found to be a useful theoretical framework for open book accounting research as it provides insights into the complex relationships between the actors and their environment during the organisational change processes associated with new technologies or systems like open books accounts. Through conducting empirical studies utilising this approach, researchers have gained valuable insights into how different stakeholders interact with each other within organisations during changes related to OBA implementation, as well as the role that technology plays in these processes (Justesen and Mouritsen 2011).

### **2.8.3 Translation Theory (TT)**

TT in the accounting field originated from a combination of studies on accounting and language that compared accounting practices in different nations (Mueller and Whittle 2011). It is now an integral aspect of accounting, having proven beneficial for comprehending the requirements of accounting standards (Czarniawska and Sevón 2005). It has long been associated with accounting. TT is vital to the mission of IFRS Foundation to develop a single set of high-quality global accounting standards for use worldwide (Mueller and Whittle 2011).

TT plays a critical role in accounting. It is required in international trade, for managing company operations, and for accounting in multinational firms. It is also relevant to the implementation and enforcement of international laws and accounting standards (Wæraas and Nielson 2016). To make the tasks as easy as possible, the financial statements and annual reports must be translated into easily comprehensible language.

In principle, OBA concerns the public disclosure of accounting information, although in practice the general public may be unaware of an organisation's accounting policies or the data concerning its profits and losses. TT is useful for translating vital information regarding accounting activities and communicating what is happening within the firms. It also helps to solve problems and ambiguity related to the accounting terminology (Frenkel 2005). This is not limited to accounting practices, and translation is also useful for enhancing our understanding of the ideological, cultural, social, legal, and political implications of the accounting standards and activities (Nilsen 2020).

The relationship between TT and OBA is simple and direct: whenever it is necessary to understand the implications of the accounting standards for different cultures and languages, TT can be used to break down the barriers between a company and the public. TT can thus clarify the functions of an organisation (Ahern et al. 2015). It also reveals the economic implications of the accounting standards to be followed by the public or those who have invested in a particular organisation.

The networks in an open-book arrangement are vast and encompass diverse stakeholders, including the manufacturers, suppliers, and customers. Multilateral networks need to be broken into smaller components so that everyone can join them. TT is very important for networks where the members come from different backgrounds and are brought together solely for the purpose of business activities (Morris and Lancaster 2006). In addition to having this practical role, TT is vital for accounting research. There are multiple accounting standard requirements that can be facilitated by TT (Komori 2015). The theory facilitates the proper coordination between the members and company executives to improve the organisational efficiency and learning. It is useful in market-oriented business networks where there are multiple dealers, providing specialist information in lay terms.

#### **2.8.4 Transaction Cost Theory**

Transaction cost theory (TCT) is an economic concept that was developed in the late 1970s by Nobel Prize-winning economists Ronald Coase and Oliver Williamson. The theory suggests that firms exist to reduce transaction costs, which are associated with making and enforcing contracts (Rindfleisch 2020). Williamson focused on the idea of asset specificity, which refers to the degree to which assets are specialised and tailored to a particular use. He argued that asset specificity could create transaction-specific investments, which are made by firms to facilitate a particular transaction, such as developing a new supplier or customer relationship. TCT has been used to explain why firms choose certain organisational forms, such as vertical integration or outsourcing, and how these choices affect their performance. It also provides insight into the relationship between corporate governance structures and firm performance (Hansen and Windekilde 2016).

The basic premise of TCT is that, when a company engages in transactions with other parties (e.g., suppliers), there are costs associated with negotiating, monitoring, and enforcing those agreements (i.e., transaction costs). These costs can be divided into two categories: search costs and bargaining costs. Search costs are the expenses associated with finding potential partners, while bargaining costs are related to negotiating and enforcing contracts. TCT suggests that firms will seek to minimise these transaction costs by choosing an organisational form that best suits their needs (Rindfleisch 2020).

TCT has been used in a variety of contexts, such as corporate governance, mergers and acquisitions, outsourcing decisions, vertical integration strategies, pricing models for services or products, and more. For example, it can be used to explain why some companies choose to integrate vertically (i.e., produce all of their components internally) rather than outsource production activities; this decision may reduce the transaction costs associated with contracting external suppliers or monitoring the performance levels externally. Similarly, TCT can be used to explain why some companies choose to use a centralised corporate governance structure, which may reduce the costs associated with monitoring and enforcing contracts across multiple divisions (Rindfleisch 2020).

TCT has been widely studied in both academic and practitioner circles since its introduction in the late 1970s. Many studies have found that transaction costs are an important factor when firms make decisions about organisational forms, pricing models, and other aspects of their operations (Rindfleisch 2020). However, there is still much debate over how best to measure

these costs and whether they should be taken into account when making strategic decisions. As such, further research is needed to better understand the implications of TCT for business strategy (Hansen and Windekilde 2016).

TCT is less preferable in OBA research because it does not account for the complexity of OBA. It assumes that all costs associated with a transaction are known and can be accurately measured, but this is often not the case when dealing with complex OBA systems. Additionally, TCT focuses on reducing costs to increase efficiency, which may not always be feasible or desirable in an OBA environment where other objectives such as accuracy and transparency must also be taken into consideration. Finally, TCT fails to take into account any potential externalities that could arise from implementing certain strategies within an OBA system (Anderson and Dekker 2010).

### **2.8.5 Social Exchange Theory**

Social exchange theory (SET) is a social psychological and sociological perspective that explains social change and stability as a process of negotiated exchanges between parties. It posits that all human relationships are formed by the use of a subjective cost-benefit analysis and a comparison of alternatives. The theory has its roots in the fields of economics, psychology, and sociology, but has been applied extensively to intergroup relations, close relationships such as romantic partnerships or parent/child dyads, organisational behaviour (OB), health care delivery systems research, and marketing strategies for customer loyalty programs (CLPs), among other areas (Cook et al. 2013).

The basic premise behind SET is that people engage in behaviour with others based on their expectations about what they will gain from it. This expectation can be either tangible or intangible. For example, people may engage in a relationship because they expect to gain emotional support from their partner or financial stability. This expectation is based on the perceived costs and benefits associated with that particular behaviour. The theory suggests that individuals are motivated by rewards such as money, recognition, status and power when engaging in social exchanges with others (Cropanzano et al. 2017). People also weigh the risks of potential losses against these rewards when making decisions about whether to enter into an exchange relationship with another person or group of people. The cost-benefit analysis can be

seen as a way for individuals to maximise their gains while minimising their losses in any given situation (Cook et al. 2013).

SET has been used extensively within organisational studies to explain how employees make decisions regarding job satisfaction, commitment and motivation. It has also been used to explain why people stay in relationships despite the costs associated with them. Additionally, it can be used to understand how individuals form social networks and interact within them. SET provides a useful framework for understanding human behaviour in various contexts such as interpersonal relationships, organisational settings and even marketing strategies (Cook et al. 2013). The theory is based on the idea that humans are motivated by rewards and punishments when engaging in any type of exchange relationship with others. By taking into account both the tangible and intangible benefits associated with an exchange relationship, this model helps to clarify how people make decisions about their interactions with others (Cropanzano et al. 2017).

SET does not seem suitable for OBA research because it fails to take into account the complexities of OBA. OBA involves a complex set of relationships between multiple stakeholders, including the management, employees, customers and suppliers. SET focuses on individual interactions and does not consider the collective dynamics that are at play in an OBA environment. Additionally, it assumes that people act out of self-interest; however, this may not be true in an OBA setting, where there can be strong incentives to cooperate with others to achieve shared goals (Aryee et al. 2015).

### **2.8.6. Rationale of the Theoretical Framework**

The role of individual accountants in shaping and sustaining the accounting structures, as well as their understanding of the daily decision-making processes that drive certain practices, has often been overlooked in structurally-focused research studies (Stones 2015). The way in which accountants approach their decision-making roles in OBA relationships can be conceptualised and studied via the theoretical principles of SST. This research examines the factors in the accountants' decision-making and explores whether such factors are compatible with the framework and also with one or more of the aforementioned theories.

SST has proven to be a valuable tool for conducting case study research, particularly in the context of the current study's objectives. It enables researchers to adopt a broader perspective



on the product development processes and the role of the managers who oversee those processes, which is in line with the study's goals. The framework places significant emphasis on analysing the institutional aspects of the accounting structures and the outputs produced by the accounting reporting systems. Moreover, it is highly relevant for exploring the diverse relationships within the accounting systems, including those within OBA(Stone 2015).

This research examines whether the factors considered by accountants are compatible with those cited in SST. If there are new factors that lie beyond the framework of SST, the framework must be amended or expanded. However, if the answers of the accountants interviewed in this study are in line with the SST framework, this will imply that the framework is valid in the context of this study.

## **2.9 Conclusion**

In conclusion, this chapter has provided a comprehensive review of the literature on OBA and the related theoretical frameworks. The chapter has explored various aspects of OBA, including an overview of it, the factors driving its adoption, the opportunities and challenges that companies face when implementing OBA, and the benefits derived from the best OBA practices. Additionally, the chapter has examined the effects of the network lifecycle and supply-chain maturity levels on OBA. The chapter concludes with a discussion of the theoretical paradigms that underpin OBA. The next chapter examines the context of Saudi Arabia and the application of open book accounting there.

## **Chapter 3: Overview of OBA in the Saudi Arabian Context**

### **3.1 Introduction**

The aim of this research is to investigate the current status, the key internal and external factors, and the challenges and opportunities associated with supply-chain open-book accounting (OBA) in Saudi Arabia. Furthermore, it explores the benefits and best practices for successful implementation and how maturity affects its application in the context of Saudi Arabia. Additionally, this study examines how open-book accounting (OBA) influences supplier/buyer relationships in Saudi Arabian companies and how network lifecycle affects OBA application.

This chapter will present an overview of the Saudi Arabian context, exploring the factors relevant to OBA and strong structuration theory (SST). Section 3.2 offers a brief history of Saudi Arabia. Section 3.3 explores the cultural position and heritage. Section 3.4 outlines the legal environment of Saudi Arabia and some related laws. Section 3.5 focuses on the economic Environment of Saudi Arabia. Section 3.6 discusses the Saudi Vision 2030. Section 3.7 outlines the supply chain operations in Saudi Arabia. Section 3.8 focuses on OBA practices in Saudi Arabia. Finally, section 3.9 takes as its theme domestic entities that manage the supply chains in Saudi Arabia.

### **3.2 Brief History**

The history of Saudi Arabia goes back to the ancient civilisation on the Arabian Peninsula, an ancient commercial centre in the evolving Arab world. The Peninsula included Mesopotamia and the Nile River Valley and was thus a crossroads for many other important civilisations. The historic populations of the Arabian Peninsula developed rapidly through trade and the exchange of commodities, and this region of the world grew stronger over time. Even the dominant powers of Babylon and Rome - and their political turmoil - could not influence the Peninsula because of its exceptional trading activities. In addition, its huge desert gave the Peninsula unique protection against its powerful neighbours. It was on the Arabian Peninsula that the Kingdom of Saudi Arabia (KSA) emerged (Al-Rasheed, 2002)

In 1932, King Abdulaziz Al-Saud unified Saudi Arabia under a system of absolute monarchy, under which all decisions are referred to the King directly, which meant that everything now happened according to the Ruler's decree. The King and his sons decided all matters. The

Kingdom was no longer a desert nation, becoming a modern state with influence on the international stage. This system of absolute monarchy remains in place today in current KSA, which is ruled by Salman bin Abdulaziz Al-Saud, the seventh monarch, who ascended in 2015 after his brother King Abdullah passed away. Mohammad bin Salman Al-Saud, the son of the King, serves as the Deputy Crown Prince (Al-Rasheed, 2002)

### **3.2.1 How History Affects OBA and Supply Chains**

Saudi Arabia's history has had a significant impact on the development of supply chains and OBA nationwide. The Kingdom's traditional economic system, which is based largely on oil revenues, has limited its ability to develop modern business practices. This is due in part to the lack of infrastructure investment that would be necessary for these systems to function effectively. Additionally, cultural barriers have prevented businesses from adopting more advanced methods for managing their operations and finances (Al-Muhanna et al. 2020).

In terms of logistics, Saudi Arabia lacks an extensive road network, unlike some other countries in the region. This limits the access between suppliers and customers in different parts of the country and abroad. Furthermore, the country's limited port infrastructure has hindered its ability to establish efficient supply chains. As a result, businesses have had difficulty developing and managing their own logistical networks or outsourcing them to third-party providers. Saudi Arabia also lacks an established legal framework for financial reporting that would enable companies to use OBA to manage their finances and provide information about their operations. This is due largely to the absence of laws governing financial transparency in the Kingdom. As such, many businesses lack a basic knowledge about how to maintain proper records and report accurately on their activities. Additionally, the cultural norms discourage openness about business matters, which further limits the access to reliable data regarding company performance (Al-Muhanna et al. 2020).

### **3.3 Cultural Position and Heritage**

Saudi Arabia is a country with a rich, ancient cultural heritage. It has been home to many civilisations throughout history, including the Nabateans, Lihyanites, and Umayyads. As such it has developed its own unique culture that is deeply-rooted in tradition and religion. The Saudi Arabian culture is heavily influenced by Islam as well as the Bedouin traditions which have

been passed down through generations of families who have lived in this region for centuries (Al-Muhanna et al. 2020). The traditional dress code for men includes thobes (long robes) or dishdashas (ankle-length garments). Women typically wear abayas (full length cloaks) over their clothes when outside the home. This type of costume reflects modesty while also helping to protect the wearer from the harsh desert climate. The Saudi Arabian culture is highly family-oriented and places a strong emphasis on hospitality, respect for elders, and generosity towards guests. The traditional cuisine of Saudi Arabia includes dishes such as kabsa (rice with meat), shawarma (meat sandwiches), hummus (chickpea paste) and falafel (deep fried balls made from chickpeas). These dishes are often served with flatbread or pita bread. Tea is an important part of social gatherings in this region and is usually flavored with cardamom or mint leaves. Coffee has become increasingly popular in recent years due to its availability in coffee shops throughout the country.

The Saudi Arabian culture is also heavily influenced by its rich history and heritage. The ancient city of Mada'in Saleh, located in the northwest of the country, is a UNESCO World Heritage Site that hosts ruins from the Nabatean civilisation which flourished between 400 BC and 106 AD. This site provides insights into how this region was once home to an advanced trading network as well as a thriving agricultural society. In addition to its historical sites, Saudi Arabia has many museums dedicated to preserving its cultural heritage, such as the King Abdulaziz Historical Centre in Riyadh and Al Balad Museum in Jeddah. These institutions provide visitors with an opportunity to learn about the traditional customs, art forms, musical styles and more (Al-Rasheed, 2002).

In conclusion, Saudi Arabia is a country with an incredibly rich cultural heritage that has been passed down through generations of families over the centuries. Its traditional dress code and cuisine reflect its Islamic roots as well as Bedouin traditions, while its many historical sites and museums provide insights into the past. This culture continues to be celebrated today by locals and visitors alike, who come to experience all that the Kingdom has to offer (Al-Mutlaq 2019).

However, the emphasis on Saudi Arabia's cultural history can potentially affect its ability to innovate, as it may limit the country's exposure to new ideas and perspectives. The cultural norms and values may discourage risk-taking and/or experimentation, which are essential components of innovation. If individuals or companies are afraid to take risks, they may be less likely to develop new products, services, or technologies (Al-Shamsi 2017).

It is worth noting, however, that Saudi Arabia has taken steps to encourage innovation in recent years, including the creation of the Saudi Vision 2030 plan, which aims to diversify the country's economy and reduce its dependence on oil. This plan includes a focus on developing a strong innovation system, with initiatives such as the creation of research and development centers, funding for startups, and partnerships with international companies (Saudi Vision 2030 2021). Additionally, they provide incentives such as tax breaks and subsidies (Al-Somali et al. 2018).

### **3.4 The Legal Environment of Saudi Arabia and Some Related Laws**

According to Al-Rasheed (2002), the King of KSA rules the country through the Council of Ministers, the official central authority. All of the ministries under the council adhere to Islamic principles, along with the royal decrees. The country's laws and regulations are derived from royal decrees, which do not necessarily reflect *Sharia*. However, a royal decree cannot violate *Sharia*, as this provides the constitutional foundation for the state of Saudi Arabia. Hence, a dual legal system of *Sharia* and royal decrees operates in Saudi Arabia to address the contemporary national issues of taxation, labour law, foreign direct-investment, and so on.

The government of Saudi Arabia is a central player in the country's constitutional and functional matters. The government exerts absolute control over the country's functional administration. For instance, Article 56 of the constitution states that the King is the prime minister and must ensure the supremacy of the law in all administrative aspects. The King works in direct coordination with the Council of Ministers, who guide him on matters relating to the law and public administration. The power of the Council is defined by the Council of Ministers Law, which serves the country's national and international interests and national and foreign affairs, as well as coordinating the various government departments. Furthermore, this Law defines the ministers' power and ensures their departmental accountability and transparency.

#### **3.4.1 Domestic law**

Saudi Arabia is a monarchy with an Islamic legal system, and its domestic law is based on Sharia (Islamic) law. The country's constitution is the Quran and Sunnah, which are interpreted by religious scholars to form the basis of Saudi Arabian domestic law. This review will explore

how Sharia Law influences various aspects of Saudi Arabian domestic law, such as criminal justice, family matters, inheritance laws and financial regulations (Al-Mutlaq 2019).

*Criminal Justice:* In accordance with Sharia Law, crimes in Saudi Arabia can be divided into two categories - Hudud crimes (crimes against God) and Tazir crimes (crimes against humans). The punishments for Hudud offences include amputation or execution, while those for Tazir offences may involve fines or imprisonment. In addition, Sharia Law also allows the use of corporal punishment, such as flogging and stoning, in certain cases.

*Family Matters:* Saudi Arabian domestic law is heavily influenced by Sharia Law with regard to family matters. Marriage contracts are governed by the Islamic principles while divorce proceedings must be conducted according to the Islamic rules and regulations. Furthermore, the inheritance laws are based on Quranic verses which dictate that male heirs should receive twice as much as female heirs, in most cases.

*Financial Regulations:* Financial transactions in Saudi Arabia are regulated by a combination of civil and religious laws, with an emphasis on Sharia-compliant banking practices, such as riba (interest) prohibition, zakat (charity) requirements and qard hasan (benevolent loan) provisions. In addition, Sharia Law also prohibits certain types of investments, such as those related to alcohol and gambling.

In summary, Saudi Arabian domestic law is heavily influenced by Sharia Law, which governs various aspects of the country's legal system, including criminal justice, family matters and the financial regulations. The application of Islamic principles in these areas ensures that the rights and obligations of individuals are respected, while at the same time ensuring fairness in all transactions.

### **3.4.2 Economic Law and Regulations**

Saudi Arabia is a major economic power in the Middle East, and its economy has grown rapidly over the past few decades. As such, it has developed an extensive legal framework to regulate its economy (Al-Somali et al. 2018). This section will examine Saudi Arabia's economic law and regulations, both domestic and international.

Domestically, Saudi Arabia's economic laws are based on Islamic *Sharia*, as well as civil legislation derived from French law. The country's constitution also outlines certain

fundamental rights of its citizens with regards to property, freedom of contract, labour relations, and other matters related to business activities. In addition to this general legal framework for regulating the domestic economy, there are several specialised laws governing specific sectors, such as banking and finance, foreign investment, taxation, and intellectual property.

At the international level, Saudi Arabia is a member of the World Trade Organisation (WTO) and has ratified several agreements related to trade liberalisation, such as the General Agreement on Tariffs and Trade (GATT). The country also participates in regional economic organisations such as the Gulf Cooperation Council (GCC), which promotes free trade among its members. Saudi Arabia has also signed bilateral investment treaties with numerous countries that provide protection for the foreign investors operating within its borders.

In recent years, there have been efforts to modernise Saudi Arabia's economic law by introducing new regulations to promote transparency and accountability within business activities (Saudi Vision 2030). For example, a Companies Law was passed in 2015 that requires companies registered in Saudi Arabia to disclose their financial statements and other information to the public. Additionally, the government has implemented a number of reforms aimed at improving the corporate governance standards in order to attract more foreign investment.

Saudi Arabia's economic law and regulations are complex but have been evolving rapidly in recent years to keep up with the global trends. Furthermore, efforts have been made recently by the government to modernise the laws in order to promote transparency and accountability in businesses operating both domestically and abroad.

### **3.4.3 Taxation system**

The taxation system of Saudi Arabia is complex and has undergone significant changes in recent years. Taxation has been a part of life in Saudi Arabia since at least the early 19th century, when it was first introduced by Ottoman rulers to raise revenue for their empire's military campaigns (Al-Rasheed and Al-Muhanna 2008). Since then, various forms of taxation have been used to generate an income for both the central government and local authorities throughout the country's history. In 1932, King Abdulaziz Al-Saud established the Ministry of Finance and National Economy, which was responsible for collecting taxes on behalf of the government.

The modern taxation system in Saudi Arabia is based on a combination of direct and indirect taxes. Direct taxes include income tax, corporate tax, capital gains tax, and real estate transfer fees. Indirect taxes are composed mainly of value added tax (VAT) at a rate of 5%, as well as customs duties imposed on imported goods. In addition to these levies, there are also various other types of local fees, such as stamp duty, that may be applicable depending upon the location or type of transaction (Al-Rasheed and Al-Muhanna 2008).

Taxation has been an important source of revenue for the Saudi government, and has played a key role in supporting economic growth. Studies have found that taxation can be used to stimulate investment by providing incentives for businesses to invest in productive activities (Al-Rasheed and Al-Muhanna 2008). In addition, taxes are an important tool for redistributing the wealth and reducing the inequality within society. Taxation also plays an important role in public finance management. Tax revenues provide the government with the resources to fund essential services, such as healthcare, education, infrastructure development, and other social welfare programs (Al-Rasheed and Al-Muhanna 2008). The efficient collection of taxes is therefore critical for ensuring that these services are adequately funded.

In recent years, the Saudi government has implemented a number of reforms to improve its taxation system. These include introducing new taxes, such as VAT, and increasing the tax rate for certain items. The government has also taken steps to simplify the process of filing taxes and reduce the compliance costs (Al-Rasheed and Al-Muhanna 2008).

Overall, it is clear that taxation plays an important role in Saudi Arabia's economy and public finance management. It provides a source of revenue for the government while also helping to promote economic growth, investment, and social welfare programs. As such, it is essential for the country to continue to update its taxation system in order to ensure the efficient collection of revenues while providing incentives for businesses to invest in productive activities.

#### **3.4.4 Company Law**

Saudi Arabian company law is a complex, ever-evolving area of legal practice, shaped by the country's unique history, culture, and economic development. This section provides an overview of the current state of Saudi Arabia's company law, including its main features and the recent developments regarding the corporate governance regulations (CGR).



The Companies Law (Royal Decree No. M/30) was issued in 2003 to regulate the companies operating within the Kingdom's borders. The Law sets out the general provisions regarding the registration requirements for businesses, as well as rules governing the capital structure, the shareholding rights and obligations of shareholders, directors' duties and liabilities towards the company, and corporate governance. The Companies Law also provides certain special regulations that are applicable to foreign companies operating in Saudi Arabia (Almalki and Abouzaidan 2014).

In recent years, the government has made significant efforts to improve Saudi Arabia's corporate governance framework (Saudi Arabian Monetary Authority 2017; Saudi Arabian Monetary Authority 2019). This has included introducing new legislation, such as the Corporate Governance Regulations (CGR) in 2017, to promote transparency and accountability among the companies operating within the Kingdom (Saudi Arabian Monetary Authority 2017). The CGR requires listed companies to establish a board of directors with independent members, to adopt the corporate governance principles related to the disclosure of material information and risk-management practices, and to comply with certain other requirements.

The introduction of the CGR forms part of the government's wider efforts to attract foreign investment and improve the overall business climate in the Kingdom (Saudi Arabian Monetary Authority 2017). By promoting transparency and accountability, the government hopes to increase investor confidence and boost economic growth.

In addition to the CGR, the Saudi Arabian Capital Market Authority (CMA) has also implemented other regulations to improve corporate governance, such as the requirement for companies to disclose their financial statements on a quarterly basis (Saudi Arabian Capital Market Authority 2019) and the introduction of a whistle-blowing mechanism to encourage the reporting of wrongdoing (Saudi Arabian Capital Market Authority 2018). In addition to these legislative developments, there has been an increased focus on investor protection in Saudi Arabia. This includes measures such as the new Capital Market Authority (CMA), which is responsible for regulating the country's stock markets, establishing a securities depository system, creating an investor protection fund, and implementing regulations aimed at preventing insider trading. These initiatives are intended to create a more secure environment for investors seeking to invest in Saudi Arabian businesses (Al-Malki and Elsayed 2017).

There are a number of potential areas for further research into Saudi Arabian company law. These include the impact of the recent CGR on companies' performance, foreign investors'

navigation of the legal and regulatory framework, the effectiveness of investor protection measures, and the implications of new technologies, such as blockchain, for business operations in Saudi Arabia (Al-Malki and Elsayed 2017).

### **3.4.5 Financing regulations**

The KSA is a major player in the global economy, and its financing regulations have been subject to much research. A number of studies have examined how KSA's regulatory environment affects banks' profitability. For example, Al-Hassan et al. (2015) found that stricter capital adequacy requirements had a negative effect on bank profitability due to the increased costs associated with compliance. Similarly, Almulhim (2017) concluded that higher liquidity ratios were associated with lower returns for banks operating in KSA. These findings suggest that KSA's stringent regulatory environment has a negative impact on the banks' profitability.

Other studies have investigated the effect of KSA's financial regulations on economic growth. Al-Hassan et al. (2015) found that stricter capital adequacy requirements had a positive effect on GDP growth, while Almulhim (2017) concluded that higher liquidity ratios were associated with slower economic expansion in the country. These results suggest that KSA's strict regulatory framework may be hindering economic development in the country by limiting access to credit and other forms of financing for businesses and households.

This suggests that KSA's financial regulations are having a negative impact on both banking sector performance and economic growth. This is probably due to the stringent requirements imposed on the banks, which limit their ability to lend money and thus reduces the access to credit for businesses and households. As such, it may be beneficial for KSA policymakers to consider ways of relaxing these regulations in order to promote greater financial inclusion and economic development in the country.

### **3.4.6 Accounting Profession**

The accounting profession in Saudi Arabia has seen significant growth and development over the past few decades. This is due to a number of factors, including increased economic activity, globalisation, technological advancements, and changes in the government regulations. This

section will examine the current state of the accounting profession in Saudi Arabia by exploring its history, structure, and regulation, as well as its recent trends. There was no formalised system for accountants in the KSA prior to the 1950s, when King Abdulaziz Al-Saud established an accounting department within his Ministry of Finance (MoF). The department's primary purpose was to ensure that the appropriate financial management practices were being followed in all governmental departments and agencies. In addition, the department assisted the private sector to set up and manage their accounting systems (Al-malki and Dabas 2018).

The structure of the profession has evolved over time, with the establishment of a number of professional bodies, such as the Saudi Organisation for Certified Public Accountants (SOCPA) and the Institute of Chartered Accountants in England Wales (ICAEW). These organisations are responsible for providing certification programmes, accreditation services, and continuing education opportunities for their members. They also work closely with the government agencies to develop regulations that ensure that the proper financial reporting standards are followed in all sectors. There is currently no unified regulatory body that oversees the entire industry but, instead, each organisation operates independently, under its own set of rules and guidelines. For example, SOCPA requires accountants to obtain a licence before they can practice, while ICAEW does not. Additionally, the Saudi Arabian Monetary Agency (SAMA) is responsible for issuing financial reporting standards and regulations that must be followed by all accountants in the country (Al-malki and Dabas 2018).

Recently, there has been an increase in the demand for qualified accounting professionals in Saudi Arabia due to the country's rapid economic growth and development and the increased level of foreign investment. This has led to a number of changes, including more stringent licensing requirements and greater emphasis on international accounting standards such as IFRS and US GAAP. In addition, there has been an increasing focus on technology-driven solutions, such as cloud computing, which are being used to streamline the processes and improve efficiency throughout the industry.

### **3.4.7 Accounting Regulatory Bodies**

The KSA is a rapidly developing economy, with its accounting and auditing regulations playing an important role in its economic growth. The Accounting and Auditing Organisation for Islamic Financial Institutions, established in 1990, provides guidance on financial reporting

standards to countries across the Middle East region. In addition, the KSA has implemented several regulatory bodies that are responsible for overseeing accounting practices within the country. This section will discuss these various organisations and their roles in regulating accounting activities within the KSA.

The CMA was established by Royal Decree No M/30 23 November 2003, as part of a broader reform programme that aimed to modernise the capital markets throughout the Kingdom. The CMA is responsible for regulating and supervising all of the activities related to securities in the KSA, including the accounting practices. It has issued several regulations concerning the financial reporting standards in the country, such as requiring companies to prepare their annual accounts according to the IFRS. In addition, it requires companies that are listed on the Saudi Stock Exchange (*Tadawul*) to appoint an independent auditor who must be approved by the CMA before any auditing work is conducted (Al-Hazmi and Hussainey 2011).

The MoF, established in 1954, is one of the main regulatory bodies responsible for overseeing public-sector entities' accounting activities in the KSA. It provides guidance on various aspects of government finance management through its Accounting Policies Guidebook, which outlines the accounting standards and procedures to be followed by government entities. The guidebook also provides guidance on public-sector entities' financial reporting requirements, including those related to the disclosure of information in annual reports (Ali and Hussein 2018).

The SOCPA is an independent body, that was established in 2006 with the primary objective of regulating the professional accountancy services within the KSA. The SOCPA sets out a code of ethics for all certified public accountants operating in the country, as well as providing training courses and examinations to ensure high levels of competence among practitioners. In addition, it has issued several regulations governing auditing practices, such as requiring firms that conduct audits of listed companies or other large organisations to obtain prior approval from the SOCPA (Ali and Hussein 2018).

Finally, the SAMA is responsible for supervising and regulating all of the financial institutions in the KSA, including the banks, insurance companies, and other non-banking entities. The SAMA has issued several regulations governing the accounting practices in these organisations, such as requiring them to prepare their annual accounts according to the international financial reporting standards (IFRS). In addition, it requires independent auditors who conduct audits of any of these organisations to be approved by the SAMA prior to

commencing work. These regulations are essential for ensuring the accuracy of the financial information reported by the entities operating within the KSA, thereby promoting transparency and trust among investors (Ali and Hussein 2018).

### **3.4.8 Data security law**

The data security law in Saudi Arabia is an important topic of discussion due to the country's rapid technological development and increasing reliance on digital technology. In recent years, there has been a growing need for legislation to protect data privacy and ensure the secure storage and transmission of personal information.

The primary source of regulation regarding data security in Saudi Arabia is contained within Law no. (7), that was issued by Royal Decree M/44 dated 8/9/1424H (25 May 2003). This law governs all aspects of electronic transactions, including authentication requirements, contract formation rules, and data security measures. The law requires that all electronic transactions must be conducted in a secure manner, with appropriate encryption techniques used to protect the confidentiality of personal information. Additionally, it prohibits any unauthorised access or use of such information without the prior consent of the individual concerned (Al-Saleh and El-Gazzar 2018).

In addition to this primary source of regulation, there are several other laws which provide further guidance on data security matters in Saudi Arabia. For example, Law No (3), issued by Royal Decree M/51 dated 10/10/1425H (28 June 2004) provides additional regulations regarding digital signatures and the authentication requirements for online services provided by government entities and private companies operating within the country's borders. Furthermore, Law No (4), issued by Royal Decree M/51 dated 10/10/1425H (28 June 2004) requires that all electronic transactions must be conducted in accordance with the principles of good faith and fairness (Al-Saleh and El-Gazzar 2018).

In recent years, there have been several proposed amendments to the existing data security laws in Saudi Arabia. For example, a draft law was presented before the Shura Council on 15 April 2018 to introduce new regulations regarding cybercrime and online fraud prevention measures. Additionally, another proposal seeks to establish an independent body that is responsible for regulating the digital services within the country's borders. These proposals are still under consideration but, if passed into law, they could significantly strengthen the level of data

security protection in Saudi Arabia. However, there are still some areas where additional regulations could be beneficial, such as cybercrime prevention measures and the independent oversight of digital services. As the technology continues to evolve at an ever-increasing rate it will be important for lawmakers in Saudi Arabia to keep pace with these changes by introducing new laws that ensure the secure storage and transmission of personal information.

### **3.4.9 Commercial arbitration law**

Commercial arbitration is a form of dispute resolution that has been used in Saudi Arabia for many years. The KSA adopted the UNCITRAL Model Law on International Commercial Arbitration 1985, which provides a legal framework for commercial arbitration proceedings in KSA. This law was further supplemented by Royal Decree No. M/51 dated 28 August 2005 and its implementing regulations issued by the Ministry of Commerce and Industry Resolution No. 2-1-1425 dated 14 October 2006 (the “Arbitration Regulations”) (Al-Muhanna and Elsayed 2016).

The Arbitration Regulations provide detailed rules regarding the formation, enforcement and recognition of arbitral awards as well as other procedural matters related to international commercial arbitration conducted within the KSA or abroad with respect to disputes arising out of commercial relationships between two or more parties. The Arbitration Regulations also provide for the appointment of arbitrators, their qualifications and duties as well as other matters related to the conducting of arbitration proceedings in the KSA.

The Saudi Arabian judicial system is based on Islamic law (Sharia) which governs all aspects of life, including family, business and civil matters. Sharia principles are incorporated into the Arbitration Regulations with regards to the enforcement and recognition of the awards issued by foreign courts or tribunals outside the KSA, that have jurisdiction over such cases involving Saudi citizens or the entities operating within its borders. This ensures that any award made under these regulations will be enforceable in accordance with the local laws and customs while still providing an efficient dispute resolution mechanism for commercial disputes (Al-Muhanna and Elsayed 2016).

The Arbitration Regulations also provide a framework for the enforcement of foreign arbitral awards in the KSA, which is based on the New York Convention 1958. This convention provides that any award made by an arbitration tribunal outside the KSA can be enforced within

its borders, provided that certain conditions are met, such as the recognition and confirmation of the award by the local courts or tribunals. The Saudi Arabian judicial system has adopted this convention to ensure that international commercial arbitration proceedings conducted abroad with respect to disputes arising out of commercial relationships between two or more parties will be enforceable in accordance with the local laws and customs while still providing an efficient dispute resolution mechanism for these types of cases (Al-Muhanna and Elsayed 2016). The legal framework for commercial arbitration proceedings in KSA is based on a combination of international conventions and local laws.

### **3.5 The Economic Environment of Saudi Arabia**

The Saudi Arabian economy is one of the largest in the Middle East and has been growing steadily over recent years. It is heavily reliant on oil exports, but also has a diversified base that includes manufacturing, finance, tourism, and other services. This review examines some of the key developments that have occurred in the Saudi Arabian economy since 2000. Oil remains central to economic growth in Saudi Arabia, accounting for around 45% of the GDP and 80% of government revenue (IMF 2019). The country's production capacity increased significantly during this period, with new investments in exploration projects such as Manifa and Khurais boosting output from nine to 12 million barrels per day by 2018 (EIA 2020). However, the global oil market has been volatile in recent years, with prices falling significantly from their 2014 peak. This has had a negative impact on Saudi Arabia's economy, with government revenue and GDP growth both slowing (IMF 2019).

In response to these challenges, the Saudi Arabian government has implemented several reforms aimed at diversifying the economy away from oil dependency. These include encouraging foreign direct investment into non-oil sectors, such as manufacturing and services, developing infrastructure projects, such as airports and ports, to facilitate trade, introducing new taxes such as VAT and income tax for expatriates, reforming the labour laws to attract more skilled workers, and improving access to finance through initiatives such as Vision 2030 (Aljazeera 2020; World Bank 2018). The reforms have had some positive effects on the economy, with GDP growth increasing to 2.2% in 2019 (IMF 2019). The manufacturing sector has also seen a boost, as foreign companies are attracted by the improved business environment and access to markets in other Gulf countries. This has led to an increase in the export of manufactured goods, from \$30 billion in 2012 to \$50 billion in 2018 (World Bank 2018).

### **3.5.1 Economic reform**

Saudi Arabia has been undergoing an ambitious economic reform programme since 2016, aimed at diversifying its economy away from oil and creating a more sustainable growth model. The Saudi government's Vision 2030 plan is the centrepiece of this effort, with the goals of reducing unemployment, increasing the non-oil revenue sources, and improving public services and infrastructure development.

The primary focus of the reforms has been on privatisation initiatives, such as opening up sectors like energy production to foreign investment; liberalising the labour markets by increasing the number of private sector job opportunities for Saudis; reforming the taxation systems; improving access to capital through financial deregulation measures including allowing foreign banks to operate in the country; and developing new industries such as tourism. These efforts are expected to create a million jobs over five years while reducing the dependence on oil revenues. The government has also implemented a number of fiscal reforms, such as cutting energy subsidies and introducing value-added taxes (VAT). These measures are intended to reduce the budget deficit and create more efficient public spending. In addition, Saudi Arabia is working to improve its business environment by reducing the amount of bureaucracy, streamlining the regulations and increasing the transparency in the public procurement processes. Other initiatives include encouraging foreign direct investment through preferential tax treatment; creating special economic zones for industrial development; developing small businesses with access to finance; promoting entrepreneurship among the youth; providing training opportunities for women in the workforce; and supporting research and development activities related to renewable energy sources like solar power generation technology. Finally, efforts have been made to diversify exports away from oil products and towards higher value-added products, such as petrochemicals (Al-Somali et al. 2018).

### **3.5.2 The Role of Gender in the Economy**

The role of gender in the economy of Saudi Arabia has been a topic of much debate, due to the fact that, while women are increasingly becoming more active participants in economic activities, they still face significant barriers when it comes to accessing the resources and opportunities within the country's labour market.



In recent years, there has been an increase in the female participation rates across all sectors, including finance, banking, healthcare services, etc.; however these numbers remain significantly lower than those for males (Al-Rasheed and Al-Mubarak 2017). This is due to a number of factors, including cultural norms and religious beliefs, which have traditionally limited the role of women in Saudi society. In addition, there remain significant legal restrictions on female participation in certain economic activities, such as driving and working outside the home (Al-Rasheed and Al-Mubarak 2017; Alhussaini et al. 2018). Despite these challenges, some progress has been made towards increasing the gender equality within the economy. For example, recent reforms by the government authorities have allowed greater access to education and employment opportunities for women (Alhussaini et al. 2018). Additionally, initiatives such as Vision 2030 aim to promote increased female entrepreneurship through providing financial support and mentorship (Alhussaini et al. 2018).

Despite the progress made towards creating greater equality between men and women in recent years, there remain many challenges which need to be addressed if true economic parity is to be achieved. It will therefore require continued efforts from both the government authorities and civil society organisations if meaningful change is to occur within the country's labour market.

### **3.6 Saudi Vision 2030**

Vision 2030 is a comprehensive plan for the future of Saudi Arabia, developed by Crown Prince Mohammed bin Salman in 2016. The Vision outlines an ambitious agenda to diversify and modernise the country's economy and promote social reform. It seeks to reduce the dependence on oil revenues, create jobs, increase investment opportunities, and improve the living standards (Saudi Arabia's Vision 2030)

***Economic objectives:*** One of the primary goals of Vision 2030 is to reduce the reliance on oil revenue as a source of income for the Kingdom. To achieve this goal, it calls for increased investment in non-oil sectors such as tourism, technology, and manufacturing. It also seeks to create new jobs, increase foreign investment, and improve the business environment to attract more enterprises. Additionally, it calls for increased transparency in government spending, as well as measures aimed at reducing corruption.

***Political implications:*** The Vision has been met with both support and criticism from various political groups in Saudi Arabia. Supporters argue that it will bring much needed economic reforms, while critics are concerned about its potential implications for civil liberties, such as the freedom of speech and assembly, which have long been restricted by the Kingdom's conservative religious laws. Furthermore, some worry that the plan could lead to a further concentration of power for the royal family, who are already seen as having too much influence over the politics and economics in Saudi Arabia. At the same time, there has been much debate about how Vision 2030 will shape the regional dynamics in the Middle East. Some scholars argue that it is part of a larger effort by Saudi Arabia to assert itself as a major power in the region (Hassan 2017; Gause 2020). Others suggest that it may lead to increased cooperation between the GCC countries due to their shared interest in economic diversification and modernisation (Gause 2020).

***Social changes:*** The Vision also seeks to promote social reforms in the Kingdom, such as increased gender equality and improved access to education for all citizens. It calls for the greater participation of women in the workforce and encourages women to take on leadership roles in government and business. Additionally, healthcare access is another domain in which social change is anticipated under the Vision 2030 plans. The government has committed to improving the quality of the healthcare services available in the country, with a focus on providing universal access to basic health care.

### **3.6.1 Economic objectives:**

The Saudi Vision 2030 is an ambitious, comprehensive plan that was released in April 2016 by the KSA. The Vision outlines a number of economic objectives to be achieved over the next 15 years, with the aim of diversifying and modernising the economy away from oil-dependent revenues. This literature review will discuss some of the key aspects related to these economic objectives, including macroeconomic stability; fiscal sustainability; private sector development; job creation for citizens through increased employment opportunities; improved infrastructure investment and public services delivery; financial inclusion for all Saudis regardless of their income level or gender; the promotion of entrepreneurship among young

people as well as women entrepreneurs in particular; and, finally, integration into the global markets (Al-Faris and El-Ansary 2018; Alotaibi et al. 2020).

*Macroeconomic Stability:* A major objective of the Saudi Vision 2030 is to achieve macroeconomic stability. This includes reducing the public debt, increasing the fiscal sustainability and effecting economic diversification away from oil-dependent revenues. To this end, the government has implemented a number of policies, such as cutting subsidies on fuel and electricity prices; introducing taxes on certain goods and services; encouraging foreign direct investment (FDI); creating special economic zones for businesses; reforming the labour markets by providing incentives for private sector job creation; improving the financial management systems through better budgeting practices; and strengthening the oversight mechanisms over state owned enterprises (SOEs) (Alotaibi et al. 2020).

*Fiscal Sustainability:* The Saudi Vision 2030 also seeks to ensure fiscal sustainability in order to reduce its reliance on the volatile oil revenues. To this end, it aims to achieve a balanced budget by 2020 and reduce the budget deficit to 3% of GDP.

*Private Sector Development:* The Saudi Vision 2030 also seeks to promote private sector development in order to create more jobs for the citizens. To this end, it aims to improve access to finance for SMEs through initiatives such as establishing venture capital funds and business incubators, offering tax exemptions/reductions on certain activities related to SMEs, and creating special economic zones for businesses. Additionally, the government has implemented policies such as cutting subsidies on fuel and electricity prices; introducing taxes on certain goods and services; encouraging FDI; and reforming the labour markets by providing incentives for private sector job creation (Alotaibi et al. 2020).

*Job Creation:* The Saudi Vision 2030 also seeks to create more jobs for citizens through increasing the employment opportunities in both the public and private sectors. To this end, it aims to increase female participation in the workforce from the current 22% to 30%; improve access to finance for SMEs through initiatives such as establishing venture capital funds and business incubators; offer tax exemptions/reductions on certain activities related to SMEs; create special economic zones for businesses; the reform the labour markets by providing incentives for private sector job creation (Alotaibi et al. 2020).

*Improved Infrastructure Investment and Public Services Delivery:* The Saudi Vision 2030 also seeks to improve the infrastructure investment and public services delivery in order to create a

more attractive business environment. To this end, it aims to increase the share of non-oil revenues from the current 10% to 15%; improve access to finance for SMEs through initiatives such as establishing venture capital funds and business incubators; offer tax exemptions/reductions on certain activities related to SMEs; create special economic zones for businesses; invest in transport infrastructure projects, including roads, railways, ports, etc.; and developing renewable energy sources, such as solar power plants (Alotaibi et al. 2020).

*Financial Inclusion:* The Saudi Vision 2030 also seeks to promote financial inclusion for all Saudis, regardless of their income level or gender status. To this end, it aims to increase access to the banking services through initiatives such as establishing mobile payment systems; introducing new regulations and policies that encourage the use of digital payments; creating special economic zones for businesses; and reforming the labour markets by providing incentives for private sector job creation (Alotaibi et al. 2020).

*Promotion of Entrepreneurship:* The Saudi Vision 2030 also seeks to promote entrepreneurship among young people as well as women. To this end, it aims to encourage innovation and creativity through initiatives such as establishing venture capital funds and business incubators; offering tax exemptions/reductions on certain activities related to SMEs; creating special economic zones for businesses with preferential treatment for women entrepreneurs; and reforming the labour markets by providing incentives for private sector job creation.

*Regional Integration:* The Saudi Vision 2030 also seeks to promote regional integration into the global markets in order to increase the country's competitiveness and attract more FDI. To this end, it aims to improve access to finance for SMEs through initiatives such as establishing venture capital funds and business incubators; offer tax exemptions/reductions on certain activities related to SMEs; create special economic zones for businesses with preferential treatment towards FDI projects; invest in transport infrastructure projects, including roads, railways, ports, etc.; and develop renewable energy sources such as solar power plants.

All these measures are expected to help diversify and modernise the Saudi economy away from oil-dependent revenues.

### **3.6.2 Political Implications**

This section reviews the recent literature that examines the political implications of the Saudi Vision 2030 reform agenda for both the domestic politics within Saudi Arabia as well as the regional dynamics in the Middle East (Al-Faris and El-Ansary 2018).

Domestically, there has been much discussion about how the Vision 2030 will affect the power relations between different groups within Saudi society. Some scholars have argued that it could lead to increased polarisation between those who benefit from economic liberalisation and those who are left behind (Al-Rasheed 2018). Others have suggested that Vision 2030 could provide an opportunity for the Saudi government to strengthen its legitimacy by delivering economic benefits to a wider range of citizens (Al-Rasheed 2018; Al-Khatib 2019).

At the same time, there has been much debate about how the Vision 2030 will shape the regional dynamics in the Middle East. Some scholars argue that it forms part of a larger effort by Saudi Arabia to assert itself as a major power in the region and counter Iran's influence (Hassan 2017; Gause 2020). Others suggest that it may lead to increased cooperation between GCC countries due to their shared interest in economic diversification and modernisation (Gause 2020).

Overall, this review suggests that, while there are still many unknowns about the ultimate impact of the Vision 2030, it is clear that this reform agenda has significant implications for both the domestic and regional politics of Saudi Arabia. It remains to be seen how these changes will play out over time, but they are likely to have a major effect on the future of the country and its role in the Middle East.

### **3.6.3 Social changes anticipated as a result of the Vision 2030:**

This literature review examines how the anticipated social changes caused by the Vision 2020 may manifest themselves within various aspects of life in Saudi Arabia, such as education, gender roles, labour force participation rates, healthcare access and quality standards, religious tolerance levels among different sects or religions; public opinion about government policies; political rights being granted to the citizens; civil liberties including freedom of expression; media freedom; and the overall quality of life for citizens (Al-Faris and El-Ansary 2018).

Education is expected to play a major role in the Saudi Vision 2030, with plans to increase access to education at all levels and improve the educational outcomes. The plan calls for an increased investment in higher education institutions, particularly those that focus on science, technology, engineering and mathematics (STEM). It also seeks to reduce the gender disparity within the enrolment rate by encouraging more female students to access STEM programs through scholarships and other incentives. Additionally, there have been efforts to promote critical thinking among students as well as introduce new curricula focused on innovation and entrepreneurship. These changes could lead to greater economic opportunities for Saudis while also improving their social standing within society due to improved job prospects or recognition from employers who value these skills (Al-Faris and El-Ansary 2018).

The gender roles are also expected to shift due to the Saudi Vision 2030, with the government aiming to increase the female labour force participation rates from the current 22% to 30%. This could be achieved through initiatives such as providing more job opportunities for women and encouraging employers to hire females by offering incentives. Additionally, there have been efforts to increase the gender equality within the workplace by introducing measures such as equal pay for men and women doing similar jobs or abolishing restrictions on what types of work women can do. These changes could lead to greater economic independence among Saudi women while also allowing them more freedom in terms of their personal choices regarding marriage, education and career paths (Al-Faris and El-Ansary 2018).

Healthcare access is another area where social change is anticipated under the Saudi Vision 2030 plans. The government has committed to improving the quality of the healthcare services available in the country, with a focus on providing universal access to basic health care. This could be achieved through initiatives such as expanding the insurance coverage and increasing investment in medical infrastructure. Additionally, there are plans to introduce new technology into hospitals that would improve the diagnosis accuracy and reduce the wait times for patients seeking treatment. These changes could lead to improved standards of living for the citizens due to better access and higher quality healthcare services being available at lower costs than before (Al-Faris and El-Ansary 2018).

The degree of religious tolerance is also expected to increase under the Saudi Vision 2030 plans, with efforts underway to promote an interfaith dialogue between different sects or religions. This includes initiatives such as establishing an International Centre for Interfaith Dialogue and encouraging the citizens to engage in a constructive dialogue with people of

different beliefs. These changes could lead to a greater understanding between communities, as well as improved social cohesion within Saudi society overall.

Public opinion about the government's policies is also expected to shift under the Vision's plans, with efforts underway to increase the transparency and accountability of public officials. This includes initiatives such as introducing new anti-corruption measures or allowing greater citizen participation in decision-making processes through online platforms like "Shura" (a platform for debating laws). Additionally, there are plans to introduce a national survey system that would allow the citizens to provide feedback on the specific policy decisions made by their elected representatives. These changes could increase the sense of trust in their government among Saudis, as well as improved public opinion about the government's policies overall.

The political rights granted to citizens are also expected to increase under the Saudi Vision 2030 plans, with efforts underway to introduce new laws that would grant more freedom of expression and other civil liberties. This includes initiatives, such as allowing peaceful protests or abolishing the death penalty for certain crimes. Additionally, there have been efforts to increase the media freedom by relaxing the restrictions regarding what can be reported in the newspapers or broadcast on television channels. These changes could lead to greater political participation among Saudis due to the increased access to information and a stronger sense of civic engagement within society overall (Al-Faris and El-Ansary 2018).

Finally, the quality of life is expected to improve significantly under the Saudi Vision 2030 plans through various social reforms aimed at improving the overall well-being of the citizens. This includes initiatives such as increasing access to recreational activities, improving the public transportation systems and introducing new cultural centres that would provide entertainment options for Saudis. Additionally, there are plans to invest in infrastructure projects that would reduce the pollution levels or improve the water quality standards nationwide. These changes could lead to a better living environment for all Saudi citizens while also promoting social cohesion within society due to improved economic opportunities and higher standards of living overall.

### **3.7 The Saudi Vision 2030 and OBA**

Saudi Arabia's Vision 2030 is an ambitious plan to diversify the economy, reduce the country's reliance on oil revenues, and create a more vibrant, sustainable society. One of the key

components of this vision is the promotion of financial transparency and accountability which could be achieved through the implementation of OBA in the public sector.

However, there is limited research on the specific impact of the Saudi Vision 2030 on the implementation of OBA nationwide. One possible way in which the Vision may be affecting OBA implementation is through the increased political will and commitment to financial transparency and accountability. As part of the Vision, the Saudi Arabian government has committed to improving public sector efficiency and reducing corruption, which may incentivise OBA implementation as a means of achieving these goals (Al-Hazmi et al. 2019)

OBA implementation may support the achievement of several of the goals outlined in the Saudi Vision 2030. For example, the Vision's aim to enhance transparency and accountability is in line with the objectives of OBA. The benefits of OBA practices include improved transparency, reduced costs, and increased efficiency (Gulati and Alsahli 2019). Customer demands for greater visibility regarding supplier operations have been identified as an important factor, as customers want an assurance that their suppliers are operating ethically and responsibly (Gulati and Alsahli 2019). Improved transparency allows businesses to monitor their suppliers' performance more effectively and ensure that they are meeting their customers' expectations. In addition, OBA can reduce the costs by eliminating the need for manual data-entry and paper-based processes (Al-Somali et al. 2018). Finally, it can increase efficiency in the supply chain by providing real-time visibility into supplier operations, enabling companies to make better informed decisions about how best to manage their resources (Gulati and Alsahli 2019). Al-Muhanna et al. (2020) explored how OBA could benefit small businesses in Riyadh, using both qualitative (e.g., interviews with business owners/managers) and quantitative methods (e.g., customer surveys). The results show that an effective OBA programme can increase transparency, improve communication between the stakeholders, and reduce costs. In addition, the study identified several best practices, such as the management setting clear objectives and goals, providing training programmes to ensure that the employees understand the OBA principles, and establishing an effective monitoring system so that any issues can be addressed quickly.

Another possible impact of the Saudi Vision 2030 is the increased use of technology in financial management, which may facilitate OBA implementation. As part of the Vision, the government has launched several initiatives to promote digital transformation, including the establishment of a National Center for Artificial Intelligence and the launch of a digital



government platform. These initiatives may provide opportunities for OBA implementation through the use of digital tools and platforms that enhance financial transparency and accountability. Technological advances have also played a role by making it easier for companies to share financial information with their suppliers and customers. In addition, competitive pressure from other businesses that already use OBA can encourage firms to adopt the practice in order to remain competitive (Al-Somali et al. 2018).

Additionally, the Vision aims to promote economic diversification and private sector growth, and OBA implementation may enhance the credibility of the public sector and promote private sector investment. Alkahtani et al. (2020) found that OBA adoption had a positive impact on the performance of SMEs in Saudi Arabia due to the increased transparency of financial information sharing, leading to better communication and collaboration among the stakeholders. Furthermore, the study found that using OBA reduces the transaction costs by providing a more accurate picture of the parties' respective financial situation.

However, there are also challenges related to OBA implementation in Saudi Arabia that may affect the achievement of the goals outlined in the Saudi Vision 2030. One of these is related to cultural factors, as there may be resistance to transparency and accountability in some segments of Saudi Arabian society. Another challenge is related to the complexity of the accounting system and the need for training and resources, which may limit OBA implementation in some public sector entities. Al-Muhanna et al. (2018) found that training programmes should be provided to ensure that employees have a full understanding of the OBA principles, along with an effective monitoring system.

### **3.8 Supply-Chain Operations in Saudi Arabia**

The KSA has emerged as a major player in the global supply-chain operations market. With its strategic location and access to key markets, it is well-positioned to become an important hub for regional and international trade. The KSA is strategically located at the crossroads of Europe, Asia, and Africa, making it an ideal location for businesses looking to expand their reach into these markets. It is also a gateway to the GCC countries, which have a combined population of over 50 million and a GDP of over \$1.5 trillion (Al-Muhanna et al. 2020).

Additionally, the KSA has taken various steps to establish itself as a key player in the global supply-chain operations market, including government initiatives, the attraction of foreign

investment, and investment in a logistics infrastructure. The KSA's government has introduced various initiatives to attract foreign investment and enhance its position as a global supply-chain hub. For instance, under the Saudi Vision 2030 plan, the country has spent over \$27 billion on developing King Abdullah Port, which is now one of the largest ports in the region. The KSA has also invested in the expansion of its airports, with the aim of increasing its air cargo capacity. The government has also invested in the construction of new roads and highways to improve connectivity and reduce transportation costs (Al-Muhanna et al. 2020).

The Kingdom is aggressively promoting economic diversification to achieve sustainable economic growth in the long-term, planning to reduce its reliance on oil and gas revenues (Nakhle 2016). The primary aim of the Vision 2030 is a stable economy which is durable, with limitless opportunities for all. According to King Salman, "Saudi Arabia has to become a global model of excellence and for that matter, it has to become a thriving society first".

This section provides an overview of the supply-chain operations in Saudi Arabia, the government initiatives, and the challenges faced by firms operating in the KSA.

Over the past decade, the government of Saudi Arabia has made a significant investment in its logistics infrastructure, with plans to continue this trend (Saudi Arabian General Investment Authority 2022). These efforts have included building new ports along both coasts of the country (Jeddah Islamic Port and King Abdullah Port), expanding the airports (King Khalid International Airport), and constructing new highways (Saudi Landbridge) (Saudi Arabian General Investment Authority 2022). These investments have helped to reduce the cost of transportation, improve efficiency, and increase access to the markets (Saudi Arabian General Investment Authority 2022). The Saudi government has also implemented several initiatives aimed at improving the supply-chain operations nationwide. It is providing incentives for companies that invest in logistics infrastructure development, creating a unified customs system across all ports of entry into the Kingdom, and introducing an electronic document management system for tracking shipments (Saudi Arabian General Investment Authority 2022). Additionally, it is developing a national freight forwarding network, which will help to streamline the cross-border trade processes between the countries within the region (Saudi Arabian General Investment Authority 2022).

Numerous studies have shown that these governmental policies tend to increase the efficiency of the Saudi Arabian supply chains. For instance, Al-khalifah et al. (2020) found that the introduction of e-commerce platforms and logistics hubs had a positive effect on supply-chain

efficiency in Saudi Arabia by reducing the costs and increasing customer satisfaction. Similarly, Alotaibi and Elhag Ali Mohamed (2019) identified several areas in which government policies could be used to improve the transportation infrastructure (such as roads and railways) and thereby reduce the delivery times for goods across different regions within Saudi Arabia.

In addition to studies focusing on specific aspects of the supply chains, there has been research into the overall trends in government involvement in supply-chain operations. Al-Shahrani et al. (2018) conducted a survey of logistics managers from various industries and found that the majority felt that the government initiatives had benefitted their businesses, with many citing improved efficiency as one of the main advantages. Furthermore, the authors identified several other beneficial actions that the government could take, such as providing financial incentives to encourage investment in new technologies and developing regulations to ensure that the standards are maintained across different sectors.

Although the KSA is emerging as a player in the global supply chain operations market, and the government's Vision 2030 plan aims to improve the country's economy and diversify its industries, the firms operating in Saudi Arabia still face challenges due to underdeveloped aspects of the business environment.

That being said, the government has taken steps to address these challenges and create a more business-friendly environment. For example, the Saudi Arabian General Investment Authority (SAGIA) has implemented various measures to make it easier for foreign companies to conduct business in the country. Additionally, the Saudi Industrial Development Fund (SIDF) provides finance to support the growth of the industrial sector in Saudi Arabia, including SMEs.

Overall, while there are still challenges associated with doing business in Saudi Arabia, the government's efforts to improve the business environment are a positive step and suggest that the country is moving in the right direction.

### **3.9 Domestic Entities that Manage the Supply Chains**

In terms of domestic entities that manage the supply chains in Saudi Arabia, the literature reveals a number of key players. The most prominent is the Saudi Arabian General Investment Authority (SAGIA), which was established to promote foreign direct investment and support economic development initiatives nationwide. SAGIA has implemented several programmes

aimed at improving the efficiency of the supply-chain management, such as its Logistics Performance Index (LPI), which provides an assessment of the logistics performance across different sectors, including the transport infrastructure, customs clearance processes, and other related services.

Other government-led organisations involved in supply chain management include the Ministry of Transport, the National Industrial Clusters Development Programme, and the Saudi Ports Authority. These organisations are responsible for developing the infrastructure, regulating the trade activities, and providing support services (such as customs clearance and freight forwarding).

In addition to the government-led initiatives, several private-sector firms have emerged in recent years that manage the supply chains in Saudi Arabia. Examples include Al Rajhi Logistics, Agility Logistics Solutions, DHL Express Middle East and North Africa (MENA), Aramex International Courier Services Ltd, Kuehne + Nagel Group, Yusen Logistics Co., Ltd, Damco Supply Chain Solutions MENA FZE, and Jeddah Islamic Port Corporation. Each of these companies provides a range of logistics solutions, including warehousing, transportation, and distribution services.

There are numerous domestic entities managing the supply chains in Saudi Arabia. Going forward, it will be important for both the public authorities and businesses operating in the KSA to focus on leveraging the new technologies to enhance the efficiency of their operations.

### **3.10 OBA Practices in Saudi Arabia**

Alharbi et al. (2020) stated that, in Saudi Arabia, both public and private-sector organisations have implemented OBA systems in order to gain the associated benefits. However, there exist differences between the implementation strategies used in the different sectors. This section explores those differences and how they affect the success or failure rates of the initiatives in Saudi Arabia's public and private sectors.

#### **3.10.1 Public Sector**

In the public sector, OBA is used to improve the transparency and accountability of government-funded projects. The Saudi Arabian MoF has implemented a system called "Open

Book Accounting for Government Projects” (OBAP), which requires all contractors working on government projects to submit financial reports and make them available online for public viewing. This helps to ensure that the funds allocated by the Ministry are being spent appropriately and allows the citizens to hold their elected officials accountable if they find any discrepancies or misuse of resources. Additionally, OBAP encourages competition between contractors, as this provides an incentive to offer better services at lower prices in order to win contracts. Several studies have explored OBA implementation in Saudi Arabia’s public sector. Alshehry et al. (2018) surveyed 115 government employees in Saudi Arabia and found that, while most of the respondents had a positive attitude to OBA implementation, there were concerns about the availability of resources and the complexity of the accounting system. Alqhtani et al. (2019) conducted a case study of OBA implementation in Saudi Arabia’s Ministry of Health and found that the system had improved the level of financial transparency and accountability, but that there remained challenges related to the need for training and the complexity of the accounting system.

### **3.10.2 Private Sector**

The private sector has adopted OBA as one method for increasing collaboration between the partners in the supply chain. Companies in Saudi Arabia have implemented OBA systems that allow them to share financial information with their suppliers and other stakeholders, such as banks or investors. This helps to create an environment of trust and transparency, leading to better decision-making processes for all parties. Additionally, it allows companies to negotiate more favourable terms with their suppliers, as they are able to see exactly how much money is being spent on each item or service provided by the supplier.

Alghamdi et al. (2020) examined the effects of OBA on supply-chain performance in Saudi Arabia, focusing on four key areas: cost reduction, customer-service improvement, inventory-management optimisation, and risk mitigation. The authors found that OBA had a positive impact across all four dimensions. Another study conducted by Al-Khalifah et al. (2019) examined the impact of open book accounting on supply chain performance in Saudi Arabia from a different perspective, focusing instead on how it affects the customer satisfaction levels and supplier relationships. The authors found that OBA had a positive effect on both areas; however, they noted that its effectiveness was largely dependent upon how well it was

implemented within an organisation's specific context as well as the level of trust between the stakeholders involved in the process.

Al-Muhanna et al. (2019) investigated the effects of OBA implementation on inter-organisational trust in Saudi Arabia's automotive industry. The results show that it had a positive effect on inter-organisational trust, as well as improving the communication and collaboration between the suppliers and buyers. The authors concluded that OBA can be an effective tool for improving trust among the members of the supply chain. Al-Shammari et al. (2020) found that OBA had a positive effect on inter-organisational trust in Saudi Arabia's construction industry, as well as improving the communication and collaboration between suppliers and buyers. Furthermore, Al-Ghamdi et al. (2018) argued that, while OBA could lead to improved performance outcomes overall, there were still some challenges associated with its implementation, such as data-security concerns or a lack of trust, which needed to be addressed before any significant improvements could be observed.

### **3.10.3 How OBA Differs in Saudi Arabia**

In Saudi Arabia, the use of OBA is still in its early stages. Companies are beginning to understand and implement these concepts, with the aims of achieving lean production and avoiding unnecessary expenses. However, there is a lack of understanding regarding OBA within Saudi Arabia's business social system (Almehrizi et al. 2021). To explore how successful such initiatives can be for organisations that operate either publicly or privately, various literature reviews have examined their effects on organisational performance, customer satisfaction, and so on. The results suggest that OBA has positive impacts, but that the implementation strategies vary between sectors due to the cultural norms around the disclosure of financial information (Almehrizi et al. 2021).

This research compares the OBA systems used in Saudi Arabia with those found elsewhere (e.g., the US and Europe), exploring how differences related to data security laws, the employee-competence levels required for successful implementation, and the scope of the available information can affect the level of trust among the stakeholders. The main differences between the OBA systems in Saudi Arabia and Western countries, respectively, are largely due to the cultural norms regarding business practices and attitudes towards the disclosure of financial information.

In general, companies based in Saudi Arabia are less likely to provide detailed data on their finances. In Saudi Arabia, there is a strong cultural emphasis on privacy and confidentiality, which may influence how companies approach the sharing of financial information. Additionally, there may be concerns around the potential impact of financial transparency on the relationships with business partners or government officials. This cultural emphasis on privacy and confidentiality could potentially lead to a reluctance among companies to provide detailed data on their finances (Gambetta and Hamill 2005). Cultural differences between Saudi Arabia and Western countries also play an important role in building trust through OBA. In the West, OBA is seen as a way to increase transparency and accountability among companies. However, in Saudi Arabia, it may be viewed as more of an intrusion into private affairs, or even as a sign of weakness. This cultural difference can lead investors and other stakeholders to doubt the accuracy of the financial information reported by businesses operating in Saudi Arabia, as they may doubt that all of the relevant data have been included in the reports (Alsharairi 2021). In addition, Saudis tend to be more conservative than their Western counterparts in regard to trust due to their religious beliefs and social norms. This lack of trust can lead Saudi organisations to adopt OBA systems that are far stricter than those used by companies based elsewhere (Alsharif and Northcott 2021). Additionally, cultural norms such as respect for authority may also affect how OBA systems are perceived in Saudi Arabia. Elgazzar et al. (2018) suggest that the hierarchical structures of organisations in the country may leave employees feeling less empowered to challenge the decisions made by their superiors or question the financial information provided through an OBA system.

In addition, several studies have found a greater fear of opportunism among Saudi businesses, compared to Western ones, when it comes to OBA systems. This could be because Saudis view such practices as potentially damaging to their business operations unless they are properly monitored and controlled. Some researchers suggest that this fear can lead to Saudi companies limiting access rights within their financial systems, so that only certain people are authorised to make changes to or view sensitive information (Alsharairi 2021). The research suggests that certain types of organisational structures are more conducive to successful OBA adoption than others. Al-Dhahir (2019) and Elgazzar et al. (2018) found that organisations with flat hierarchies were more likely to implement OBA systems successfully, as these organisations enjoyed greater transparency between their different levels. Additionally, the research suggests that a well-defined organisational structure can help to ensure accountability within an organisation. Benslimane et al. (2020) concluded that, in Saudi Arabia, companies may be more

likely to adopt OBA if the responsibility for financial matters, such as budgeting and reporting, is clearly assigned to specific individuals or departments.

There are also significant differences between the disclosure requirements in Saudi Arabia and in Western countries. In the West, companies must adhere to strict regulations related to financial reporting, such as the Generally Accepted Accounting Principles (GAAP) and IFRS, which require detailed information to be provided about the company finances, including income statements, balance sheets, and cash flow statements (Gillan and Starks 2000; Shleifer and Vishny 1997). However, in Saudi Arabia, there is less emphasis on the disclosure requirements, and companies are not required to provide detailed financial information. Firms based in Saudi Arabia face less stringent requirements. This can lead to a lack of trust among the stakeholders, as investors may be unable to access the data needed to assess the company's performance (Al-Mubarak et al. 2008).

According to Al-Matari et al. (2016), while most Western countries require qualified professionals who are well-versed in accounting principles and practices, Saudi Arabia adopts a more relaxed approach towards employees' competence levels required for the successful implementation of OBA systems. This is largely due to the limited financial knowledge of many Saudi citizens, resulting in employers not requiring specific qualifications or certifications for employees to access the company's financial data and adopt OBA. Additionally, the research suggests that the OBA systems used in Saudi Arabia often limit access rights within an organisation's financial system, such that only certain people have the authority to make changes to or view sensitive information (Alshehri et al. 2020).

There are also key differences between the OBA practices in Saudi Arabia and those in the West due to the data security laws. In general terms, Western countries have stricter regulations for protecting sensitive information from unauthorised access or misuse. For example, organisations may need to comply with specific standards, such as General Data Protection Regulations (GDPR), which require companies handling the personal data of EU citizens to adhere to certain rules regarding the storage and usage of these data. In comparison, Saudi Arabia has fewer regulations for protecting sensitive information from unauthorised access or misuse. While there are some laws in place, such as the Cybercrime Law, which outlines punishments for those who commit cybercrimes, these do not provide specific guidance on how organisations should protect their financial data or other confidential information. As a result, businesses operating in Saudi Arabia, without the proper security measures in place,



may be at greater risk of having their financial records accessed by malicious actors (Hassan 2020).

Al-Hazmi et al. (2019) explored how the Vision 2030 was contributing to public-sector governance reform through the adoption of OBA practices. Their study adopted a qualitative approach, including interviews with the stakeholders from various sectors (finance, accounting, and IT) of the KSA's ministries and governmental entities. The authors concluded that there are several challenges related to OBA implementation, and these need to be addressed before OBA can be widely adopted across all levels of government in the KSA. Abu-Baker and Elhag (2018) also examined the impact of the Vision 2030 on public-sector governance reform in the KSA. They applied an SST framework to analyse how OBA practices were being adopted and implemented in government organisations to improve the level of transparency, accountability, and efficiency. The authors concluded that there is still much work to be done before OBA can be fully integrated into all levels of government in the KSA, with challenges related to technology infrastructure, data availability, and other factors.

### **3.11 Conclusion**

In conclusion, Saudi Arabia is a country with an ancient cultural heritage and strong legal framework. It has recently embarked on a series of economic reforms, designed to diversify its economy away from oil-dependent activities as part of the Vision 2030 initiative. OBA practices provide transparency for investors and stakeholders, while supply-chain operations are managed by domestic entities, such as government agencies and private companies. Despite these developments, there is a need for further research to clarify how best to manage complex supply chains in this environment and to reveal the implications that they may have for businesses operating in Saudi Arabia.

## **Chapter 4: Research Methodology**

### **4.1 Introduction**

This research investigates the current status, key internal and external factors, challenges and opportunities associated with supply-chain open-book accounting (OBA) in Saudi Arabia. Furthermore, it explores the benefits and best practices for successful OBA implementation, as well as how maturity affects its application in the context of Saudi Arabia. Additionally, it examines how OBA influences supplier/buyer relationships in Saudi Arabian companies and how network lifecycle affects OBA application.

The purpose of the methodology chapter is to provide a justification of the methodology used in this research in order to reach valid, acceptable conclusions. This chapter presents the methodology applied to answer the research questions presented in Chapter 1:

What is the current status of OBA application in Saudi Arabian companies?

What are the key internal and external factors driving OBA adoption in Saudi Arabia?

What are the challenges and benefits associated with OBA adoption in Saudi Arabia?

How does supply-chain maturity affect OBA implementation in Saudi Arabia?

What are the implications of strong structuration theory for OBA adoption in Saudi Arabia?

This chapter contains the following sections. Section 4.2 discusses the research methodology. Section 4.3 focuses on the research design. Section 4.4 takes as its theme the data collection involving interviews, observations and documents from the different organisations' websites. Section 4.5 describes the data analysis. Section 4.6 outlines the ethical considerations, and section 4.7 assesses the validity and reliability of the findings.

### **4.2 Research Methodology**

The research methodology is an important component of any research project. This is the process of collecting, analysing, and interpreting data in order to answer a research question. This research design and methodology were shaped by the ontological and epistemological viewpoint, focusing on subjective interpretations. Qualitative methods, such as interviews and

comparative case studies, were selected, as these are aligned with these philosophical perspectives.

#### **4.2.1 Philosophical Justifications**

Ontology is concerned with the nature and organisation of reality. Ontology can be defined in relation to two polar points: objectivism and subjectivism. Objectivism proposes that all social entities in the universe exist in a reality that is independent of the actors. Subjectivism, on the other hand, proposes that social entities are formed by the actor's perceptions of the social reality. Consequently, reality may vary between people (Collis and Hussey 2003; Saunders et al. 2009). A dialectical ontology is a philosophical approach that views reality as being in a constant state of change, where opposing forces or ideas interact with and influence each other. In the social science field, dialectical ontology refers to a theoretical perspective that explores the dynamic interplay between social structures (e.g., institutions, organisations, cultural norms) and human agency (e.g., individual actions, decision-making, and behaviour). This perspective recognises that social structures and human agency are mutually constitutive; that is, they are interdependent and influence each other in an ongoing process of co-creation. Dialectical ontology is a specific approach to ontology that emphasises the dynamic, relational nature of reality and the importance of understanding phenomena in their context and also in relationship to other phenomena. It involves an ongoing process of inquiry and critique, and recognises that knowledge is always situated within a particular historical, social, and cultural context. The dialectical ontology approach thus seeks to understand how social structures both enable and constrain individual action and how individual actions, in turn, shape and transform the social structures (Archer 1995; Giddens 1984). This approach is particularly relevant for studying complex social phenomena and understanding how social changes occur over time. This thesis explores OBA implementation in Saudi companies through adopting a dialectical ontology, which seeks to uncover the contradictions and tensions that arise in the process of adopting this accounting practice and provide a nuanced understanding of the factors that facilitate or hinder its successful adoption. In the context of OBA adoption in Saudi Arabia, dialectical ontology suggests that there may be conflicting interests and values between different actors involved in the adoption process, such as the managers, shareholders, employees, and regulatory bodies (Kober et al. 2017). Moreover, the dialectical ontology emphasises the importance of understanding the broader social, economic, and political

contexts in which social systems operate. In the context of Saudi Arabia, there may be cultural and religious factors that influence the adoption and implementation of OBA practices (Hassan et al. 2020).

This second field of philosophy is epistemology, which investigates the origins and nature of knowledge. Positivism and interpretivism refer to two contrasting traditions of epistemology, each of which is associated with different approaches to social theory and research (Neuman 2006, p. 81). Positivism considers the exterior existence of the social world. Proponents of this belief wish to avoid their personal beliefs and perceptions affecting their research (Collis and Hussey 2003). Consequently, under the positivist paradigm, knowledge contrasts with opinion, perception, and emotion, and is defined using quantitative procedures and methods. However, the interpretivist perspective considers the senses that individuals have of the external world, emphasising their experiences. It focuses on the subjective meanings that individuals ascribe to things (Collis and Hussey 2003). This study adopts an interpretivist approach. It aims to provide a deeper understanding of the attitudes, beliefs, and values of individuals involved in the implementation of OBA in Saudi companies. Specifically, it employs an interpretivist approach to analyse the experiences and perspectives of individuals involved in OBA in Saudi companies. By doing so, this thesis aims to produce a more nuanced understanding of the factors that influence the success of this accounting practice in the Saudi context. This approach is particularly relevant in the context of Saudi Arabia, which has a unique culture and regulatory environment. By adopting an interpretivist approach, this study will explore the complex factors that shape the attitudes and behaviour of individuals who are involved in OBA in Saudi companies and provide insights into how these factors may impact the implementation and success of this practice. The views of each research participant represent a unique understanding of the universe, and a subjectivist perspective is thus adopted to clarify each participant's reality. In addition, it is important to comprehend the social roles and behaviour of the participants related to the phenomenon under investigation in order to identify their subjective motivations for these acts. Therefore, an interpretivist stance is adopted in this study to gather the participants' views and the meanings that they attribute to their experiences in supply-chain organisations in Saudi Arabia.

The dialectical ontology of this research is concerned with the interplay between the subjective and objective realities in the social world, while the epistemology seeks to comprehend social phenomena through lived experience (Archer 1995). This is mainly because the OBA

experiences in Saudi enterprises have not been widely discussed previously. In addition, this methodology provided insights into the perspectives and attitudes of the participants involved in these organisational processes. Researchers select the most appropriate research paradigm on the basis of these three assumptions: ontological, epistemological, and methodological (Burrell and Morgan 1979).

Interpretivism can be used as a methodological approach within the dialectical ontology to understand how individuals interpret and make sense of reality. Interpretivism can be applied to study how people interpret and ascribe meaning to social, cultural, and historical phenomena within the framework of dialectical ontology. Both interpretivism and dialectical ontology can complement each other in research by providing different lenses through which to examine and understand complex social phenomena. Interpretivism can provide insights into how individuals or groups interpret and construct their realities, while dialectical ontology can highlight the dynamic interrelationships and contradictions within those realities.

The analysis can be accomplished using either an inductive or a deductive method. Deductive research involves testing an existing theory by generating a hypothesis, then examining the theory's applicability to specific circumstances (Marczyk et al. 2005). Inductive reasoning, on the other hand, explores a social or human problem from multiple vantage points, prior to drawing a conclusion. When a researcher draws conclusions about a research topic based on data analysis, this is inductive research. Inductive research delivers more in-depth information, and researchers who apply this method propose data-collection methods that are likely to generate additional pertinent findings (Saunders et al. 2009). Deductive research is associated with the positivist philosophy, whereas inductive research is associated with interpretivism (Marczyk et al. 2005). In addition to the deductive and inductive methods, it is important to acknowledge the existence of abductive logic as a way of analysing research data. Abductive logic involves moving iteratively between the evidence and theory to develop the best possible explanation of the situation studied (Bryman 2012). This method is useful in situations where the existing theories may not fully explain the research phenomenon, or where new data challenge the existing theories. By using abductive reasoning, researchers can generate hypotheses that can be tested through further data collection and analysis. This approach can be particularly useful in exploratory, research where the research questions are open-ended and there is limited prior knowledge about the topic under investigation. The use of abductive logic provides an alternative or complementary method to deductive and inductive reasoning.

As an interpretive research study that seeks to explore OBA application in the context of Saudi companies, this thesis will apply an inductive reasoning approach to the data analysis. By exploring a social or human problem from multiple vantage points, inductive reasoning makes it possible to draw conclusions about a research topic based on data analysis (Saunders et al. 2009). The use of inductive reasoning made it possible to generate rich, detailed insights into the understanding of OBA implementation in Saudi companies. In interpretive research, inductive reasoning is used to develop research questions and theories that are grounded in the data and the social and cultural contexts in which the data were produced. Rather than viewing research questions and theories as hypotheses to be tested, interpretive researchers see them as open-ended and subject to ongoing refinement and revision, based on new insights and understandings. Inductive reasoning in interpretive research involves an iterative process of analysing and interpreting the data, refining and revising the research questions and theories based on ongoing engagement with the data and the social world being studied, and engaging in an ongoing dialogue with the participants and other stakeholders. Inductive reasoning is often used in scientific research to draw conclusions from data and make observations. by examining the data from the comparative case studies and identifying the patterns and themes related to the adoption and effectiveness of OBA in different stages of the life cycle. It can then compare these findings with existing the theories and concepts from the literature to develop preliminary explanations for these patterns. As the data analysis continues, researchers can refine these explanations and develop new theoretical frameworks that better capture the complexity and context-specificity of OBA in Saudi companies.

In interpretive research, researchers may use a variety of data collection methods, including surveys and other forms of qualitative data, to gain insights into the experiences and perspectives of the participants. Rather than focusing solely on quantifiable data, interpretive researchers use inductive reasoning to make sense of the rich, nuanced, and context-specific data collected through these methods. Inductive reasoning in interpretive research involves a process of identifying the patterns, themes, and meanings in the data, and exploring the underlying assumptions, values, and beliefs that give rise to these. This process allows researchers to develop a deep, nuanced understanding of the phenomena being studied, and generate insights that may not be captured by the traditional positivist research approaches. Rather than making predictions, interpretive researchers aim to generate new knowledge and insights that can inform practice and policy in meaningful ways.

Inductive reasoning is an important tool in case-study research because it enables researchers to draw conclusions from a small number of cases. This can be more efficient and cost-effective than conducting a larger study. Furthermore, inductive reasoning allows researchers to identify unexpected patterns and relationships that may not be evident in a larger study. This is because inductive reasoning involves starting with specific observations and experiences and using them to develop broader themes and understanding, rather than starting with a preconceived theory or hypothesis and testing it against a larger data sample. Overall, inductive reasoning can be a powerful tool for generating new insights and understanding in case-study research. (Leedy and Ormrod 2020).

In addition to inductive reasoning, this study also incorporated abductive logic in its data analysis. Abductive reasoning involves moving iteratively between the evidence and theory to develop the best possible explanation of the situation studied (Charmaz 2014). This logic is particularly relevant in interpretive research, where researchers are often dealing with complex, ambiguous data that may require multiple interpretations. In this study, the use of abductive logic may help to develop theoretical frameworks that explain the potential influence of life cycle stage on the understanding of OBA in Saudi companies. By moving back and forth between the data and the relevant theories, we can develop a more nuanced, context-specific understanding of the factors that influence the adoption and effectiveness of OBA in different stages of the life cycle. This thesis studies two comparative cases as a means of understanding the potential influence of life cycle stage on the understanding to clarify the potential influence of the stage on the adoption and effectiveness of OBA.

In interpretive research, inductive reasoning is a form of logical reasoning that involves deriving meaning and understanding from a careful examination and interpretation of data collected from the lived experiences of the participants.

Moreover, the ideographic technique was applied as the methodological premise. The use of the ideographic technique is an appropriate methodological premise for research that seeks to explore personal encounters and experiences, rather than anonymous opinions expressed via surveys. The ideographical approach is focused on understanding the unique experiences and perspectives of individuals within a specific context and seeks to provide rich, detailed descriptions of these experiences.

Overall, the use of the ideographic technique in this study is appropriate, as it allows for a more nuanced, detailed understanding of personal encounters in the context of the research question.

By using this approach, the researcher can gain deeper insights into the experiences of individuals and the factors that influence these experiences and can also provide a more comprehensive and meaningful analysis of the phenomenon being studied.

In this study, dialectical ontology and the subjective interpretivism philosophical approach enhanced our understanding of the OBA practices of Saudi Arabian companies by clarifying the subjective meanings that individuals give to things. This was important for gaining insights into the perspectives and attitudes of the participants regarding the OBA processes. Qualitative methods allowed an exploration of a social or human problem from multiple vantage points and the interactive between the structures and agents, prior to drawing a conclusion. It also allowed the collection of in-depth data that were pertinent to the research questions.

#### **4.3 Research Design/case study**

The choice of an acceptable research method is contingent on the researcher's selection of the ontological and epistemological viewpoint, research objectives, and research questions. There is a strong relationship between interpretivism and qualitative research (Punch 2009). This study's methodological approach involves a qualitative design (Denzin and Lincoln 2005). Qualitative research situates the observer in the world. It is a collection of interpretive, tangible actions that render the world visible (Denzin and Lincoln 2005). The choice of qualitative research reflects the epistemological viewpoint. This research focuses on the subjective experiences and interpretations of individuals who are involved in OBA practices in order to clarify how OBA is used. From an ontological perspective, this research acknowledges that the existence of OBA is a result of different beliefs, interpretations, and experiences, to explore which qualitative research an appropriate choice.

Qualitative research focuses on describing and comprehending the meaning of social problems, while quantitative research examines the relationships between variables (Bryman and Bell 2007) to answer questions of "how many?", "who?", and "what?". As the objective of this study was to determine how (and to what degree) sociocultural and institutional practices influence OBA practices, qualitative interviews were conducted to gather the relevant data.

Qualitative research seeks in-depth insights into people's circumstances and beliefs (Denzin and Lincoln 2005); hence, it enabled the collection of in-depth data that were pertinent to this study's purpose. Unlike quantitative research, qualitative research does not typically involve



numerical data and generally takes place in natural settings, allowing the researcher to observe the interactions between the participants (Creswell 2003). Qualitative research methods such as interviews help to gather diverse perspectives (Robson 2002), facilitating a greater, more in-depth comprehension of the phenomena under study. In the current study, the qualitative methodology clarified the change processes that are occurring in the accounting profession in Saudi Arabia.

A case-study method was chosen for this research. This method permits the researcher to collect extensive data on a particular case - such as a department, an organisation, or a group of people - in order to investigate and explain relatively novel occurrences (Moll et al. 2006). Although the primary purpose of interpretive research is to describe the meanings that individuals attribute to various occurrences, these descriptions and comprehensions can also be used to generate explanations (Lukka and Modell 2010; Kakkuri-Knuuttila, Lukka, and Kuorikoski 2008). A case study design was chosen for this research. The case study method permits the researcher to collect extensive data on a particular case, such as a department, organisation, or group of people, in order to investigate or explain relatively novel occurrences (Moll, et al. 2006). As the purpose of this thesis is to investigate and explain practices as they occur, which necessitates accessing such voluminous data (Jorgensen and Messner 2010), the case study seemed to be the most suitable method to use here.

Lee and Saunders (2017) report that case study research is a suitable approach for investigating complex phenomena and explaining practices as they occur in a particular context. The case study method facilitates the collection of extensive data on a particular case, such as an organisation or group of people, followed by the analysis and interpretation of that data to gain a deeper understanding of the phenomenon being studied. Furthermore, the case study approach can be particularly useful for investigating real-world problems in the fields of business and management, such as OBA implementation in Saudi Arabia. By using a case study design, researchers can gather detailed information about the context, processes, and outcomes of this implementation, and explore the various factors that influence its success or failure.

In the current study, interviews with the companies in two supply-chains afforded an opportunity to compare and contrast the data more effectively than if the interviews had been conducted using a single case, as well as enabling the researcher to reproduce the findings on the same issue. Therefore, this research was built around two supply-chain cases (with OBA in place in one case and in the process of being adopted in the other), each of which involved the

study of a customer and a supplier in that supply chain. The two comparative cases of a customer and supplier who were at different stages of supply chain maturity was directly influenced by the ontological perspective (understanding the existence and experiences of OBA within supply chains) and the epistemological viewpoint (gathering subjective interpretations and insights from those involved in OBA practices).

The selection process regarding the case studies took into account the willingness and accessibility of the companies to participate in the research. The selection of the two case studies was determined in order to provide a well-rounded understanding of Open Book Accounting (OBA) practices within diverse supply chain contexts. By incorporating case studies from different industries (manufacturing and pharmaceuticals), the research aimed to capture the sector-specific challenges and best practices related to OBA adoption. Additionally, the two case studies were at different stages of supply chain maturity. The first case, involving AV and its supplier SM, was chosen due to the maturity of their supply chain relationship. This choice aimed to explore how OBA practices are implemented in a well-established, experienced supply chain setting, providing insights into the nuances of OBA adoption within a mature business environment. Conversely, BA and its supplier CC were characterized by a low supply chain maturity level. This case allowed an in-depth examination of the challenges faced by companies in the early stages of OBA implementation. Understanding the hurdles encountered in a less mature supply chain environment was essential in order to undertake a comprehensive analysis of OBA's feasibility and effectiveness in diverse organizational settings. Thus, comparative case studies were employed to investigate the related influencing factors, challenges, and outcomes related to OBA implementation.

#### **4.4 Data Collection**

From an interpretive perspective, understanding the meaning behind the participants' experiences is crucial for obtaining trustworthy, meaningful data. Therefore, to capture the depth and richness of the participants' perspectives, semi-structured interviews were conducted for this study. This approach allowed the participants to express their views and experiences in their own words and provided an opportunity for the researcher to uncover unexpected themes and patterns that may have been missed had other data collection methods been employed.

#### 4.4.1 The Primary Data Collection Tools

Interviews enable a researcher to connect directly with the respondents and provide a unique opportunity to examine the perspectives of others and observe their social reality (epistemological aspect). Interviews provide a “great method for determining how individuals perceive or feel about a certain topic” (Darlington and Scott 2002) and provide insights into the ontological reality of how OBA is perceived and implemented.

Structured, semi-structured, and unstructured interviews each have their own strengths and shortcomings (Kvale and Brinkmann 2009). Organised interviews, for instance, allow researchers to collect standardised information, but the rigidity of the questions may result in a lack of insightful data. In this study, semi-structured interviews were chosen as the principal technique for a number of reasons. First, they facilitate conditions that allow the respondents to feel secure and confident to share their views (Gray 2004). Due to the sensitivity of the subject in this study, it was crucial that the participants felt comfortable. The semi-structured method provided greater flexibility, allowing the dialogue to be more effectively managed. There was a list of topics to be discussed, as well as some specific questions, which could be introduced according to the flow of the conversation. Hence, not all of the participants were asked identical questions, though the same topics were covered (Robson 2002; Kvale and Brinkmann 2009). The interviewer was able to pose the questions in a variety of ways, depending on the situation. Third, using a semi-structured technique, the interviewer is permitted to alter and construct additional questions based on the respondent’s comments during the interview (Robson 2002; Gray 2004). The semi-structured interviews permitted further investigation of the participants’ replies, including requests for clarity about certain experiences or situations. This flexibility provided an opportunity to ask about the reasons or emotions underlying the participants’ responses. Consequently, the participants were able to elaborate on their responses and, more significantly, provide details of their views. This access to more detailed perceptions of their personal experiences then produced a far clearer image of the topic under investigation.

Interviews are a powerful data-collection tool that can be used to gain insights into a variety of topics (Kvale and Brinkmann 2009; Rubin and Rubin 2012). They allow researchers to ask open-ended questions and gain more in-depth responses compared to other data-collection methods (Kvale and Brinkmann 2009). Interviews can be used to collect qualitative data from individuals or groups, and can be conducted in-person, over the telephone, or online (Rubin

and Rubin 2012). They can be used to explore the interviewees' opinions, attitudes, experiences, beliefs, and motivations (Kvale and Brinkmann 2009). They are also useful for gathering information that is difficult to measure quantitatively (e.g., perceptions) (Rubin and Rubin 2012). Interviews can provide a more personal, in-depth understanding of a topic than other data-collection methods, making them an invaluable tool for researchers (Kvale and Brinkmann 2009).

In this study, semi-structured interviews were conducted. The participants included managers and accountants from different areas of the organisations. It is important to note that these individuals may respond differently to the accounting information at their disposal, and the ways in which they use this information are shaped by both their personal disposition and the objective characteristics of the structures with which they come into contact in the course of their work. To capture these nuances, we employed qualitative interviews to allow the participants to share their experiences and perspectives in their own words. Arabic was the first language of the majority of the participants, and English was their second language. There are both advantages and disadvantages to interviewing respondents in their second language. The primary benefit was that the participants and interviewer used consistent vocabulary, concepts, and words, which aided the data processing. However, the use of the participants' second language also had disadvantages, posing a risk that they might be unable adequately to communicate their perceptions. Consequently, the majority of the interviews were conducted in Arabic, with some participants resorting to English where necessary. The use of the research participants' own language allowed them to convey their meanings and understanding of OBA more accurately and thus enhanced the reliability of the study findings.

The interviews were supplemented by observations, facilitating a deeper understanding by providing knowledge of the context in which the events occurred, potentially enabling the researcher to see things that the participants were unaware of and note aspects that they may have been unwilling to discuss (Patton 1990; Hoepfl 1997). Observational field notes were used in conjunction with the interview transcripts to enhance the reliability of the research results.

Observation was additionally used to assess the research participants in naturalistic scenarios (Mulhall 2003). During the study, the researcher observed the responses of the managers and accountants, as well as their physical work environments and interactions with other employees and partners. In addition, the participants showed the researcher the offices where they had

previously received visits from representatives of other organisations (customers) who wished to review their financial information before the OBA system is introduced. They also demonstrated the methods they used to communicate with each other and provide the necessary information under the OBA system.

During the initial phase of the data collection related to the first company (AV, the customer of case study1), the researcher engaged in first-hand observations, closely examining the responses of the managers and accountants. This included witnessing their interactions within their physical work environments and also with their external partners. These on-site observations extended to exploring the communication methods used among the team members, and the participants even demonstrated the functionality of the Open Book Accounting (OBA) system. Additionally, the tour of the company's warehouse offered crucial insights into their inventory management strategies and the direct impact of these on the application of OBA.

One noteworthy revelation that occurred during this phase was the transformation in the office dynamics. The participants shared how, prior to the implementation of the OBA system, representatives from other organizations often visited their offices for financial reviews. However, the introduction of the OBA system eliminated the need for such monitoring visits, creating an atmosphere of enhanced transparency, collaboration, and trust between various stakeholders.

However, when the COVID-19 pandemic struck, necessitating a shift to remote data collection for the subsequent three companies, certain challenges and opportunities emerged. While the physical observations of office dynamics, interpersonal interactions, and tangible workplace environments became impossible, a unique perspective unfolded.

In this remote setting, the focus shifted toward virtual interactions, thus enabling the researcher to gain insights into the digital communication methods adopted by the companies. Online meetings and collaborative platforms became the new norm, offering glimpses into how businesses navigated the challenges of conducting their operations from afar. While this virtual approach allowed a different form of observation, it lacked the richness of in-person interactions. Subtle cues, body language, and the ambiance of the workplace were absent, placing limitations on the depth of understanding regarding the participants' experiences. However, the researcher noticed various benefits related to conducting interviews online. Online interviews proved to be a cost-effective data collection tool, as they required minimal

resources. They saved time, and could be conducted quickly and efficiently. Moreover, they provided access to the participants, including those who may have been geographically dispersed or had limited mobility due to the COVID-19 pandemic lockdown. Online interviews also provided greater flexibility with regard to scheduling, as they could be conducted at any time and in any location.

### ***Interview Method***

The researcher conducted face-to-face, telephone, and online interviews with 19 interviewees in two of Saudi Arabia’s major cities. Seven of the interviews were conducted in-person, and 11 were conducted over the telephone or online. The interviews ranged from 20 to 70 minutes in duration. Some were conducted between November 2019 and February 2020, while the remainder were conducted between June and November 2020 and May and July 2021. As a result of the Covid-19 pandemic, the lockdowns in Saudi Arabia, and the associated social limitations and changes in the business environment, the data collection was limited to 19 participants. The following table (Table 1) presents details about the interviews, including the interviewee's position and the date and length of the interviews.

*Table 1 List of Interviewees*

<b>Interviewee</b>	<b>Case Number</b>	<b>Position/Company Number</b>	<b>Date</b>	<b>Interview Length</b>
P1	Case 1 Customer	Production Manager	03/11/2019	01:10:37
			15/10/2020	00:54:39
P2		Accountant	18/11/2019	00:58:47
P3		Finance Manager	03/12/2019	00:52:10
P4		Sales Manager	01/02/2020	00:40:19
P5		Purchasing Manager	15/10/2020	00:45:57
P6		Logistic Manager	24/10/2020	00:44:48
P7		Assistant Production	15/10/2020	00:44:21

P8	Case 2 Customer	Finance and Accountant Manager	06/06/2020	00:51:20
P9		Purchasing Manager	08/06/2020	00:41:54
P10		Production Manager	08/06/2020	00:33:57
P11		Assistant Production	06/07/2020	00:37:42
P12		Sales Manager	08/08/2020	00:28:51
P13		Assistant Finance and Accountant	10/08/2020	00:39:48
P14	Case 1 Supplier	Production Manager	23/10/2020	00:24:38
P15		Accountant and Finance Manager	26/10/2020	00:25:57
P16		Sales and Marketing Manager	28/10/2020	00:26:30
P17	Case 2 Supplier	Production Manager	29/10/2020	00:37:45
P18		Accountant	3/11/2020	00:35:19
P19		Sales Manager	08/11/2020	00:43:19

Each interview began with an explanation of the nature of the research and an assurance of confidentiality. The objectives and methodology of the research were described, and the participant was assured that the findings, voice recordings, transcripts, and results would be anonymised and kept strictly confidential.

Detailed notes were collected during the discussions with the interviewees who declined to be audio-recorded, and the interviewees were asked to repeat themselves when necessary. The interview questions were drafted in English before being translated into Arabic, to prevent any loss of meaning. The majority of the interviews were conducted in Arabic, the native language of the respondents and the interviewer, ensuring that everyone involved could express

themselves fluently and logically. The researcher described to undertake the transcription herself in order to familiarise herself with the data and begin to generate and select the themes, while also noting variances and similarities between the various participants' responses. The researcher began by reading and rereading the transcriptions while listening to the audio recordings and then identifying the most important topics, based on the research objectives and questions. After the interviews had been conducted, they were first transcribed into Arabic, then translated into English with the assistance of a certified bilingual professional. The Arabic-to-English translations were then forwarded to another Arab-speaking PhD student for additional review.

#### **4.4.2 Secondary Data Collection Tools**

Data were collected from documents obtained from both companies' websites and from published sources, such as books, journals, magazines, and other documents. A systematic process of reading, analysing, and synthesising the information obtained from multiple sources was followed to gain an understanding of a particular topic or issue. The process involved reading and critically evaluating the literature, identifying the relevant themes, and synthesising the information to draw conclusions.

#### **4.5 Data Analysis**

The choice of data analysis method depends on the nature of the research questions and worldview of the researcher (Miles and Huberman 1994; Braun and Clark 2006). This method is prevalent in qualitative analysis (Riessman 2008; Braun and Clark 2006).

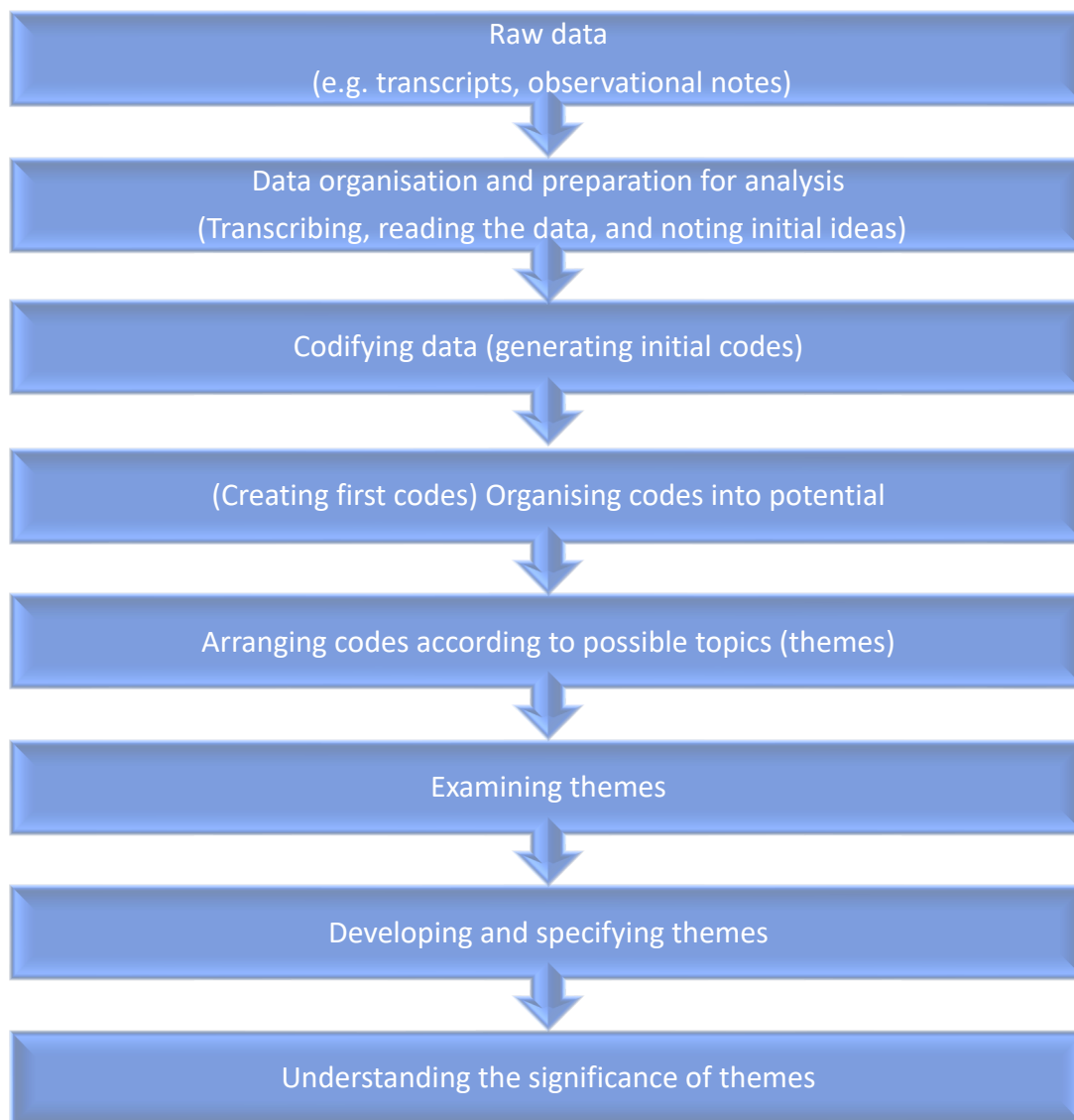
In this study, the adoption of the interpretive approach recognised the importance of understanding the participants' perspectives and experiences. The researcher sought to gain a rich, holistic understanding of the phenomenon under study by examining the data collected from multiple sources, including interviews, government and company reports and documents obtained from both organisations' websites. Through this process, the researcher identified the emerging themes and insights within a theoretical framework and subjected them to thematic analysis in order further to examine the complexity and nuances of the phenomenon under study.



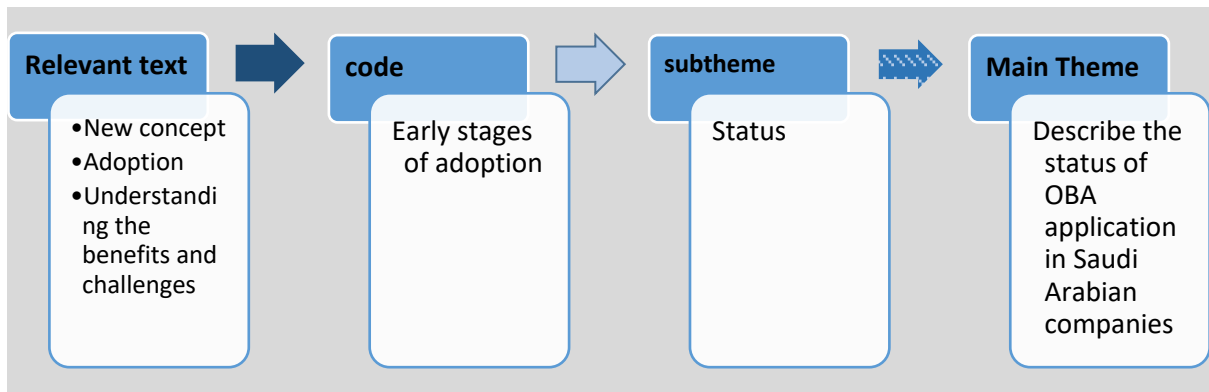
Thematic analysis was conducted to provide an in-depth understanding of OBA practices through the use of codes, relevant texts, sub-themes, and themes. The codes were based on the observed interactions between the data and the theory and research objectives (Anderson-Gough et al. 2005). The participants are players in reality-construction; consequently, recurring meanings and interpretations should not be overlooked when analysing interview data (Anderson-Gough et al. 2005). Coding, in the context of research or data analysis, plays a crucial role in the process of organizing and creating data. (Anderson-Gough et al. 2005).

Braun and Clarke (2006) propose six steps for conducting thematic analysis. The first step involves researchers familiarising themselves with the data by thoroughly reading the dataset, searching for ideas, meanings, and potential points of interest at least once before commencing the coding process. Familiarisation is crucial as it allows researchers to develop an in-depth, comprehensive understanding of the collected data (Braun and Clarke 2022). The second stage of familiarisation requires the researcher to engage critically with the information as data, which is followed by the creation of the initial codes. A code represents a meaningful assessment of interesting aspects within the interview data and serves as the fundamental segment or element (Boyatzis 1998, p. 63). It is essential to distinguish between codes and themes, as themes are generally broader and can encompass multiple codes. The third step involves the formation of overarching themes from the compiled codes. The fourth step entails reviewing and refining the themes by thoroughly reading all of the relevant extracts associated with the codes. During this stage, the researcher may discover that some themes are overly broad, themes that contradict or overlap each other, or that some information fails to qualify as a theme due to inadequate supporting evidence. The fifth step necessitates the researcher defining and labelling the themes by describing their content, identifying their interesting aspects, and explaining why they are significant. Finally, in the last step, the researcher produces a comprehensive report. This final stage involves crafting a compelling narrative that effectively conveys the story of the data within and across the themes, aiming to convince the reader of the validity and rigour of the analysis. Table 2 describes the process of the Data coding and Analysis

*Table 2 Data Analysis Framework*



In the current study, the researcher recorded the relevant data and converted them into written transcripts, the codes were then generated from the relevant texts in those transcripts, based on the data and their interactions with the theory and research objectives. This stage involved organising the codes, which were then grouped to produce sub-themes, which were further grouped to produce themes, based on the research objectives and questions.



For instance, phrases like "it is a new concept, we started to adopt it recently, still need understanding the benefits and challenges" were identified and grouped under the code "Early stages of adoption." This code was further categorized into the subtheme "current status," ultimately contributing to the broader theme of "Describe the status of OBA application in Saudi Arabian companies." Additionally, discussions around "Cultural shift, Religious, Language, and Organizational culture" were analysed. These discussions led to the creation of codes such as "Cultural norms and Legal environment," which in turn formed the subtheme "structures that shaped the status of OBA in Saudi." This subtheme, in its entirety, falls under the overarching theme of "Describe the status of OBA application in Saudi Arabian companies." Table 3 illustrates the codes, sub-themes, and themes that were identified by the researcher from the data set.

This process addressed the following research questions:

1. What is the current status of OBA application in Saudi Arabian companies?
2. What are the key internal and external factors driving the OBA adoption in Saudi Arabia?
3. What are the challenges and benefits associated with OBA in Saudi Arabia?
4. How does supply-chain maturity affect OBA implementation in Saudi Arabia?
5. What are the implications of strong structuration theory for the nature of OBA in Saudi Arabia?

To address the research question, "Early stages of adoption", "Cultural norms", and "Legal environment", were used. This permitted the researcher to gain insights into the current status of OBA and understand the underlying structures that are shaping its adoption in Saudi Arabia. This could provide a comprehensive insight into what constrains OBA implementation in Saudi Arabia despite the presence of encouraging, supporting factors related to OBA adoption.

To address research question 2, the codes “Impact of Covid-19 on supply chain management”, “Value of effective communication”, “The role of Competition in supply-chain Collaboration and transparency”, “The lack of regulation and standardisation in the use of open book accounting (OBA) practices”, “Data security and privacy in OBA practices”, and “Government Support and Adequate Techniques” were used. This permitted the researcher to explore and identify the crucial external and internal factors that contribute to OBA implementation in Saudi companies.

To address research question 3, the codes "Cultural norms affecting OBA practices in Saudi Arabia", “Legal environment in Saudi Arabia”, “Lack of Standardisation”, “Technical Knowledge”, and “the value of the Internal Auditing department" were used. This permitted the researcher to identify the main challenges that affect OBA implementation in Saudi Arabian companies.

To address research question 3, the codes "Improved Supply Chain Relationships”, “Improved Supply Chain Performance”, and “Overcoming Challenges" were used. This permitted the researcher to identify the main opportunities and benefits associated with adopting OBA in Saudi Arabia.

During the review and analysis of the evidence, the researcher identified a significant aspect that warrants attention and generated the theme "The Role of Supply Chain Maturity Level in OBA Implementation in the Context of Saudi Arabia." To address research question 4, the codes "Variability in supply chain maturity among the companies in the case-study”, “Benefits of inter-organisational relationship maturity”, and “Relationship between Supply Chain Maturity and OBA" were used. This made it possible to establish whether or not the Supply Chain Maturity Level played a role in shaping OBA in Saudi.

Finally, based on a comprehensive understanding of the state of OBA in Saudi Arabia, the researcher observed that, while there are several factors that promote OBA implementation, there is also resistance to its adoption. To address research question, the codes "cultural norms”, “legal environment” and “Organisation culture" were used. This helped to establish whether the cultural norms and legal environment provided structures that shaped OBA in Saudi, and whether or not there exists any tension between the structures and agents regarding OBA implementation.

Table 1 The themes, sub-themes and codes

Relevant Text	Codes	Sub Themes	Main themes
New concept Adoption Understanding the benefits and challenges	Early stages of adoption	Status	Describe the status of OBA application in Saudi Arabian companies
Cultural shift Religious Language Organisation culture	Cultural norms	structures that shaped status of OBA in	
Regulation Data security technology	Legal environment	Saudi	
Supply chain disruptions Production delays Pharmaceutical sector in danger Health and safety	Impact of Covid-19 on supply chain management	External and internal factors	
Communication Trust Information sharing examples of communication tactics and channels, such as email, Zoom sessions, and IT systems linking.	Value of effective communication		Identifying the crucial factors that contribute to the implementation of OBA in Saudi companies
Competition as a catalyst for collaboration Motivation to reduce costs and increase value	The role of Competition in supply-chain		

<p>Maintaining customer base</p> <p>Openness and collaboration with partners</p> <p>The importance of cooperation and transparency in responding to pricing variations between competitors</p>	<p>Collaboration and transparency</p>		
<p>Supplier reluctance to disclose information.</p> <p>Fear of losing competitive advantage</p> <p>Lack of trust hindering adoption of OBA-related practices</p>	<p>The challenges of supplier reluctance to disclose information and lack of trust in adopting OBA-related practices</p>		
<p>Case study: AV's suppliers under pressure to reduce prices</p> <p>Importance of cooperation and transparency in AV networks</p> <p>Case study: pharmaceutical industry cautious about OBA techniques</p>	<p>Competition</p>		
<p>Lack of regulation and standardisation</p> <p>Regulatory frameworks and guiding principles</p> <p>Information sharing standards</p> <p>Standardised methods and information exchange mechanisms</p>	<p>The lack of regulation and standardisation in the use of open-book accounting (OBA) practices</p>		

<p>Agreements and commitments on OBA practices</p> <p>Confusion and debate over OBA practices</p> <p>The need for a universal standard for open-book data and supply-chain practices</p>			
<p>The need for data-protection principles, strategic data-disclosure policies, and data-security laws to build confidence in OBA.</p> <p>The role of cyber security, commitments made by the parties, and their obligations to ensure data security. The concern of supplier confidence regarding data safety and the importance of privacy and data-security laws in the dissemination of OBA practices.</p> <p>authorised access to data and the commitment to maintain the confidentiality of information.</p> <p>the obligations of both parties to ensure data security.</p> <p>The company policy for protecting strategic data and the training of staff to use OBA techniques.</p> <p>The reluctance of suppliers to participate in information-sharing plans and the decline in supplier</p>	<p>Data security and privacy in OBA practices</p>		

<p>confidence due to worries about a lack of secrecy and incorrect use of shared information.</p> <p>The potential for data breaches and the disclosure of organisational secrets.</p> <p>The importance of implementing safeguards to prevent the disclosure of organisational secrets and the real understanding of data-security standards.</p>			
<p>OBA brings transaction risks and increases monitoring costs.</p> <p>Some supply chain participants are hesitant to use OBA due to concerns about data privacy and trust.</p> <p>Hesitant about providing technical and procedural knowledge to some customers due to a fear of misuse of information.</p> <p>The costs associated with guaranteeing the correct usage and security of data to avoid opportunistic behaviour in OBA-related operations.</p> <p>The monitoring costs required for successful process implementation could outweigh the realised cost-reduction opportunities.</p>	<p>Fear of opportunistic behaviour by supply chain partners in the context of OBA-related operations.</p>		



<p>The significant role played by the Saudi government in promoting OBA practices through incentives and research and development activities aimed at increasing awareness and adoption of this system across all sectors of society.</p> <p>The government's direct and indirect assistance to the industrial sector.</p> <p>financial and administrative aid, aimed at encouraging industrialisation and economic development in Saudi Arabia.</p> <p>The development and enhancement of technology, including cost-accounting systems, to support the implementation of OBA practices in organisations.</p> <p>The barriers to the adoption of OBA practices, including challenges related to the unique nature of certain industries, insufficient accounting systems, and a lack of cooperation from suppliers.</p>	<p>Government Support and Adequate Techniques</p>		
<p>The importance of involving workers with the necessary skills and abilities related to the adoption of OBA.</p>	<p>The importance of employee competence in</p>		

<p>Lifelong learning and training are emphasised as a commitment to developing workers' OBA-related skills.</p> <p>Working hard to maximise the benefits of OBA by designing, adopting, and implementing training programs throughout the organisation.</p> <p>The importance of knowledgeable staff for OBA adoption is emphasised, and the need for time and money to achieve compliance with OBA is highlighted.</p>	<p>OBA-related operations.</p>		
<p>The need for internal audit departments to be competent and trustworthy in order to gain the confidence of the partners to engage in data sharing and adopt OBA principles.</p> <p>The absence of such a department can lead to a lack of trust among the partners.</p> <p>The challenges faced by companies in implementing effective internal audits. complexity of production, lack of staff trained in OBA techniques, inadequate understanding among senior management, and absence of government regulation and qualifications regarding OBA.</p>	<p>The role and importance of internal auditing departments in ensuring the implementation of OBA.</p>		

<p>The importance of OBA principles in the manufacturing process and financial information monitoring.</p>			
<p>The impact of power dynamics on supply-chain relationships and the adoption of open-book accounting (OBA)</p> <p>Power balances can increase the willingness to adopt OBA for mutual benefit.</p> <p>Dominant companies can leverage their power to persuade suppliers to adopt OBA for their own benefit.</p> <p>The role of power in the adoption of OBA.</p> <p>The impact of power asymmetry on the adoption of OBA.</p>	<p>Dependency and Power asymmetry</p>		
<p>The relationship between inventory management and OBA.</p> <p>The impact of inventory management strategies on OBA.</p> <p>The role of information-sharing in inventory management and logistics management.</p> <p>The importance of inventory monitoring and demand forecasting in supply chain management.</p> <p>The challenges of inventory management in the pharmaceutical sector,</p>	<p>Inventory management strategy</p>		

<p>particularly during unexpected events such as COVID-19.</p> <p>The ethical considerations that influence inventory management decisions, such as Islamic commitment and mercy.</p>			
<p>Sharing information with trusted partners.</p> <p>The openness and accessibility of information across the supply chain is important for building trust and fostering OBA adoption.</p> <p>The principles of OBA call for a high degree of transparency, making all documents and site visits available for review by relevant parties.</p> <p>Long-term relationships with partners contribute to mutual trust and regular dissemination of information, simplifying the implementation of the OBA processes.</p> <p>A Lack of trust is one of the main barriers preventing companies from exchanging data in the pharmaceutical industry.</p> <p>A period of serial reliance between drug businesses and suppliers limits the amount of accounting information shared, creating trust issues.</p>	<p>trust in OBA collaboration</p>		

<p>Short-term partnerships and the perception of OBA techniques and long-term relationships as dangerous decrease the chances of applying OBA in the pharmaceutical industry.</p>			
<p>Cultural norms of privacy and confidentiality  A fear of sharing financial information,  hesitation among employees to disclose information,  Companies being reluctant to share financial information with the stakeholders.  A fear of the stakeholders misusing financial information.  Language differences affecting OBA practices in cross-border cooperation.  Religious beliefs and their impact on the adoption and implementation of OBA practices and how they may conflict with the need for transparency and disclosure of financial information.  A conservative company culture and its impact on the adoption of OBA practices and collaboration among supply-chain partners.</p>	<p>Cultural norms affecting OBA practices in Saudi Arabia</p>	<p>Challenges</p>	<p>Analysing the various challenges and benefits that companies may encounter when implementing Open-Book Accounting (OBA)</p>
<p>Concerns related to data privacy and security in implementing</p>	<p>Legal environment</p>		

<p>OBA, including the fear and trust issues among the stakeholders and the lack of specific laws related to OBA practices.</p> <p>Companies are making efforts to secure the information that is being shared but the lack of specific laws related to OBA practices is still a big challenge to the successful adoption of OBA.</p>			
<p>The lack of standardisation in OBA applications and a formal and standardised format for sharing financial information.</p> <p>The supply-chain participants lack clear standards or an agreement about how to carry out the open-book procedures.</p> <p>The need for a universal standard for open-book data and supply-chain practices and the challenges faced by companies in developing their own standard format for sharing financial information.</p>	<p>Standardisation:</p>		
<p>Insufficient accounting systems and the lack of expertise among suppliers.</p> <p>Some suppliers lack the proper expertise and funds to introduce OBA, which might cause tension when it comes to applying OBA.</p>	<p>Technical Knowledge:</p>		
<p>The role of internal auditing in promoting transparency and trust</p>	<p>Internal Auditing:</p>		

<p>among the partners and ensuring the accuracy and completeness of financial information, which are crucial for successful OBA adoption.</p> <p>The lack of an internal-auditing department can lead to the failure of OBA adoption.</p>			
<p>Stronger relationships and increased collaboration, OBA reduces dependency and creating a level playing field for suppliers and customers, Improved transparency and collaboration with supply chain partners, Accountability and responsibility as a result of adopting OBA</p>	<p>Improved supply chain relationships</p>	<p>Opportunities and Benefits of adopting OBA</p>	
<p>OBA improves the inventory management strategies, OBA as a tool for supply chain resilience, identifying areas for cost reduction and efficiency, Better decision-making, Potential for innovation and creativity with OBA, Improved financial outcomes through OBA</p>	<p>Improved supply chain performance</p>		
<p>Overcoming the challenges posed by the Covid-19 pandemic.</p>	<p>Overcoming challenges</p>		

the role of OBA in improving communication and collaboration within supply chain networks			
<p>The inter-organisational relationship lifecycle.</p> <p>The level of Inter-organisational relationship maturity.</p> <p>Constraints on collaboration in less mature supply chains.</p> <p>Strategies for improving inter-organisational relationships.</p> <p>Long-term partnerships are seen as dangerous, given the current maturity level of the relationship.</p> <p>Only a small quantity of accounting information is shared during the period of serial reliance.</p> <p>Auditing to monitor operations and costs</p>	<p>Variability in supply-chain maturity among companies in case-study:</p>	<p>The role of supply chain maturity level on OBA implementation</p>	<p>Establishing whether Supply Chain Maturity Level provided a role that shaped OBA in Saudi.</p>
<p>Leveraging relationships for mutual benefit</p> <p>Trust building through open communication.</p> <p>Collaboration in highly mature supply chains</p> <p>Building strong networks</p> <p>Clear roles, responsibilities, and expectations</p> <p>Supplier selection criteria</p>	<p>Benefits of inter-organisational relationship maturity:</p>		
<p>Information exchange and collaboration</p>	<p>Relationship between supply chain</p>		



Standardized collaboration and well-established performance metrics	maturity and OBA:		
Technological advancement and effective communication			
Multi-lateral information exchange			
Standardized OBA format for sharing information.			
Power symmetry and OBA practices			

Overall, the codes and themes covered in the research were directly related to the research questions and the objective of investigating OBA practices in Saudi Arabian companies. By examining the key factors involved in OBA implementation, evaluating its possible outcomes, and analysing the significance of supply-chain network maturity, this research provided valuable insights into the current status of OBA adoption and the challenges associated with OBA implementation in Saudi Arabia.

#### 4.6 Ethical Considerations

Ethics are rules and norms of conduct, distinguishing between appropriate and inappropriate professional behaviour (Kellett and Waring 2016). The universal ethical considerations for research involving human participants include requirements related to obtaining informed consent from the participants, an explanation regarding how the confidential data collected will be used, and respect for the participants' human rights (e.g., those applicable to the employees of the various companies used as case-studies in the present study).

This study involved research on human participants, as well as the acquisition, use, and storage of data, which all raised ethical concerns. These issues were handled in accordance with the University of Sheffield's code of ethical conduct, and the research was consequently granted ethical approval by the university. The researcher underwent official training and supervision on research ethics and considered all of the relevant processes when developing and conducting

the research, including those relating to the personal safety of - and prevention of harm to - the participants.

All of the participants were informed of the study's objective, procedures, and the nature of their involvement. All of the research participants were provided with a participant information sheet that described the study. The ethical norms mandated the protection of the participants' confidentiality and anonymity. As a result, the research participants were guaranteed that their contributions would be anonymised and that all of their data would be retained in password-protected computer files, made available only to the researcher, and deleted within five years of the study's conclusion, in accordance with the university's policy. They were assured that none of their original data or identifying details would be shared with any third parties and that their anonymity would be respected throughout the research process. These explanations were all given in writing, and each participant was required to sign a consent form prior to their interview.

Another ethical consideration in this investigation was related to supply-chain information. Information regarding the peculiarities of the inter-organisational relationships in the supply chain and production process could be considered commercially sensitive. Thus, to ensure that the study was ethical, I maintained strict data confidentiality throughout the research procedure.

#### **4.6.1 Informed Consent**

The participants were informed beforehand of the following:

that their participation was voluntary

that the interviews would be recorded unless they indicated that they would prefer otherwise

that neither their full or real identities nor the names of their organisations would be included in the publication on the findings of this study.

that their participation in this study would involve an interview during their normal working hours

that their participation in this research would have no effect on their work

that only the researcher and her superiors would have access to the personal data, which would be stored on a password-protected computer in a secured filing cabinet.

After the participants had been provided with the participant information document, they were given a consent form to read and sign. Before any interviews were conducted, the participants were provided with a copy of the University of Sheffield's ethical approval confirmation. In addition, each participant was asked whether they would prefer to be interviewed in English or Arabic.

#### **4.7 Enhancing Qualitative Research: A Comprehensive Approach**

In the realm of qualitative research, the quest for robust, profound insights transcends the mere act of collecting and analyzing data. Qualitative inquiry, celebrated for its nuanced exploration of human experiences, necessitates a deep understanding of its multifaceted quality markers. At the heart of this exploration lies the pivotal concept of authenticity, epitomizing the genuine representation of the participants' voices, emotions, and perspectives (Johnson et al. 2006). Researchers establish profound connections with the participants, nurturing trust and openness, that enable the unfiltered expression of experiences and ensuring that the findings resonate authentically with the realities of those involved.

Another fundamental criterion, plausibility, encapsulates the logical coherence and believability of the research findings within the given context (Johnson et al. 2006). Plausible interpretations not only maintain internal consistency but also align harmoniously with the broader social and cultural context, making them comprehensible to the participants and stakeholders alike, thereby reflecting the intrinsic logic of human experiences.

Rich, detailed descriptions serve as the cornerstone of qualitative research, vividly illustrating the research setting and participants' interactions (Symon et al. 2016). These descriptions act as portals, transporting readers into the study's world and offering profound insights into the nuances, subtleties, and intricacies that characterize the participants' experiences.

Acknowledging the broader social, cultural, and historical context is essential for interpreting the participants' narratives—this contextual understanding is indispensable (Symon et al. 2016). Researchers delve into the contextual tapestry shaping the participants' lives, thus illuminating the backdrop against which their experiences unfold.

Member checking, championed by Symon, Cassel, and Johnson (2016), involves a cyclical process of validating interpretations with the participants, thus enhancing the credibility and authenticity of qualitative research. Reflexivity, promoted by Johnson et al. (2006), necessitates

researchers critically examining their biases, assumptions, and preconceptions. Embracing researcher influence enhances transparency, ensuring the fidelity of interpretations while acknowledging the researcher's inevitable perspective.

The accuracy and truthfulness of research findings can be increased by employing techniques like triangulation and member checking, thereby enhancing the validity of qualitative research (Johnson et al. 2006). While distinct from its quantitative counterpart, reliability in qualitative research underscores the consistency and stability of the findings (Miles, Huberman, & Saldaña, 2014). Similarly, transferability, or applicability, addresses the extent to which the findings can be extended to diverse contexts (Lincoln & Guba, 1985). Detailed documentation enriches the transferability of qualitative findings, enabling readers to assess their relevance in various situations.

Confirmability and objectivity demand systematic, transparent methodologies to mitigate researcher biases (Creswell & Poth, 2017). Researchers may ensure unbiased representation by employing rigorous data analysis and interpretation methods, thus heightening the study's credibility.

These criteria collectively serve as the bedrock of rigorous and insightful qualitative research, ensuring its integrity, credibility, and relevance across diverse contexts. By seamlessly integrating these criteria, qualitative researchers conduct studies that are not only authentic, plausible, and contextually rich but also valid, reliable, transferable, and objective. This holistic approach underpins the trustworthiness and applicability of qualitative research findings across a spectrum of settings.

#### **4.7.1 Limitations of the Methodology**

The Covid-19 pandemic caused unprecedented disruption to everyday life, with many countries implementing lockdowns to contain the spread of the virus. This had a significant impact on researchers wishing to conduct case-study interviews, who found themselves hindered by the restrictions implemented to ensure the safety of both the interviewers and the participants. These constraints could significantly affect the quality and reliability of the research results, unless addressed properly. Accordingly, researchers were obliged to adapt their methods if they wished to continue conducting research during this period. The key considerations were as follows:

Restrictions on travel and movement: Interviewees were limited in their ability to attend interviews physically. As such, the interviews needed to be conducted remotely via video or telephone calls.

Social distancing requirements: Interviews had to adhere to the social distancing guidelines, meaning that participants had to remain at least two metres apart during the sessions and physical contact had to be avoided.

Limited access to resources: Lockdown restrictions limited access to certain materials needed for research purposes - such as documents and photographs. In some cases, this affected the quality of the data collected.

Reduced availability of participants: Due to job losses, furlough, and the other economic impacts of the pandemic, some participants were unavailable for interview or had only limited time to attend one.

Mental health considerations: Lockdown had a significant impact on people's mental wellbeing, and this had to be taken into account during case-study interviews, as it risked affecting the individuals' ability to participate.

#### **4.7.2 Strength of the Evidence**

Despite a number of obstacles, this research was completed successfully, with two case studies conducted during the pandemic. To overcome the challenges posed by the lockdowns and other restrictions, the researcher took proactive steps, ensuring that the interviews could be conducted remotely (via video or telephone calls) and that the participants had advance access to all of the necessary resources. The researcher also considered the mental health issues of the participants, mindful that these could affect how - and whether - the participants were able to engage. The researcher took care to be friendly in her language and avoid overburdening the participants with extra stress. The adopted research design allowed flexibility, which meant that if a participant's availability changed due to a job loss or other economic impacts caused by the pandemic, alternative arrangements could be made without compromising the data quality.

## **4.8 Conclusion**

The research methodology employed in this study was designed to ensure the validity and reliability of the data collected. The design was based on philosophical justifications and included primary and secondary data collection tools. The data were recorded and coded for analysis. Ethical considerations were taken into account, including the need to obtain informed consent. This research methodology was thus able to provide reliable, valid results that informed the final conclusions.

## Chapter 5: Research Findings

### 5.1 Introduction

This research investigates the current status, key internal and external factors, challenges and opportunities associated with supply-chain OBA in Saudi Arabia. Furthermore, it explores the best practices for successful OBA implementation and how maturity affects its application in the Saudi context.

This chapter will present the research findings collected from Saudi Arabian companies regarding their implementation and adoption of OBA and the challenges and benefits associated with it. A case study approach was applied, with two case studies selected for the purpose of analysis. Each case study concerns a supply chain and both customers and suppliers. Qualitative data were collected through semi-structured interviews with experts from two industries to gain a comprehensive understanding of their experiences and opinions on OBA adoption. The interview findings were interpreted by drawing on the extant OBA literature, particularly Strong Structuration Theory (SST). The results will be used to answer each of the research questions posed in Chapter 1:

1. What is the current status of OBA application in Saudi Arabian companies?
2. What are the key internal and external factors driving the adoption of OBA in Saudi Arabia?
3. What are the challenges and benefits associated with OBA in Saudi Arabia?
4. How does supply-chain maturity affect OBA implementation in Saudi Arabia?
5. What are the implications for strong structuration theory of the nature of OBA in Saudi Arabia?

This chapter is organised as follows. First, summaries of the two case studies are presented. The current status of OBA and the factors that influence OBA adoption are then discussed. There follows an exploration of how supply-chain maturity affects OBA implementation in Saudi Arabia's business environment. Finally, the opportunities, benefits, and challenges associated with OBA application in Saudi Arabia are also discussed.

## **5.2 Summaries of the Case Studies**

This research includes two distinct case studies with different levels of supply chain maturity and OBA application, each of which offers unique insights into the application of Open Book Accounting (OBA).

The first case study explores the partnership between AV Company, a global industry leader, and its supplier, SM Company. AV Company operates on a global scale, with AV groups spread across various countries. Notably, a significant portion of AV Company's suppliers is sourced internally from AV groups or maintained in-house. This internal integration creates a mature supply chain relationship, marked by streamlined processes and well-established communication channels. However, it is crucial to note that SM Company stands out as a unique supplier. Unlike most of the suppliers associated with AV Company, SM Company is neither in-house nor part of the AV group. This distinction adds complexity to the supply chain relationship, making it an intriguing subject for analysis.

In contrast, the second case study explores the collaboration between BA Company, a local pharmaceutical company in Saudi Arabia, and its supplier, CC Company. BA Company operates within the confines of a regional scope, focusing primarily on the Saudi Arabian market. Unlike AV Company, BA Company's supplier network consists entirely of external entities. None of the suppliers are in-house, leading to a supply chain structure that differs significantly from the integrated model employed by AV Company. This localized approach presents a distinct set of challenges and opportunities, shaping the dynamics of OBA implementation within the BA Company and CC Supplier partnership.

Through conducting in-depth interviews with the management of AV Company, SM Company, BA Company, and CC Company, this study delves into the nuances of OBA implementation in these diverse settings. This research aims to dissect the challenges faced, strategies employed, and outcomes achieved by each partnership in order to develop a comprehensive understanding of OBA's efficacy within various types of supply chains.

### **5.2.1 Case Study 1: The Manufacturer and its Supplier**

This case study examines the efforts of one manufacturing company (“AV”, the customer) to implement OBA procedures between itself and its supplier (“SM”) in Saudi Arabia. Although



most of the suppliers of AV are in-house, the supplier SM, that is included in the case study, is not.

This research explores their collaboration regarding cost-control efforts, while maintaining product quality standards throughout an effective supply-chain network. It also provides insights into why such practices remain relatively uncommon in Saudi Arabia, despite the potential benefits for all involved. This case study highlights the importance of OBA and shows how it can be used to strengthen the relationships between companies in Saudi Arabia.

### **5.2.1.1 Framework of the Case Study**

This case study examines the OBA procedures employed by AV, a manufacturer of valves, fire hydrants, and accessories in Jeddah, Saudi Arabia, and its supplier, SM. The information was collected from the managers of the sales, production, purchasing, and logistics divisions. There was little direct interaction with AV's suppliers, with the exception of SM. This section describes and analyses the open-book practices employed by AV and SM.

### **5.2.1.2 The Company**

In 1985, AV was founded in Jeddah, Saudi Arabia. The firm has express service centres in Riyadh, Dammam, and Buraidah, in addition to a manufacturing site and sales headquarters in Jeddah. The company's primary activity is the manufacture and distribution of valves, fire hydrants, and a vast assortment of accessories for these product categories. Both its domestic and international markets have grown significantly. AV manufactures a variety of valves and fire hydrants for industrial applications. This has also enabled it to target the rapidly expanding oil and gas sector in Saudi Arabia. All of AV's customers are either large industrial groups or Saudi national organisations, including Saudi ARAMCO, SABIC, KAEC, the water authorities, the Royal Commission, SABIC, civil defence, and the Saudi Electricity Company and National Water Company, each of which has distinct product category, quality, and pricing requirements. As a result, the firm needs OBA. AV has also been Saudi ARAMCO's primary supplier of valves and fire hydrants across all locations. Thus, its manufacturing process requires strict quality control, indicating that there is ample scope for OBA implementation to facilitate collaboration with AV's suppliers at every stage of the production process.

### 5.2.1.3 Supply-Chain Operations

To make its goods, AV obtains materials and other components from vendors, who are either discrete businesses, like SM, or other AV group enterprises. To manufacture the valves, hydrants, and accessories for water, gas, and sewage treatment, as well as fire protection systems, AV obtains raw materials and other components (mostly metal and equipment used in the production process) from more than 15 suppliers. As such, quality control is a significant issue for the company, as it works with a large number of suppliers. OBA, as a supply-chain process control mechanism, has the potential to make improvements to this scenario, though it also raises many real-world challenges. The goal of AV is to maintain optimum product quality at a lower procurement cost for its backward linkage.

SM is a major provider for AV. The firm has over 30 years of expertise in developing technical goods and components. Its production cycle is centred on the manufacture of technical components for machinery and equipment that are widely used in a variety of industries. The whole production process is located in Saudi Arabia, from the local procurement of scrap metal to the final assembly process.

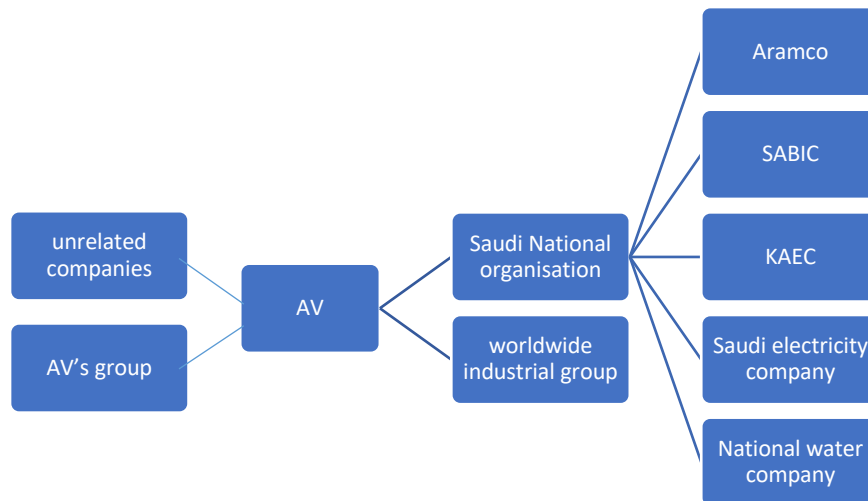


Figure 1 Case-1 Supply Chain

#### **5.2.1.4 Application of OBA**

Although OBA as a separate discipline is alien in Saudi Arabia, AV, the customer, has begun to employ related and complementary tactics, with the goal of establishing mutually advantageous, trusting relationships with its most essential customers and suppliers. Officials at AV and its supplier SM generally concur that the company's OBA-type supply-chain operations and tactics are advanced and successful. Furthermore, they are clear that it has significantly aided their supply-chain network's inter-firm cost-control efforts by establishing mutually beneficial relationships between customers and suppliers. The use of OBA also facilitates communication between all of the stakeholders involved in the production process, leading to improved product quality at lower procurement costs. Ultimately, this ensures customer satisfaction while boosting profitability for both parties.

### **5.2.2 Case Study 2: The Pharmaceutical Factory and the Supplier**

The second case study examines the OBA practices of a pharmaceutical company, BA, and its supplier, CC. The information about the two companies was collected during the Covid-19 lockdown period. This case study examines how BA has embraced supply-chain tactics related to and in harmony with OBA, centred on a cost advantage and the creation of stable, cooperative relationships between its key suppliers and customers.

#### **5.2.2.1 Framework for the Case Study**

The interviews were held by telephone with the management of the two companies. It was impossible to visit the firms in person to conduct observations, due to the Covid-19 lockdown. The information was collected from the managers of the sales, manufacturing, purchasing, and logistics divisions of the two companies. There was little direct interaction with BA's suppliers, with the exception of CC, a label maker.

The focus of this section is the OBA practices employed by BA and its label manufacturer, CC. Additionally, it will explore the challenges that may arise from information-sharing due to reciprocal relationships throughout the supply-chain network.

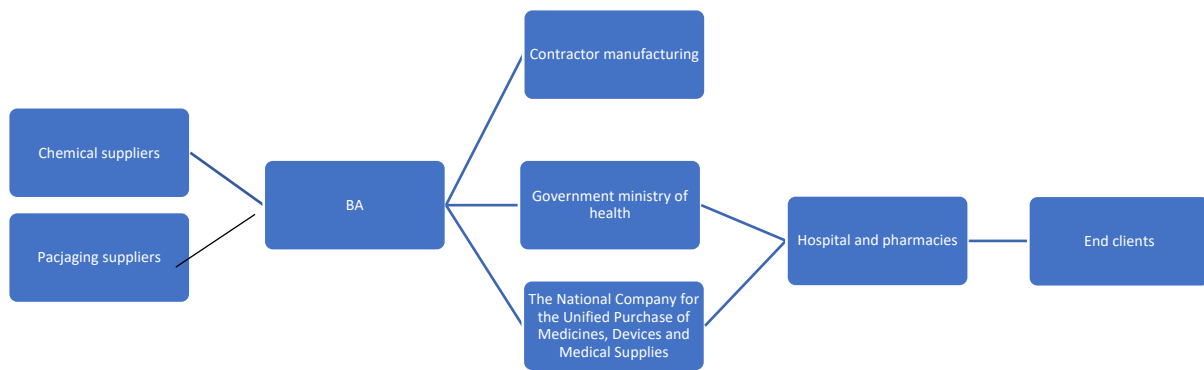
### **5.2.2.2 The Factory**

BA is based in Saudi Arabia and supplies pharmaceuticals to the Saudi healthcare sector. The firm creates a variety of high-quality generic and licenced pharmaceutical products. It has become the preferred manufacturing facility in Saudi Arabia for worldwide and regional companies in the healthcare industry. The firm has more than eight primary clients, with its pharmaceutical goods being supplied throughout the Middle East and beyond.

### **5.2.2.3 Supply-Chain Operations**

The customer, BA, is committed to the creation of high-quality medications and the execution of extraordinary contract-manufacturing services. Pharmaceutical products require very high standards of quality control. The quality standards and price ranges differ for each kind of raw material, depending on its grade. For this reason, a high level of collaboration is a prerequisite for the success of any pharmaceutical company, and BA is no exception. Thus, there is ample scope for OBA implementation in the field to facilitate collaboration with suppliers at every stage of the production process. BA receives the components essential for the creation of its pharmaceuticals from around 12 different suppliers which all are unrelated companies and not in-house.

CC runs five manufacturing sites across the Middle East, Africa, and South Asia, including in the United Arab Emirates, Saudi Arabia, Egypt, Oman, and Pakistan. CC caters to the demands of the world's highly regulated sectors of healthcare, pharmaceutical, and chemical, and others. This has made CC the partner of choice for the majority of the world's leading pharmaceutical and chemical companies. In the pharmaceutical sector, there is no room for mistakes, and this includes in the supply of pharmaceutical labels, in terms of both quality and service. Regional pharmaceutical industry leaders have come to depend on CC to fulfil their labelling requirements. CC can provide its clients with extra peace of mind by prioritising print accuracy and colour-matching. As CC's operations are wide-ranging and include many large customers, there is scope for OBA between BA and CC to ensure that the two companies' requirements are met at minimal cost. However, as CC has some large clients, it may be reluctant to share its costing details with BA, due to a fear that doing so could reveal information which is strategic in nature.



*Figure3 Case-2 Supply Chain*

#### **5.2.2.4 The Application of OBA**

BA has recently begun to embrace supply-chain tactics that are related to and in harmony with OBA, centred on a cost advantage and the creation of stable, cooperative relationships with its key suppliers and customers. In BA’s supply-chain network, all parties are expected to disclose their financial information and cost structures and collaborate, in order effectively to regulate their suppliers and customers’ costs. Although information sharing occurs through reciprocal relationships, the organisation has not yet enjoyed complete success with regard to implementing OBA processes throughout the whole supply-chain network.

### **5.3 Current Status and Trends of OBA in Saudi Arabia**

In Saudi Arabia, the use of open book accounting in supply chain management is not widely known, but some companies have started to implement it to improve their relationships with their suppliers and customers. As the finance manager at AV (the customer in Case 1) commented:

*We have been using open book accounting in our supply chain for several years now. Open book accounting has led to more collaborative relationships and better outcomes for everyone involved and we have seen significant improvements in our relationships with suppliers and in our overall supply chain performance.*

Case 2 has also started to adopt OBA but is in a relatively earlier stage, as the finance and accountant manager disclosed:

*We recognise that OBA is a valuable tool for improving our supply chain performance, but we are still in the early stages of adoption. It is a new concept for us, and we are taking our time to understand the benefits and challenges of implementing OBA.*

Saudi Arabia's Vision 2030 plan emphasises the importance of transparency and accountability in business practices, which could lead to the increased adoption of open book accounting in the future, which could encourage more companies to follow suit. As a result, they are attempting to understand new concepts such as OBA more clearly and are more willing to implement and reap its benefits, while remaining mindful that these benefits come with challenges. The purchasing manager in case 1 highlighted that OBA adoption brings significant culture challenges:

*We understand that OBA requires a significant cultural shift in how we conduct business, but we are committed to making it work.*

The following section analyses the factors and challenges related to OBA adoption and how Saudi Arabian supply chain companies are responding to these factors.

#### **5.4 Factors Influencing OBA Adoption in Saudi Arabia**

Despite the differences between the institutions in the two case studies, there are areas of convergence regarding OBA implementation and its consequences. This section will discuss the external and internal factors that influence the adoption of OBA in the supply chains and the challenges faced by the companies in implementing OBA procedures.

This research identified that, in the Saudi Arabian context, the concept of the adoption of OBA has been influenced by a host of external and internal factors. These include the effects of Covid-19 and the associated restrictions on communication; competition; government support and technology; a lack of regulation and standardised forms of information sharing; data security; fear of opportunism; employee competence; the effectiveness of the internal auditing departments; the inventory management strategy; dependence and power asymmetry; and trust. This section describes the research findings pertaining to each influencing factor, its impact on supply-chain maturity and any associated challenges, benefits, and other outcomes related to the application of OBA practices.

### 5.4.1 Effects of Covid-19 and Communication

Covid-19 caused havoc for the world's supply-chain operations, and Saudi Arabia was no exception. Due to the restrictions that influenced the internal operations of most organisations, the lockdown measures enacted during the Covid-19 epidemic affected the majority of institutions. Online conferences and meetings replaced in-person ones, and the communication and negotiating processes were digitised. Due to the pandemic, online meeting platforms and technologies were employed to reduce direct contact and maintain safety. However, corporations continued to manufacture and supply items in accordance with the contactless delivery parameters established in the hygiene protocols. Nonetheless, the need for social distancing created gaps in the supply-chain operations and sporadic order delays negatively affected the relationships within the supply chain. In this context, OBA has a potentially advantageous role to play in the management of supply-chain operations.

The findings in this section are derived from the interviews conducted for the case studies. The findings concerning the effects of Covid-19 and the restrictions on communication - and their impact on OBA-related operations - are presented below.

#### Case-1

AV (the customer) and SM (its supplier) faced difficulties. Covid-19 was spreading around the globe, and the lockdown had heavily affected businesses and caused major supply-chain disruptions. The Production Manager of AV remarked:

*We worked hard after curfew hours to keep production going, emphasising health and safety through good cleaning practices. Nevertheless, this situation led to supply-chain interruptions and associated manufacturing delays.*

Businesses were compelled to transfer their operations and meetings online to maintain communication with their stakeholders. Effective communication between the downstream consumers and suppliers at all levels of the supply-chain contributes to the development of trust and the provision of information and enhances performance. The two companies share a similar perspective about the need for effective communication to achieve OBA results and are both inclined to offer as much information as possible about their activities. The research findings suggest that contracts are granted to suppliers with whom the buyer has an established connection. The continual sharing of information enhances these processes by facilitating the

procurement choices and generating cost savings for both organisations. With extended contracts in place, the suppliers developed confidence in their partnerships with AV. This confidence then encouraged the vendors to divulge critical information.

This investigation found that the companies in the first case study were using several communication tactics and channels to achieve a variety of goals. For instance, the websites of the firms contain their product price lists and other cost information. Due to the social-distancing measures implemented in response to Covid-19, email was being utilised to connect with essential partners. In addition, online Zoom sessions were used to transfer information, allowing the supply-chain partners to analyse the content in real-time. All parties had to ensure the security of the communications and all exchanged data. As the Logistics Manager of AV explained:

*Due to the present (Covid-19) situation, the firm has linked its IT systems with its customers', enabling online data-sharing and visibility. The AV product development team collaborates with AV Tech, the organisation's technology hub to ensure that.*

The agreement to share this sort of information was mutual, as stated by the Sales and Marketing Manager of SM:

*There is lots of interaction with our customers. We have committed to providing solutions to aid their decision-making when choosing their preferred items during this hard time.*

It is noteworthy that, during the observation of AV company, prior to the pandemic, the on-site observations extended to exploring the methods used for communication among the team members, and the participants even demonstrated the functionality of the Open Book Accounting (OBA) system.

## **Case-2**

Despite BA's continued operations throughout the lockdown, disruptions in the supply-chain activity and occasional order delays harmed the firm's productivity. The Assistant of Production of BA commented:

*The pandemic and the shortage of the main production inputs reduced industrial production, and the supply chains were disrupted. The supply chain for the pharmaceutical sector is*



*fundamentally in danger. We were warned that patients could die if pharmaceutical supplies were delayed in getting to hospitals or pharmacies.*

In support of this view, Sales Manager of CC explained:

*Numerous businesses and industries all over the world have been severely affected by the coronavirus outbreak. Since we supply a pharmaceutical firm, which is in a sensitive position in this time, we frequently offer extra effort to ensure prompt delivery to our pharmaceutical clients.*

In contrast, the online sharing and exchange of information via OBA required a high degree of trust among the supply-chain players, while the partners have been reluctant to disclose information. The Finance and Accountant Manager of BA stated:

*Due to concerns over data privacy and trust, some supply-chain participants are hesitant to use this strategy. BA has spent money on monitoring during the pandemic to make sure that implementation is done properly. But the business has also seen a decline in confidence and an increase in expenses.*

The findings suggested that the pandemic has led many businesses to shift their focus from traditional accounting methods to more modern, transparent systems, such as OBA. Thus, the pandemic has had a positive effect on the adoption of OBA solutions by businesses worldwide.

The pandemic had a significant impact on supply-chain operations in Saudi Arabia. The lockdown measures created disruptions in the production and delivery processes, resulting in order delays and reduced productivity. To overcome these challenges, organisations adopted OBA practices, such as online communication platforms, for exchanging information between the partners, as well as monitoring systems to ensure compliance with the safety protocols. However, a lack of trust among the stakeholders can be an obstacle to successful implementation due to data-privacy concerns. Therefore, it is important that companies take steps towards building trust within their supply chains, providing secure-access control mechanisms to ensure data security, while permitting collaboration across different levels of the organisation's networked system.

### 5.4.2 Competition

Competition between firms fosters collaboration and transparency among the supply-chain participants, as each party is keen to ensure that it does not lose their existing customer base to its competitors. Thus, competition works as a catalyst for greater involvement with clients and suppliers, who share more details about their product costs, qualities, and other specifications. However, there is a risk of suppliers declining to share their information, with the goal of retaining a competitive advantage in the market. Business is highly influenced by information, and most companies prefer to keep their strategic information secret.

The research findings concerning competition and OBA-related operations are presented below for each case study.

#### Case-1

The increased rivalry amongst manufacturing companies placed AV's suppliers under pressure to reduce its prices. Cooperation and openness in the AV supply chain are vital in order to respond to pricing variations between competitors. Consequently, OBA grew in importance in AV's networks. The Purchasing Manager of AV highlighted this as follows:

*In moments of worry, all individuals tend to guarantee transparency, and this is possible with OBA.*

The Sales and Marketing Manager of SM suggested that OBA practices can flourish in a competitive business environment:

*When competition increases, the drive to reduce costs increases. This can be accomplished using OBA.*

#### Case-2

BA2 remarked that the suppliers' reluctance to disclose precise cost information was because of the strength of the business competition. This view was supported by the Sales Manager of CC, who stated:

*I worry that my company's competitors might learn the information.*

The Assistant Finance and Accountant of BA further explained the problems associated with the absence of trust with regard to OBA implementation:

*Our organisation is still struggling to realise and fully apply OBA-related practices throughout the supply chain. The main reason for this is the suppliers' concerns about losses in the competitive market and the misuse of exchanging knowledge, which undermines mutual trust and produces conflict.*

The Sales manager at BA made a similar statement:

*BA used to be a family company in the past, the company inherited the feeling of keeping the business and protecting it from competitors to its employees.*

The pharmaceutical industry and its suppliers consider OBA techniques to be dangerous, and most prefer short-term partnerships due to the competition and uncertainties prevailing in the market. Competitiveness means that, to retain their suppliers and customers, enterprises must provide them with more value. OBA is a method by which competing companies can develop methods for reducing costs, boosting transparency, and raising stakeholder satisfaction.

Competition among companies encourages collaboration and transparency between the supply-chain participants, as they strive to maintain their respective customer base. However, some suppliers may be reluctant to share information due to fears about competitors gaining access to it. Despite these challenges, however, businesses should continue to strive for greater openness and collaboration with their partners to achieve sustainable success in today's competitive market landscape.

#### **5.4.3 Lack of Regulation and a Standardised Form of Information Sharing**

The regulatory frameworks provide institutions with guiding principles, direction, and standards. Supply chains are global in nature, but there are variations in the regulatory frameworks of different countries. As OBA is a relatively new concept and more focused on relationships among the supply-chain participants, there does not exist a universally applied regulation specifically for "Open Book Accounting" in most countries.

The research findings regarding the lack of regulation and standardised information-sharing in regard to OBA-related operations are presented below for each of the case studies.

## Case-1

AV is familiar with OBA practices, which explains their use of standardised methods. The firm provides information to its consumers using standardised formats and expects the same standardisation from its suppliers. The supply-chain partners use a defined mechanism for information exchange. Opportunities for cost reduction have been documented in an “accomplishment goal plan”, which is delivered to each network member. This evidences the firms’ views on their agreement to OBA practices. The accountant of AV explained that these commitments are vital:

*Respecting previous commitments is essential for keeping strong connections and mutual trust. The documentation used to communicate information under OBA depends on the OBA agreements between suppliers and purchasers.*

Although AV is advanced in its use of OBA, there is an absence of government guidelines and standard forms on information sharing. The Finance Manager of AV stated:

*While there is increasing agreement that open-book should be used, there is frequently confusion and debate over how and why they should be conducted. This is because organisations generally lack guidance on what open-book should achieve, how to validate and analyse the information received, as well as how to really utilise open-book information.*

The Logistic Manager of AV agreed with this view:

*A task force should be established by the government to investigate the best way of creating a universal standard for open-book data and supply-chain practices.*

## Case-2

The second case study also identified a lack of standards regarding the use of OBA. The participants in the supply chain lacked clear guidelines and agreements on how to execute open-book procedures, which explained their hesitation. The Finance and Accountant Manager of BA commented:

*We still need to fully realise and apply OBA throughout the entire supply chain.*

The Accountant of CC shed more light on this topic:

*The government needs to be more specific about how to analyse, display, and protect suppliers' costs and earnings.*

This lack of regulated standardised processes and procedures means that each institution adopts OBA in the way that best suits its own circumstances. For this reason, a pre-planned process is needed, as highlighted by the Assistant Finance and Accountant of BA:

*We have found it necessary to set-up a common way of applying open-book principles and to create standard reports for offering accounting information.*

BA has no standardised form for the implementation of OBA nor the exchange of information between parties throughout the supply chain. The supply-chain participants lack clear standards or an agreement about how to carry out the open-book procedures, which explains the suppliers' hesitation about using OBA. This view was shared by the Assistant Production of BA:

*The company is trying to put in place a standardised approach to information sharing among partners, but in the meantime, some suppliers are reluctant to use the OBA approach when there is no standard format for information sharing, which is supposed to be mutually agreed upon between the parties.*

Due to the general absence of frameworks for using OBA in the supply chain in Saudi Arabia, there is confusion and disagreement around how and why OBA should be administered. This explains why both case-study organisations lack government direction and regulation.

It is evident that the lack of a regulatory frameworks and standardised forms for information sharing prevented these case-study organisations from fully realising their potential. This highlights the need for governments to create universal standards for open-book data and supply-chain practices to ensure smoother cross-border collaboration and transactions. This would also facilitate communication between the parties, thus promoting cost-reduction opportunities and strong relationships with suppliers.

#### **5.4.4 Data Security**

Privacy and data-security issues are key considerations with regard to OBA practices. All publicly listed companies disclose their financial and non-financial data to the public. Thus, with regard to OBA, "personal data" need to be defined and specified, and data-security laws

preventing the disclosure of that private data by the receiving party need to be passed. This would build confidence in OBA. The data-protection principles - such as lawfulness, fairness and transparency, purpose limitation, and data minimisation - are vital in the supply chain. Strategic data-disclosure policies among the sharing companies have been key determinants in this respect. Online security is also a priority in regard to OBA data-sharing by the supply-chain players.

The research findings in relation to data security and OBA-related operations are presented below for each of the case studies.

### **Case-1**

Only authorised personnel have access to the companies' data, which is stored securely. All parties must commit to doing their utmost to ensure that their employees, agents, and professional advisers keep this information confidential, and no party may misuse the information or disclose it to a third-party. AV has expressed a desire to implement OBA and is willing to collaborate with its partners to ensure that the data are secured and used only for the specified reasons.

The Finance Manager of AV explained the importance of this commitment:

*To implement OBA, we agreed that all parties would ensure the security of all exchanged data.*

The Production Manager of AV highlighted the importance of the sharing company having a strategic data-disclosure policy:

*I can confirm a few things, including the correct storage of the company's data and the provision of access to authorised individuals only - and that the data are used to manage and save costs in the production process.*

The Purchasing Manager of AV also emphasised the role of cyber security, the commitment made by the parties, and their obligation to ensure data security:

*Both parties are responsible for any breaches or for negligent sharing of information, lapses or omissions, as well as all obligations, charges, expenditures, damages, and losses incurred.*

The Production Manager of AV stressed that the firm has considered its employees' ability to use OBA procedures and maintain confidentiality:

*Any employee who works to provide the services but who the manager thinks is negatively affecting the delivery of the services will be taken off the job immediately.*

In SM, the Accountant and Finance Manager mentioned the company's policy for protecting strategic data:

*We train our staff to execute and use OBA, we provide authorised and limited access only to related personnel.*

## **Case-2**

BA and its suppliers are anxious about data security, since neither formal nor informal agreements provide any guarantees. The Assistant Finance and Accountant of BA remarked:

*The company's suppliers are reluctant to participate in this information-sharing plan. The main causes of this are worries about a lack of secrecy and incorrect use of shared information, both of which erode trust.*

The Purchasing Manager of BA repeated the concern about supplier confidence regarding data safety by stating:

*Concerns have been raised about a decline in supplier confidence and information misuse by either party. This system was only recently established, so suppliers are resisting using it, which makes the trust issues that come with sharing financial information worse.*

He also highlighted a statement made by one of the company's suppliers that:

*Our company runs a considerable amount of risk by using OBA.*

Local and international legal perspectives on privacy and data security related to OBA are a very important factor in the dissemination of OBA practices. This research has explored what is required to ensure data security when using OBA techniques. These requirements concern the timing of the information dissemination and the implementation of safeguards to prevent the disclosure of organisational secrets. While it would be impossible to foresee all potential hazards, the case study institutions have demonstrated a true understanding of the data-security standards and the issues that may arise when exchanging sensitive information with the supply-chain partners.

### 5.4.5 Fear of Opportunism

Opportunism is a threat that exists in the supply chain due to factors related to both the market and the outside environment. In the OBA context, concerns over opportunism are related primarily to how the shared data can be used. The companies in the two case-study supply chains are not themselves immune from being exploited due to opportunistic tendencies, and so have adopted a cautious approach to opening their books. This strategy entails striking a balance between the exposure to hazards associated with over-sharing and the risk of opportunity costs arising associated with under-sharing.

The research findings on the fear of opportunism and OBA-related operations are presented below for each of the case studies.

#### Case-1

In some situations, information sharing may also lead to trust issues, enabling one side to behave opportunistically, thus increasing the monitoring costs required to ensure the proper handling and protection of data. AV has exerted considerable efforts, along with its partners, to handle these challenges and establish a high degree of trust and cooperation. The Production Manager of AV remarked:

*OBA obviously brings transaction risks and increases monitoring costs, but our objective is to create better partner collaboration and maximise the favourable outcomes of adopting OBA.*

As the majority of the suppliers are members of the AV Group, these trust issues and other risks have been reduced, thereby lowering the monitoring costs. This shared membership has made it easier to collect this type of information from the businesses. Where practicable, moreover, the company often replaces unnecessary vendors with AV Group vendors. The Logistic Manager of AV commented:

*The bulk of my company's suppliers belong to the AV Group, which reduces transaction risks and opportunistic behaviour.*

As a result, the trust issues, opportunism, and other risks have been reduced, thus decreasing the monitoring costs.



## Case-2

BA continues to face difficulties regarding implementing OBA due to concerns about the abuse of information, which is creating trust issues across the supply chain. The Purchasing Manager of BA explained:

*Due to concerns about data privacy and trust, some supply-chain participants are hesitant to use this strategy.*

The Finance and Accountant Manager repeated this concern about supplier confidence:

*It is a newly implemented system, so suppliers resisted using it because of fear issues associated with the misuse of exchanging financial information.*

The sales manager of CC was also hesitant about providing technical and procedural knowledge to certain customers, claiming that he felt reluctant to discuss some technical aspects of his manufacturing process with his clients. These technical aspects were associated with the modifications made to CC's equipment. He explained:

*We have equipment that we do not display to everybody. We used to accompany visitors to the plant until they began taking photographs. We must consider our future and safeguard ourselves.*

Organisations pay close attention to the costs of guaranteeing the correct usage and security of data. It is difficult to execute effective OBA, unless the stakeholders agree that OBA should be used to minimise inefficiencies. The cost of monitoring that BA has incurred may be a factor that influences its deployment of OBA, thus having consequences for the organisation as a whole. The Assistant Finance and Accountant of BA suggested:

*We should not, in my opinion, avoid OBA solely because of its costs. Future organisational growth will need management to make some critical and risky decisions.*

In contrast, the Accountant of CC adopted another perspective:

*The monitoring costs required for successful process implementation could outweigh the realised cost-reduction opportunities.*

These findings suggest that a fear of opportunism can be a major obstacle to the adoption of OBA. It is evident that both of the case-study companies are aware of the potential risks associated with opportunism in OBA-related operations. Both organisations have adopted a

cautious approach to opening their books out of a concern for opportunistic behaviour on the part of suppliers and customers alike. While AV has implemented strategies to reduce trust issues and other risks by including most of its suppliers as members of its group, BA remains anxious due to a lack of guarantees or pledges from its partners. Both firms understand that there must be a balance between the exposure hazards associated with over-sharing data and the need to avoid the opportunity costs associated with under-sharing.

#### **5.4.6 Government Support and Adequate Techniques**

In recent years, there has been an increase in the assistance that the Saudi Arabian government offers to the industrial sector. OBA has become a requirement, with government assistance enabling companies to expand and enhance their output while also cutting costs. This assistance is also allowing organisations to develop their technology and cost-accounting systems, hence expanding their ability to employ OBA.

The research findings regarding the government support and techniques related to OBA operations are presented below for each of the case studies.

##### **Case-1**

The government has provided both direct and indirect assistance to AV's industry, offering inputs to industries deemed essential to the nation's revenue-generating operations. The industrial sector plays a crucial role in Saudi Arabia's economic development. Thus, the government is heavily encouraging industrialisation by providing financial and administrative assistance to the manufacturing sector. The Sales Manager of AV explained:

*The Kingdom has provided limitless support to the industrial sector, and AV is committed to continuing to increase our investments locally in Saudi Arabia and playing our part in fulfilling the 2030 Vision.*

With this government assistance, the firm intends to continue developing and enhancing its competitiveness and making use of advantageous technologies, such as those that allow OBA practices. The Production Manager of AV stated:

*The development of the industrial sector is supported by the government - and to achieve this development, the sector is relying on the implementation of new techniques and measures, increasing production and quality, while reducing expenses.*

In addition, this funding is helping AV's network of firms to create essential technology. The availability of a complicated cost-accounting system that combines a vast array of cost data and communicates all of the pertinent information could also influence OBA adoption in AV. The Finance Manager of AV commented:

*The majority of our involved enterprises have started to improve their cost-accounting systems.*

The Accountant and Finance Manager of SM confirmed this as follows:

*For the release of management accounting information through OBA, dependable and well-developed cost-accounting systems are required.*

The Production Manager of AV provided further support for this claim:

*The firm is able to link its IT systems with its customers', enabling online data sharing and visibility. The AV product development team collaborates with AV Tech, the organisation's technology hub to ensure that.*

## **Case-2**

In contrast, although there is no question that the pharmaceutical industry is equally important to the government and its beneficiaries, BA faces substantial challenges regarding its introduction and use of OBA. This is due to the unique nature of the pharmaceutical company's activities, including research and development that spans many years and various locations. As a result, the accounting systems of the network partners would be insufficient to capture all of the elements. In the absence of certified inter-organisational information technology, it may prove impossible to provide accounting information through open-book processes.

BA has an accounting system which it updates, and the firm provides training on these systems for its staff. The Finance and Accountant Manager stated:

*BA is working to provide an advanced accounting system and approach for partners to communicate with one another and receive information. As OBA is still in the early stages, we are encountering specific difficulties in introducing and implementing this strategy.*

However, not all suppliers have been able to use this accounting system to its full potential. The Assistant Production of BA explained:

*Some suppliers lack the proper expertise and funds to introduce OBA, which might cause tension and conflict between the company and suppliers.*

A sophisticated cost-accounting system that incorporates diverse cost data and communicates all of the relevant information is crucial for the implementation of effective OBA. In contrast, insufficient accounting systems are a significant barrier to this, hindering certain BA providers. The unwillingness of certain suppliers to adapt their processes to support the smooth flow of information is cited as a serious impediment here. As a result, these firms have failed to adopt OBA and disclose their financial information to BA.

As the Purchasing Manager of BA explained:

*OBA has not yet been fully adopted in the organisation because some suppliers are unable to provide accurate cost information, and the lack of cooperation in building the appropriate accounting systems means that they are not able to adopt new management approaches and improve their systems.*

The Saudi government plays a major role in promoting OBA, providing incentives and research and development activities aimed at increasing the awareness of this system amongst the stakeholders across all sectors of society. The government assistance for the industrial sector has enabled firms to expand and enhance their output, while at the same time cutting costs. This has helped organisations to develop the technology and cost-accounting systems needed to employ OBA. However, challenges remain, including insufficient accounting systems and a lack of cooperation from suppliers.

#### **5.4.7 Employee Competence**

OBA adoption requires the involvement of the employees, who must possess the necessary skills and ability to implement the practices and understand the principles.

The research findings concerning employee competence regarding OBA-related operations are presented below for each case study.

## Case-1

The AV managers reported that the company was focused on developing the employees' OBA-related skills to help the workers to overcome the obstacles as they arise in the process of opening up the books.

The Production Manager of AV stated that the firm was concerned about the employees' ability to follow OBA procedures:

*The company makes sure that all of its employees who work on providing the services are well-trained and well-supervised and meet all lifelong learning development and training requirements.*

The purchasing manager of AV also identified language differences as an important aspect:

*It's true that we are one of the Av's groups around the world, and we are expected to speak English, but we understand that some of our employees may face challenges in transitioning to English quickly. That's why we're committed to using English during our daily activities and providing training and courses to help our employees improve their English skills.*

## Case-2

In contrast, language differences related to the production of pharma items have hindered BA and its partners from communicating smoothly. The production manager indicated that:

*As a pharma company, we deal with a lot of medical terminologies that our employees are familiar with like chemical components and materials. However, when it comes to communicating between suppliers and customers who speak different languages, we've identified a need for language training to help our employees who are involved in the supply chain process to overcome this barrier in general."*

The firm is working diligently to maximise the advantages of OBA and obtain a deeper knowledge of the concept's benefits by designing, adopting, and implementing training and development programmes throughout the organisation. The Production Manager of BA explained:

*We are working hard to maximise the benefits of OBA by adopting and applying training and development programmes throughout the organisation and the network to implement the OBA concepts.*

As OBA is still in its very early stages in the organisation, the stakeholders and supply-chain members still lack a deep knowledge of its advantages. Time and money are required if the transformation of the accounting systems is to achieve OBA compliance. As the Assistant Finance and Accountant of BA emphasised:

*Our introduction to OBA was hindered by a lack of knowledge and expertise on the part of our suppliers, who did not know how to use contemporary accounting and management approaches or how to ensure the system could gather the required data.*

CC is seeking to maximise the benefits of OBA by training its employees. The Sales Manager stated:

*As we train our staff to execute and use the process, we are aiming to maximise its benefits and provide only authorised and limited access to personnel.*

The sales and market manager of SM has mentioned that:

*As a local company that has traditionally used Arabic, we recognise the need to adapt to the changing business landscape and use English more frequently. It's important that all our employees can communicate effectively in English to ensure we can conduct business with other companies around the world.*

The employees (especially accountants) are of paramount importance regarding OBA adoption, and companies with more knowledgeable staff tend to enjoy greater success. The process requires the involvement of workers, who must possess the necessary skills and ability. The case-study firms described their efforts to train their workers for this purpose, with AV emphasising its commitment to lifelong learning and training for all personnel involved in providing services. BA has also been working hard to maximise the benefits of OBA by designing, adopting, and implementing training programmes throughout the organisation.

#### 5.4.8 An Effective Internal Auditing Department

Typically, the internal auditing department ensures that the employees are trained in techniques such as OBA and monitors the production processes and financial information. The findings about the internal auditing in regard to OBA-related operations are presented below for each of the case studies.

##### Case-1

The internal auditing department of AV is competent and provides substantial supervision, performing its duties in accordance with the OBA principles. As the department is competent and trustworthy, it follows that their partners are more ready to trade data and engage in OBA. Throughout the manufacturing process, audits are undertaken to monitor both the financial and non-financial data. This ensures the firm's capacity to limit its expenditure while maintaining quality and using its resources appropriately.

The internal auditing department of AV is tasked with ensuring that the employees receive sufficient training and are competent to perform their duties. Its supervision operations are rigorous. The Sales Manager of AV highlighted that the firm's customers are confident about the credibility of the information they receive:

*Our customers rarely desire to audit our records during production. If this happens, it is probably an indication that their confidence in our internal auditing activities has broken down.*

The company typically undertakes investigations, controls, and audits to guarantee its production capability and cost-effectiveness. The Production Manager explained:

*In AV, audits are conducted throughout the production process to monitor financial data.*

This enables the partners to apply OBA without hesitation, and also has a positive impact on their confidence in each other.

Although AV has a sufficient internal auditing department, the production manager has concerns about the regulation and qualifications regarding OBA:

*We are trying our best to keep our internal auditing department effective but there is still a lack of government regulation and requirement of employees involved in the internal auditing process of auditing related to OBA in particular.*

## **Case-2**

BA faces a number of challenges regarding the implementation of effective internal audits due to the complexity of its production, a lack of staff trained in OBA techniques and experienced in monitoring this kind of production, and an inadequate understanding among the senior management about their responsibility for overseeing the activities. The Production Manager at BA commented:

*Our company ensure that it has its internal investigation to fully ensure that the pharma products have been achieving the standards and quality, but what I mean by lack of effective auditing, I mean those related to finance staff to share financial information through the network.*

These challenges explain why the firm is struggling to perform its duties in accordance with OBA, and it follows that the partners are not yet ready to trade data with it and apply OBA. The Finance and Accountant Manager of BA stated:

*The challenges to OBA adoption might be attributable to the absence of an internal auditing department in our network for ensuring the accuracy of the data shared.*

His assistant added:

*to have an effective internal auditing department needs a lot of attention from the head management of BA, In BA we need to provide our related employees with all needed courses and training that are necessary for the internal auditing process.*

An effective internal auditing department plays a key role in the successful implementation of OBA. Therefore, companies should ensure that their internal audit departments are competent and trustworthy so that they can gain the confidence of their partners regarding data sharing and the adoption of OBA principles. The absence of such a department can lead to a lack of trust among the partners.



#### **5.4.9 Dependency and Power Asymmetry**

The power balances between the supply-chain stakeholders in the two case-study organisations were found to influence OBA adoption to varying degrees. The research findings regarding dependency and power asymmetry in relation to OBA-related operations are presented below for each of the case studies.

##### **Case-1**

The majority of AV's suppliers have become essential strategic partners in the AV Group. This harmonious power balance between the parties has decreased their dependency and thus their fear of losing the partnership's advantages. Therefore, the OBA deployment has been driven by the supply-chain partners' desire to embrace the practice and obtain the advantages of the partnership.

As the majority of suppliers belong to the AV Group, it is easier to collect the information from their businesses. The Purchasing Manager of AV commented:

*The majority of my company's suppliers are from the AV Group, which minimises transaction risks and opportunistic behaviour and increases the desire to cooperate and obtain the benefits of sharing information.*

##### **Case-2**

In contrast, the pharmaceutical business has a great influence over its suppliers, and uses this power to persuade them to open their books. This is one example of how power can be used to implement OBA and how negative consequences can result from its implementation; namely, some of BA's suppliers disclose their information solely due to the company's dominant position, rather than because they believe in the approach's merits. The Purchasing Manager of BA stated:

*Many suppliers have chosen to use OBA because they heavily rely on BA.*

This indicates that the open-book conversations are not necessarily formal and based, not on mutual trust, but rather on a sense that the practice is essential. According to the Assistant Production of BA:

*Due to the company's dominant position and their faith in the advantages, many suppliers are willing to share this information just to avoid losing us as a main customer and not because they have faith in OBA's benefits.*

BA has a strong positioning advantage over its suppliers and exerts a huge influence over them, convincing them to embrace OBA for BA's own benefit. Because a firm fears losing its consumers, suppliers are more inclined to collaborate on open books if there are fewer customers in a sector.

The Sales Manager of CC explained:

*It takes a lot of work and money to change a partner. Reliance on the partner is reduced when there is a backup partner organisation.*

In conclusion, the findings of this study suggest that dependence and power asymmetry play a significant role in influencing the adoption of OBA practices. In Case-1, AV Group's harmonisation of power among its stakeholders has decreased the degree of supplier dependence, resulting in an increased willingness to embrace OBA for mutual benefit. On the other hand, Case-2 reveals how BA has leveraged its dominant position to persuade its suppliers to adopt OBA for its own advantage. Thus, it appears that understanding these dynamics can help organisations to assess more effectively their supply-chain partners' readiness to embrace such operations, consequently improving their overall performance outcomes.

#### **5.4.10 Inventory Management Strategy**

Accounting procedures are related to the inventory-management methods, as both pertain to an organisation's monitoring of items to guarantee that it has the right products in the right place and at the right time. OBA helps an organisation to make judgements on stock levels and the inventory. Inventory management ultimately depends, in part, on OBA.

The research findings concerning the inventory-management strategies and OBA-related operations are presented below for each of the case studies.

## Case-1

The tour of AV's warehouse offered crucial insights into their inventory management strategies and the direct impact of these on the application of OBA. In the course of the observation of AV Company, notably, it was found that the company shares comprehensive data, including inventory levels, production schedules, shipping timelines, and demand forecasts, with its partners and suppliers.

AV depends on three kinds of manufacturing material (A, B, and C). Its inventory-management method identifies the ideal stock levels of items A and B, whereas product C is acquired only when required for production. Information-sharing helps the firm to determine its raw-material and minimum-inventory needs, particularly regarding the purchase of product C. OBA helps the organisation to make good inventory- and logistics-management choices. The Production Manager of AV explained:

*Inventory management supervises the import and export of products, as well as the inventory, and ensures readiness according to the needs of clients and production. as There are three types of material (A, B, and C), of which A and B are procured and kept in advance. However, C is only obtained as it is required for manufacturing, When the partners open their books, this assists us in making inventory decisions.*

## Case-2

In contrast, the pharmaceutical company depends on an inventory-management technique that restricts the predictability of stockpiles, as it cannot anticipate the input demand or production schedules. Thus, there is less need for information-sharing in the inventory-management strategy. The Assistant Production of AV stated:

*The supply chain for the pharmaceutical sector must never be in danger. We cannot predict the demand of our product, so we always keep enough material to continue production.*

Inventory-management strategies can help to ensure that OBA is successful by providing visibility regarding when and how resources are being used by the organisation. BA does not benefit from OBA in this respect, however, as the Purchasing Manager indicated:

*the pharma sector is critical, and we cannot predict the orders, so we have to obtain enough necessary inventory to cover any surprise order, like what happens with COVID-19.*

The Production Manager added that:

*our Islamic commitment and mercy, which is, in my opinion, supposed to not be mixed with the business, but we have the feeling that people's lives are reliance on us and we have to be ready to produce and medical product that may save their lives.*

#### **5.4.11 Level of Trust**

Trust between business stakeholders is critical for successful OBA collaboration because, without trust, there is no willingness to work together or share resources and information. Trust is therefore a major obstacle to firms sharing data in accordance according to OBA principles.

The research findings regarding trust and OBA-related operations are presented below for each of the case studies.

#### **Case-1**

AV displays a greater commitment to OBA by ensuring the openness and accessibility of the information across its supply chain, resulting in a high level of confidence and concerted efforts to adopt OBA. As its clients began to participate in the early phases of design and production, the level of openness increased further. These modifications strengthened the interaction between the teams on both sides and nurtured trust.

AV is interested in sharing information with its suppliers and clients. For instance, the firm's managers noted that it was the usual procedure to invite suppliers on facility tours, during which the complete manufacturing process would be demonstrated. The Production Manager of AV emphasised:

*The interaction with our suppliers and customers is comprehensive. We allow trusted partners to enter the factory. We end up influencing them on things.*

This continual sharing of information enhances the process by facilitating the procurement choices and generating cost savings for all organisations. The Purchasing Manager of AV explained:

*When an industrial client contacts AV with specific product design, quality, and cost criteria, we analyse all the requirements and develop a costing strategy. we then request that the*

*suppliers perform the same study. The plans are then compared to the specifications provided by the consumer. If there is a mismatch of any kind, AV and its suppliers discuss how this can be resolved. If this is not the case, the consumer is notified.*

AV displays its commitment to the practice by ensuring the openness and accessibility of information across the supply chain, resulting in a high level of confidence and concerted efforts to adopt OBA. The production Manager of AV commented:

*The principles of OBA call for a high degree of transparency when seen in a broader context. All documents and site visits are available for review and are made available to relevant parties. This is important for developing trust because it gives partners greater assurance and increases their sense of honesty.*

AV's interest in OBA is growing, and it has simplified its deployment. The firm takes the stance that long-term connections encourage mutual trust, increase the dissemination of information, and become integral to the accounting procedures. AV's long-term commitment to its partners is crucial in order for OBA to flourish. The Purchasing Manager of AV remarked:

*A long-term relationship can contribute to the growth of mutual trust between the participating parties, and the spread of information strengthens and becomes more regular, thereby simplifying the implementation of OBA processes.*

## **Case-2**

In contrast, the pharmaceutical industry is struggling to implement OBA due to concerns about the abuse of information, which is creating trust issues throughout the supply chain.

According to the Assistant Finance and Accountant of BA:

*Lack of trust was one of the main barriers preventing companies from exchanging data.*

In the context of the pharmaceutical industry, the relationship can be conceptualised in BA as a dualism (a period of serial reliance). During a period of serial reliance between a drug business and its suppliers, only a small quantity of accounting information is shared, as the suppliers may be worried that the opportunistic use of this information would lead to changes in the pricing strategy. While BA does not disclose its cost information to its suppliers, it does require them to provide cost information to justify occasional price increases (rather than to

find opportunities for cost reduction). This information exchange plays a significant role in establishing the trust between BA and its suppliers. The Purchasing Manager of BA stated:

*Suppliers will only share accounting information with customers if they have faith that the information will not be used against them.*

The sales Manager of CC further explained the problem of the absence of trust related to OBA implementation:

*Our organisation is still struggling to realise and fully apply OBA throughout the supply chain. The main reason for this is the concern about the misuse of shared knowledge, which undermines mutual trust and produces conflict.*

The pharmaceutical industry and its suppliers lack trust and desire short-term partnerships. They consider OBA techniques and long-term relationships to be dangerous. This leads to partnerships with less stability, and the chances of applying OBA decrease. The accountant of CC explained that the connections in BA are short-term:

*We understand that, in short-lived collaborations, it is risky to open our books.*

Without trust, there will be no willingness to work together or share resources and information.

### **5.5 Supply-Chain Maturity: Lifecycle**

The research findings on the inter-organisational relationship lifecycle suggest that the development of successful relationships between organisations is a process, rather than an event. Organisations with greater inter-organisational relationship maturity are more likely to manage change effectively, due to their ability to leverage relationships across multiple stakeholders for mutual benefit. To improve inter-organisational relationships, there should be a focus on developing trust between the organisations through open communication channels (such as regular meetings or workshops); building strong networks among the key players within the organisation; and establishing clear roles, responsibilities, and expectations for all parties. Thus, a highly mature supply chain tends to be more collaborative and conducive to OBA practices, whereas a less mature one places constraints on collaboration due to issues of trust that inhibit the participants from sharing sensitive information.

A critical view of the data from the case-study companies revealed that the level of supply-chain maturity of their relationships varied.

### 5.5.1 Case Study 1

AV has developed two kinds of maturity with its suppliers: reciprocal maturity and a mutual dependence phase. By working more closely with its suppliers, AV sought to capitalise on their knowledge and encourage their participation during the early design phases. The firm limited its number of suppliers and engaged only with those chosen suppliers whose management it was certain possessed the drive and skills necessary to create a productive partnership. The suppliers and customers exchanged information, and the relationships became more collaborative and trusting in nature (i.e., reciprocal maturity). According to the Purchasing Manager of AV:

*Establishing relationships with favoured suppliers necessitates increased information exchange and joint efforts to produce mutual advantages.*

Before choosing their suppliers, AV began conducting analyses to gather information about their technological capabilities and access to the required materials, together with the associated risks.

As the Production Manager of AV commented:

*The supplier strategy is something we say we want from the supplier and they say they want from the customer (AV), then we agree on a common vision for the next 10 years.*

Furthermore, where practicable, the company replaces unnecessary vendors with AV Group vendors. The majority of suppliers belong to the AV Group, which ensures cooperation. As the emphasis shifted to the formation of a partnership and the management of the collaborative relationship, the trust issues and other risks were reduced, which indicates a “mutual dependence”. The suppliers’ membership of the AV Group makes it easier to collect information. The parties share the same interests and are loyal to one another, so make joint efforts to maximise their mutual benefits. The Logistic Manager of AV commented:

*The bulk of my company’s suppliers belong to the AV Group, and standardised collaboration and well-established performance metrics are in place to govern the supply chain, which increases the willingness to reduce transaction risk and opportunistic behaviour.*

AV and its supply-chain network have collaborated to develop technology and systems to facilitate the flow of related information, which demonstrates that a high level of collaboration and cooperation exists between the members. The Finance Manager of AV stated:

*The majority of our enterprises have improved their cost-accounting systems.*

The Production Manager of AV commented:

*The firm is able to link its IT systems with its customers and suppliers', enabling online data sharing and visibility.*

The AV technology team is responsible for development and observations. The Accountant of AV explained:

*We have a separate team for working on this activity, and their primary role is to monitor this data and update the higher management.*

This technological advancement has enhanced the communication between the members. AV enjoys effective communication with its supply-chain members, thus enhancing supply-chain maturity. The information exchange between AV and its suppliers is multi-lateral, as the information is not selective. Similarly, the information exchange between AV and its customers is also multi-lateral. According to the Production Manager of AV:

*If a potential cost-reduction opportunity is identified by a supply chain member, this is communicated to the reps of all members. These opportunities are then considered, with evaluations of the cost-management opportunities - individually and collectively at the supply-chain level.*

The presence of a standardised OBA format for sharing information has embedded a spirit of cooperation and trust, flowing in both directions. The suppliers and customers are both participating in this information-sharing mechanism, thereby increasing the supply-chain maturity of the companies. The Accountant of AV indicated:

*We have capitalised on our OBA forms, with every joint decision conveyed to suppliers and customers.*

The internal auditing department of AV observes the employees, mechanisms, operations, and costs, which creates the trust needed to engage in this mature relationship and the ability to share information. The Production Manager explained



*In AV, audits are conducted throughout the production process and to monitor financial data as well.*

AV has implemented various measures to ensure that the information disclosed is utilised for the intended purpose. The Finance Manager of AV stated:

*For this purpose, access to information is controlled and stored using encryption, firewalls, and passwords. Furthermore, the information is shared only with the concerned individuals to ensure the safety of the data.*

The mature, cooperative relationship between AV and its network and their joint targets has created a power symmetry between all parties, and there is no longer any fear of losing a supplier or of either party behaving opportunistically. This makes the partners more willing to engage in OBA practices to maintain the strength of the relationship. The Logistic Manager of AV stated:

*We have made it our goal to foster cooperation between partners and to maximise the positive effects of implementing OBA.*

The mature relationships in the AV network help the firm to stay competitive by collaborating to ensure a high level of productivity, at lower cost, and on time. The Sales and Marketing Manager of SM commented:

*When competition increases, the drive to reduce costs increases. This is accomplished by OBA.*

The high level of relationship maturity between the parties makes them more willing to share information, and then conduct an inventory strategy and estimate the requirements regarding the materials and production. The Purchasing Manager of VA stated:

*The inventory management supervises the import/export of products, as well as the inventory, and ensures that the inventory is able to meet the needs of clients and production.*

The high level of trust in AV's networks encourages the parties to share information, visit the factories, exchange knowledge and benefits, and collaborate to achieve joint targets. According to the Production Manager of AV:

*All documents and site visits are available for review and are made available to relevant parties. This is important for developing trust because it gives partners greater assurances and increases their sense of the firm's honesty.*

The following statement by the Production Manager describes the trust and mature relationships between AV and its network:

*We have never had experience of a customer wanting to audit our records during production. This is probably an indication of our faith in our joint efforts and targets.*

He also describes OBA in this level of maturity and collaboration by saying that:

*OBA can be better termed as the process of forming good business relationships among all the associated parties.*

This maturity has encouraged the members to build long-term relationships, which has increased the degree of cooperation and information sharing. The Purchasing Manager of AV stated:

*We build on and invest in long-term partnerships... A long-term relationship can contribute to the growth of mutual trust between the parties, the information sharing increases and becomes more regular, thereby simplifying the OBA processes.*

### **5.5.2 Case Study 2**

The relationship may be conceptualised as being in a “serial dependency” phase. BA has entered into more collaborative partnerships, identifying and encouraging its suppliers to commit to partnerships by investing in the requisite production capacity and managerial capabilities. According to the Finance and Accountant Manager of BA:

*The company has started implementing OBA practices on the basis of forming cooperative and stable relationships with their major customers and suppliers, although the company has not yet fully implemented OBA practices across the supply-chain network.*

During the period of serial reliance, only a small quantity of accounting information is shared. Thus, BA and its suppliers are not yet working in collaboration mode. The Purchasing Manager of BA stated:

*We are trying to convince our suppliers of the benefits of the process, but there still are issues of trust and power asymmetry.*

BA has power over its suppliers due to its dominant position and their dependence on it. BA can thus require its suppliers to open their books, and the suppliers will do so to avoid losing

an important customer. They do not do so because they desire to share this information, which explains the relative immaturity of BA's supply chain. The Assistant Production of BA stated:

*The company has strong influence over some of the suppliers, which might have caused them to disclose their information - rather than them disclosing it with discretion and in a context of mutual trust. This might affect the relationships between the company and its suppliers and customers.*

The relative lack of sophistication of its suppliers' systems and accounting system are two factors that have prevented BA from building enabling relationships with its suppliers. The Finance and Accountant Manager of BA commented:

*Our company is in the initial stages of implementing OBA activities in the supply chain. the supplier and buyer are less focused on setting up and developing the systems.*

Some participants from BA understood this and were working to enhance their information systems infrastructure, but they reported a lack of expertise and money. According to the Assistant Finance and Accountant of BA:

*Although some of the suppliers were interested in adopting and implementing a modern technique, their lack of expertise and funds stopped them disclosing their information.*

The lack of a standardised format for sharing the information through the network had limited the maturity of the relationship. The Finance and Accountant Manager of BA stated:

*We need to develop and introduce a standardised methods and forms for sharing and receiving information from the supply-chain participants.*

Relationships of serial dependency have forced the pharmaceutical firm and its suppliers to enter into short-term partnerships. The firm considers OBA techniques and long-term relationships to be dangerous at this relationship maturity level. The lack of feasible methods for avoiding the hazards thus hinders its capacity to form long-term partnerships. The Sales Manager of CC commented:

*When the partnerships are less stable, there is less chance of utilising OBA.*

During the period of serial reliance, the suppliers may be worried about the opportunistic use and security of their information, so OBA adoption may heighten these worries. The Purchasing Manager of BA indicated:

*We notice the concerns and a decrease in trust amongst suppliers, and there is a fear of misuse of information amongst both parties. As this is a new process, there was some resistance from suppliers to implementing it and sharing information.*

The Accountant of CC stated:

*What could the potential consequences be of using data for unintended or unauthorised purposes?*

These two case studies of AV and BA demonstrate how the maturity level can affect a company's ability to collaborate with its partners. In both cases, it is clear that trust plays an important role in the development of strong partnerships, while standardised processes for information sharing help to reduce the transaction risks and opportunistic behaviour. Additionally, investment in technological resources (such as IT and cost-accounting systems) can help to facilitate data exchange, while also providing greater assurance to all parties. Thus, companies should strive to build mature supply chains based on open-communication channels, strong networks, and clear roles to achieve greater customer satisfaction, an increased market share, and improved financial results.

## **5.6 Opportunities for OBA adoption**

This research indicates that OBA offers several opportunities and benefits for companies. One of these is the ability to build stronger relationships with their suppliers and customers. As noted in case 1, transparency and collaboration were found to be critical for building strong relationships with the suppliers and customers. By adopting OBA, companies can improve their level of transparency by sharing financial information with their supply chain partners, which can help to build trust and improve collaboration.

The Logistic Manager of AV stated:

*We recognised that transparency and collaboration were critical to building strong relationships with our suppliers and customers. OBA has allowed us to share financial information with them, which has improved our communication and helped us work together more effectively and optimise our operations.*

While the company is in the early stages of adopting OBA, it is important to note that the potential benefits are significant. BA also hopes to improve its communication and

collaboration with its suppliers and customers through the sharing of financial information. Moreover, the company hopes to create stronger relationships with its supply chain partners and improve its financial performance through identifying areas for optimisation and efficiency.

The Assistant Finance Manager commented:

*We hope to create stronger relationships with our suppliers and customers, where we can work together more effectively and make better decisions. We also hope to improve our financial performance by identifying areas for optimisation and efficiency in our supply chain.*

One opportunity created by adopting OBA is to obtain the maximum benefit from the recent government support in Saudi Arabia. As highlighted in case 1, AV wished to benefit from this government support and improve the company as a result of it. OBA will allow them to expand their output while reducing the costs through the financial and administrative assistance provided by the Saudi Arabian government.

The Production Manager of AV commented:

*To achieve improvement and benefit the government support, we are relying on increasing production and quality while reducing expenses on OBA.*

Another opportunity for the case study companies is the potential benefits of OBA regarding accountability. For example, BA is in the early stages of implementing OBA in its supply chain company, but it sees many growth opportunities. One of the benefits that it is most excited about is the increased accountability. The Sales Manager explained:

*Accountability is a major benefit of OBA. By sharing financial information with our supply chain partners, we are creating a more collaborative environment where everyone is accountable for their actions and decisions. This helps to prevent unethical behaviour and promotes responsible decision-making, which ultimately benefits the entire supply chain.*

With OBA, everyone in the supply chain takes ownership of the financial performance of the company. It promotes a culture of accountability and responsibility. By sharing financial information with the supply chain partners, companies like BA can hold themselves accountable for their financial performance and build trust and transparency in their relationships with their partners. By promoting a culture of accountability and responsibility through OBA, companies like BA can foster stronger relationships with their supply chain

partners and achieve long-term growth and success. Case 1 also shares this opinion, The Accountant at AV stated:

*Increased accountability is another key benefit of OBA. By sharing financial information with our supply chain partners, we are holding ourselves accountable for our financial performance and creating a culture of transparency and trust. This helps to build strong relationships with our partners and fosters a sense of shared responsibility for the success of our business.*

BA from Case 2 also hopes that OBA will lead to increased innovation and help it to stay ahead of the competition. OBA will enable BA to create a more collaborative environment that encourages the sharing of new ideas and the development of innovative solutions. This suggests that, by promoting a culture of innovation through OBA, companies like BA can not only stay ahead of the competition but also create a more efficient and effective supply chain that benefits all stakeholders:

*Increased innovation is another opportunity for OBA and will help us to stay ahead of the competition. By providing the stakeholders with access to financial and non-financial data, we are helping to stimulate creativity and innovation.*

Case 1 indicated another opportunity for OBA which is enhanced decision-making. OBA can provide valuable insights into the financial health of the supply chain, enabling better decision-making at all levels of the organisation. The Purchasing Manager stated:

*Enhanced decision-making is one of the key benefits of OBA. With access to financial information, we can make better informed decisions about the future of the company and our supply chain partners such as when we are taking the decision to select suppliers.*

Case 2 supports the same opinion. The Production Manager mentioned:

*We can use the financial information provided by our supply chain partners to identify areas where we can improve our operations, reduce costs, and increase efficiency. This information can be used to drive continuous improvement and innovation within the company.*

## **5.7 The Benefits of Successful OBA Implementation**

One benefit of adopting OBA is that it helps companies to overcome the challenges posed by the Covid-19 pandemic. Both case studies indicated the significant benefit of OBA during the

pandemic. It is an effective tool for improving supply chain resilience and managing the financial implications of the pandemic. By sharing financial information and working collaboratively with their supply chain partners, companies can manage the risks and respond to disruptions more efficiently. OBA also helped organisations to maintain supply chain continuity and minimise the impact of disruptions on their operations.

OBA enables companies to be more accountable to their stakeholders, including their customers, suppliers, and partners. Case 1 supports the idea that OBA can promote accountability and transparency. One noteworthy revelation during the observation in AV was when the participants shared how, prior to the implementation of the OBA system, representatives from other organizations would often visit their offices for financial reviews. However, the introduction of the OBA system eliminated the need for such monitoring visits, thereby creating an atmosphere of enhanced transparency, collaboration, and trust between the various stakeholders.

They consider that, when sharing financial information with their supply chain partners, they are holding themselves accountable for the financial performance and creating a culture of transparency and trust. The Production Manager of AV stated:

*OBA has really fostered a sense of ownership and responsibility among employees. They feel more connected to the organisation and have a better understanding of how their work contributes to the overall success of the company. It's also created a more collaborative and transparent culture, where people are more willing to share information and work together towards common goals.*

The use of open book accounting helps AV in case 1 to equalise the balance of power between its suppliers and customers. The results from Case 1 support this idea, demonstrating that OBA can reduce the dependency and create a more level playing field for the suppliers and customers:

*where the majority of AV's suppliers are essential strategic partners, the use of OBA has led to decreased dependence and a willingness for mutual benefit. The relationship becomes based on trust and mutual interest.*

Case 1 also shows that OBA improves the inventory management strategies, which demonstrates that data collected by OBA systems can be used for forecasting purposes, thus

enabling organisations to plan ahead and make better decisions regarding their inventory management strategies. This was indicated by the Production Manager:

*Product C is only obtained as it is required for manufacturing, When the partners open their books, this helps us when making inventory decisions.*

He also mentioned that:

*we use JIT strategy which enables us to save money and space in the storage.*

A significant benefit of OBA is the improvement of the technology and accounting systems throughout the network. As noted in case 1, OBA encouraged AV's network to improve the cost accounting systems so that they could combine the vast array of cost data and communicate all of the pertinent information.

The Finance Manager of AV stated:

*The majority of our involved enterprises have started to improve their cost-accounting systems.*

The Accountant and Finance Manager of SM confirmed:

*For the release of management accounting information through OBA, dependable and well-developed cost-accounting systems are required.*

OBA adoption in the case1 network resulted in stronger relationships and increased collaboration. AV in case 1 admitted that the access to financial information can help them to make better informed decisions about the future of the company and their supply chain partners.

The Purchasing Manager confirmed that:

*We use the information shared to help us to take the decision regarding selecting the suppliers.*

He also mentioned that:

*Better relationships with suppliers and partners can lead to more reliable and efficient supply chains, which is crucial for our business.*

AV uses the financial information provided by its supply chain partners to drive continuous improvement within the company and identify areas where it can improve its operations, reduce costs, and increase efficiency. The Production Manager stated:

*OBA has helped us identify areas where we can reduce costs and increase efficiencies, which has led to better financial performance for our company.*



Overall, these findings highlight the potential benefits of OBA with regard to overcoming the challenges posed by the Covid-19 pandemic, improving communication, accountability and transparency, enabling better decision-making, stronger relationships and increased collaboration, improving the technology, conducting inventory management strategies, helping to shift the balance of power between suppliers and customers, and supporting the implementation of the government policies and programs.

### **5.8 Challenges associated with OBA Implementation**

OBA adoption in Saudi Arabia remains in its infancy, and the cultural norms of confidentiality and privacy have presented significant challenges to OBA implementation in Saudi Arabia.

Companies have been reluctant to share financial information with their stakeholders due to concerns over confidentiality and privacy. This cultural barrier has made it more difficult to convince the stakeholders to embrace OBA. For instance, in case study 2, the Sales Manager at CCL stated:

*In our culture, we value privacy and confidentiality very highly, and this has made it challenging to implement OBA. Employees are often hesitant to share financial information, as they feel that it's a breach of privacy.*

Furthermore, the potential for opportunistic behaviour has also posed a significant challenge. The Assistant Finance Manager at BA indicated that:

*I think the biggest challenge is changing people's mindsets about sharing financial information. In our culture, there's a lot of fear around sharing too much information.*

Empirical evidence from this research suggests that even companies that have adopted OBA face challenges related to trust and opportunistic behaviour. Similarly, case study 1, which is thought to be at an advanced level of OBA adoption, also has concerns about trust and opportunistic behaviour. The Purchasing Manager of AV commented:

*In one case, our suppliers were reluctant to disclose information to us because they felt that it was a violation of their confidentiality. They didn't see the need to know so much about them, and this made it difficult to get the financial data we needed to make informed decisions.*

The Production Manager of AV added:

*I would say that it's important to be respectful of cultural norms and to take things slowly. You can't just come in and expect people to start sharing financial information overnight. We're taking it one step at a time and focusing on building trust with our suppliers and customers – you need to build trust and show people how OBA can benefit them and the organisation as a whole.*

This research finds that one of the significant challenges associated with OBA implementation in Saudi Arabia is the lack of a standard for OBA application, and a formal, standardised format for doing so. This lack of standardisation presents a challenge for companies.

According to case study 2, the lack of standardisation within OBA adoption has made it difficult for the company to share financial information effectively with its stakeholders. The Production Manager at BA commented:

*The supply-chain participants lack clear standards or an agreement about how to carry out the open-book procedures, which explains the suppliers' hesitation around using OBA.*

Even companies that have made efforts to develop their own standard format for sharing information face challenges related to standardisation. For instance, case study 1 has developed its own standard format for sharing financial information within its network. However, there is still a need for a formal, standard format for sharing financial information across all companies in Saudi Arabia.

The Accountant and Finance Manager at SM stated:

*We need to ensure that we're sharing the right financial information with the right people at the right time.*

The Logistic Manager of AV agreed with this view:

*A task force should be established by the government to investigate the best way of creating a universal standard for open-book data and supply-chain practices.*

Furthermore, data-privacy concerns can also be a major obstacle to successful implementation due to fear and trust issues among the stakeholders. Even though the case companies are making efforts to secure the information shared, the lack of specific laws related to OBA practices remains a huge challenge to successful OBA adoption. This concern is evident in both case studies, where companies are making efforts to secure the information shared.

The Accountant Manager at BA stated:

*The security risks associated with sharing sensitive financial information are a big concern for many stakeholders.*

This concern also exists in CCL. The Sales Manager commented:

*There's still a lot of uncertainty and fear around how that data are being used.*

The Finance manager at AV admitted.

*The lack of specific laws related to OBA practices also makes it challenging for companies to navigate this space and ensure they're in compliance.*

Another significant challenge associated with implementing OBA in Saudi Arabia is the technical knowledge required for successful implementation. As indicated in case 2, many organisations lack the technical expertise needed to implement OBA successfully. Insufficient accounting systems can be a major obstacle to implementing OBA, as these systems are critical for accurate financial reporting and sharing.

In case 2, not all of the suppliers have been able to use this accounting system to its full potential. The Assistant Production Manager of BA explained:

*Some suppliers lack the proper expertise and funds to introduce OBA, which might cause tension when it comes to applying OBA.*

As a result, these firms have failed to adopt OBA and disclose their financial information to BA. The Purchasing Manager of BA stated:

*OBA has not yet been fully adopted in the organisation because some suppliers are unable to provide accurate cost information, and the lack of cooperation in building the appropriate accounting systems means that they are not able to adopt new management approaches and improve their systems.*

One of the significant findings of this research is that the lack of an internal-auditing department can lead to the failure of OBA adoption. Internal auditing can promote transparency and trust among partners, by ensuring the accuracy and completeness of the financial information, which are crucial for successful OBA adoption. Case Study 1 has an effective internal-auditing department, which enhances the level of trust among the partners and promotes information-sharing. In contrast, case study 2's lack of attention to the internal

auditing department has led the partners to require a further investigation and to fear sharing information, which can hinder OBA adoption and result in missed opportunities for collaboration and innovation.

The Finance and Accountant Manager of BA commented:

*The absence of an internal auditing department has been a challenge for us in terms of financial information sharing. Without an internal audit team to ensure the accuracy and reliability of the data shared, there is a risk of errors or discrepancies that can affect decision making. We recognise the need for an effective internal auditing department, and we are working towards building one.*

His assistant added:

*Developing an effective internal auditing department requires a lot of attention from the head management of BA. We need to invest in providing our finance and accountant employees with the necessary courses and training to ensure that they are equipped with the skills and knowledge needed to conduct internal audits. It's a process that requires time and resources, but we are committed to making it happen.*

Overall, this chapter has explored the current status of OBA in two case study supply chains in Saudi Arabia. One is a manufacturer/supplier relationship and the other is a pharmaceutical factory/supplier relationship. It considers the factors influencing OBA that have been identified, the benefit of successful OBA implementation, and the challenges and opportunities associated with it. Additionally, the research examined the relationship between supply-chain maturity lifecycle and OBA implementation through exploring two case studies that are at different levels of maturity to demonstrate how the maturity level can affect a company's ability to collaborate with its partners and use OBA. To do so, it examined the stages of supply chain maturity in each case. By analysing and comparing the differences across the different cases, the study was able to identify differences such as various levels of trust, the presence/absence of standardised forms of information sharing, the internal audit department, the willingness to collaborate and technology improvement, the power dynamics between the buyers and seller, the decision about the length of the relationship and the fear of opportunism.

This comparison produced insights into how the maturity stages influence the adoption and success of OBA in different contexts, providing a more comprehensive understanding of its application in Saudi Arabian firms. Thus, a highly mature supply chain tends to be more

collaborative and conducive to OBA practices, whereas a less mature supply chain places constraints on collaboration due to issues of trust and other issues that inhibit the participants from sharing sensitive information.

This research finds that a high level of supply chain maturity alone may, however, be insufficient to ensure the successful adoption of OBA practices. Despite the high level of supply chain maturity in AV's (customer) approach to supplier relationships, the adoption of OBA practices still faces constraints in Saudi Arabia, due to factors such as the cultural norms regarding confidentiality and privacy, and the legal environment in Saudi Arabia. Strong structuration theory can be used to identify the role of the constraints and agency in shaping human behaviour. In the context of this study, the cultural norms of confidentiality and privacy, as well as the legal environment in Saudi Arabia, can be seen as structural constraints that limit the adoption of OBA practices. By applying strong structuration theory to the study of OBA implementation in Saudi Arabia, this research can gain a deeper understanding of the complex interplay between the structural constraints and agency in shaping the adoption of OBA practices.

## **Chapter 6: Discussion of the Findings**

### **6.1 Introduction**

This chapter discusses and compares the findings presented in Chapter 5 with the extant literature reviewed in Chapter 2. The purpose of this chapter is to provide an analysis of the data collected regarding the Saudi Arabian companies' adoption and implementation of OBA and the associated challenges and benefits. The discussion will address the research questions posed in Chapter 1:

What is the current status of OBA application in Saudi Arabian companies?

What are the key internal and external factors driving the adoption of OBA in Saudi Arabia?

What are the challenges and benefits associated with OBA in Saudi Arabia?

How does supply-chain maturity affect OBA implementation in Saudi Arabia?

What are the implications for strong structuration theory of the nature of OBA in Saudi Arabia?

A comparison of the research findings with the extant literature will help to answer the research questions.

The chapter begins by explaining why it is important to study OBA and compare its application in Saudi Arabia with that elsewhere. The chapter then explores the factors that influence OBA adoption in Saudi Arabia, including the effects of Covid-19 and communication, competition, the legal environment and standardised protocols for sharing information, data-security concerns, fears of opportunism among the stakeholders in the supply-chain networks, government support, employee competence, internal-auditing departments, the dependency and power asymmetry between firms in the supply-chain network, inventory-management strategies that affect the implementation of order-based agreements, and trust between firms. The chapter then considers the impacts of supply-chain maturity and network lifecycle on OBA implementation. Finally, it discusses the challenges and benefits associated with implementing OBA in Saudi Arabia, as well as the implications of strong structuration theory (SST).

## **6.2 The current status of OBA in Saudi Arabian Companies**

This research finds that, in Saudi Arabia, the use of OBA remains in its early stages. Companies are beginning to understand and implement these concepts to achieve benefits, such as decreased costs, increased customer satisfaction, etc. However, there is a lack of understanding in the country regarding the deeper essence of OBA. The literature suggests that OBA has become increasingly popular in the West, but that its rate of implementation varies widely elsewhere. The distinctions between the OBA systems utilised in Saudi Arabia and those found in Western countries are mainly due to the cultural norms and organisational culture regarding business practices as well as the attitudes towards the disclosure of financial information, religious beliefs, and language differences, as well as the government regulations and data security. Studies have found that these distinctions make Saudi companies more conservative than their counterparts in Western countries when it comes to trusting others in a business context. This lack of trust can lead to the adoption of OBA systems that are far stricter than those used by companies elsewhere.

### **6.2.1 Cultural norms**

This research finds that cultural norms significantly affect the practices of OBA in Saudi Arabia. In Saudi Arabia, there is a strong emphasis on confidentiality and privacy. This may be considered a general reason for the fear and reluctance to disclose financial information in the case study organisations. Aljifri and Hussainey (2017) found that cultural factors such as confidentiality and privacy were significant barriers to OBA adoption in Saudi Arabia. For example, in case 2, the suppliers believe that it is unnecessary to disclose information to BA, as they feel that this would constitute a breach of confidentiality and that the customers do not need to know that much about them. This finding is in line with Al-Ajmi, (2017), who found that employees may be hesitant to share financial information due to concerns about violating the cultural norms and risking their position in the company. In contrast, in Western countries, there is often a greater emphasis on transparency and accountability. OBA is viewed as a way of empowering employees and fostering a sense of ownership and responsibility regarding the company's financial performance (Hofstede 2001).

This strong emphasis on confidentiality and privacy may lead investors and other the stakeholders to doubt the accuracy of the financial information being reported by organisations

operating within Saudi Arabia's borders, as they may doubt whether all of the relevant data points have been included in the reports (Azzam 2019).

It is important to consider whether this cultural norm may also affect the case 1 organisations in Saudi Arabia. AV is a global company with a wide network, that may give it an advantage in dealing with cultural differences and promoting the best use of OBA. Despite these cultural challenges, AV has made efforts to improve their ability to benefit from OBA. This case study is in line with the literature that suggests that global companies are better equipped to deal with cultural differences and language barriers, as they have experience of working across different cultural contexts (Taras et al. 2017). This is also consistent with Hu and Li (2018), who found that cross-cultural training can help to mitigate the negative effects of cultural differences on OBA implementation.

### **6.2.2 Language**

This research also found that language differences between countries are a significant challenge to cross-border cooperation and can also impact on OBA implementation. Both case studies made strong efforts to improve their employees' ability to benefit from using OBA. However, the differences in language and cultural norms have impacted on the process of OBA implementation between case the study organisations and different global suppliers. These language and cultural differences between countries were also identified in the previous literature. According to Cheng and Lu (2011), language and cultural barriers can hinder effective communication and collaboration between team members from different cultural backgrounds, which can affect the success of cross-border projects (Cheng and Lu 2011).

### **6.2.3 Religious beliefs**

This research also finds that religious beliefs can affect the adoption and implementation of OBA practices. For example, in case 2, BA and its suppliers think that, as Islamic principles stipulate that Muslims should be honest and transparent in their financial dealings, this means that there is no need to share confidential information. This finding is consistent with Maurer and Nassar (2012), who found that, in Saudi Arabia, Islam plays a central role in daily life, and religious beliefs influence attitudes towards OBA and the disclosure of financial information. This may lead to greater opposition to OBA implementation. In Western countries, religious



beliefs are often diverse and less closely tied to financial practices. Nevertheless, some religious values may be in line with the OBA principles, such as the Protestant work ethic, which emphasises hard work, thrift, and accountability (Thompson and Saleem 2003).

#### **6.2.4 Organisational culture**

This research finds that a conservative company culture may have an impact on OBA adoption and contribute to a lack of collaboration and knowledge-sharing amongst the supply-chain partners. OBA requires a shift in mindset, away from traditional accounting practices, which can be difficult for some organisations to accept. In case 2, BA used to be a family-owned company. For years, this organisation's culture limited its willingness to share information and collaborate through OBA. Their thought today remains: "We have to save our business". This is in line with a study that indicated that the organisational culture can hinder OBA application in a company by creating an environment that is resistant to change (Elsbach and Stigliani 2018). If employees are used to traditional accounting methods, they may be reluctant to embrace new systems. If the organisational culture does not value transparency and open communication, it may be difficult for OBA to take hold at all (Willis et al. 2016). According to a report by PwC, traditional business practices and the hierarchical structures in Saudi Arabia may hinder the adoption of new technologies and modern supply-chain practices (PwC 2019).

Although BA has developed, expanded and begun to think about OBA, this study noticed that the company's culture is described as the company exerting its power over its partners to obtain information. This can be detrimental to OBA implementation, as it requires trust and transparency between the partners. If one partner is perceived as dominating the relationship, this can lead to a lack of trust and a reluctance to share information. This research is in line with Langley and Abdallah, (2011), who found that the power dynamics in interorganisational relationships can be influenced by factors such as the organisational culture, industry norms, and regulatory frameworks.

Case 1, involving the global company AV, is more likely to have a positive attitude towards change and new technologies, and has a strong organisational culture that values transparency and collaboration as essential for successful OBA implementation. This finding is consistent with Willis et al. (2016) This type of culture encourages the employees to share information openly and work together to achieve common goals. It also promotes an environment in which

everyone understands the importance of financial literacy and how it affects the organisation's overall performance. This is in line with the literature that argues that a positive organisational culture can ensure that all of the stakeholders are on board with the changes associated with OBA, making it easier to implement and maintain (Elsbach and Stigliani 2018). However, businesses based in Saudi Arabia are generally less likely to provide detailed data about their finances than companies located elsewhere. Moreover, the level of disclosure required under each nation's regulations also varies. While Western nations require more comprehensive reports from public organisations, firms located in Saudi Arabia are not subject to such stringent requirements. This can lead to a lack of trust among the stakeholders, as investors may be unable to access all of the data needed to undertake an accurate assessment of the company's performance, without full transparency of its operations (Al-Jifri 2018).

This research finding provides an insight into the government's promotion of OBA as part of its efforts to improve transparency and accountability in the business sector to achieve the 2030 Vision goals. For example, the Ministry of Commerce and Industry has issued regulations requiring companies to disclose financial information to their employees, and the government has established a number of initiatives aimed at promoting OBA practices (Aljifri and Hussainey 2017). However, as emphasised in the case studies, these initiatives are not always fully implemented due to cultural factors and a resistance to change.

Al-Qutaifi et al. (2019) argue that, while Saudi Arabia has made significant strides in terms of economic development and infrastructure investment in recent years, there remain challenges related to supply-chain management, such as limited data-sharing and a lack of collaboration among the stakeholders. This reflects the findings of the current research.

### **6.2.5 Legal Environment**

This research finds that Saudi companies have a high fear of opportunistic behaviour regarding information sharing. Both cases organisations indicated their concerns about possible misuse and opportunism arising from OBA information sharing. This could be because Saudi firms view such practices as potentially damaging to their business operations unless properly monitored and controlled by the regulatory bodies or the government. This finding is in line with the existing literature. Some researchers suggest that this fear can lead to the

implementation of measures which limit access rights within the organisation's financial system (Al-Said, Al-Muharrami and Al-Rashidi 2015).

In Western countries, there are often more extensive regulations governing OBA. For example, in the United States, the Securities and Exchange Commission (SEC) requires publicly traded companies to disclose financial information to their shareholders and the public. Additionally, the Sarbanes-Oxley Act of 2002 requires companies to establish internal controls to prevent financial fraud and provide a mechanism for whistle-blowers to report such fraud without any fear of retaliation. Other Western countries have similar regulations, such as the UK Companies Act 2006 (Parker et al. 2011).

Another major difference lies in the employees' competence required for the successful implementation of an OBA system. This research finding highlights that both case study organisations have emphasised their efforts to improve their employees' competence, but there remains a lack of guidance on the qualifications required for employees involved in OBA practices. This gap in guidance could hinder the successful implementation of OBA systems and impact the organisational performance. This gap in guidance could be due to the fact that OBA is a relatively new management practice in Saudi Arabia, so the employers may not require their employees to possess any specific qualifications or certifications before they can access the company's financial data (Alqahtani et al. 2017). There is limited research on the specific qualifications required by the employees involved in these systems in Saudi companies. Nonetheless, this research has highlighted the importance of employee education, training, and development regarding OBA implementation.

### **6.2.6 Data security**

There also exist key differences between Saudi Arabia and Western countries, such as the United States or Europe, in terms of the data-security laws. This research finds that, although both case studies are doing their best to ensure the security of any financial records and information shared, there is still a need to have a strict and legal data security system, issued by the government, to secure and encourage OBA practices through supply chain networks. Saudi Arabia has fewer regulations for protecting confidential information from unauthorised access or misuse. While there are some laws in place, such as the Cybercrime Law, which outlines punishments for those who commit cybercrimes, these do not provide particular

guidance on how organisations should protect their financial records and other private details. This finding is in line with Kattan, (2018), who suggests that businesses operating in Saudi Arabia may be at greater risk of having their financial documents accessed by malicious actors.

In comparison, Western nations generally have stricter regulations for protecting sensitive information from unauthorised access and misuse. For example, organisations may need to comply with specific standards, such as General Data Protection Regulation (GDPR), which requires companies that handle the personal data of EU citizens to adhere to certain rules regarding the storage and usage of these data (European Commission 2022).

Overall, while both Saudi Arabia and Western countries prioritise data security, the level of regulation and legal frameworks in place differs significantly. Western countries generally have stricter regulations and laws for protecting sensitive information from unauthorised access and misuse, while Saudi Arabia has room for improvement in this area. Therefore, it is essential for organisations operating in Saudi Arabia to take extra precautions to protect their financial records and private details from malicious actors, as there may be a higher risk of data breaches due to the lack of strict legal protections.

### **6.3 Factors Influencing OBA Adoption in Saudi Arabia**

Saudi Arabia is yet to comprehend fully the deep essence of OBA. However, in the context of competitive, interconnected supply chains, large companies are leaning towards more progressive practices in order to avoid incurring unnecessary expenses.

This research has identified that, in the Saudi Arabian context, the adoption and use of OBA are influenced by a host of factors. According to SST, the determinants of OBA adoption may be classified into two groups: external and internal. The external factors are the effects of Covid-19 and the associated communication restrictions, competition, government support, lack of regulations and standardised forms of information-sharing, and data security. The internal factors are a fear of opportunism, employee competence, internal-auditing departments, inventory-management strategies, dependency and power asymmetry, and the level of trust. Despite the differences between the institutions in the two case studies, there are areas of convergence regarding OBA's implementation and consequences. Case 1 has been more successful in its implementation of OBA. However, Case 2 has also made progress with regard to implementing OBA throughout its supply-chain network.

The following section will discuss the external and internal factors that have influenced OBA adoption in these supply chains and the challenges faced by the companies with regard to implementing their OBA procedures. It describes the research findings pertaining to each influencing factor, viewed in the light of the literature.

### **6.3.1 Effects of Covid-19 and Communication**

Sarker and Chowdhury's (2020) review revealed that the Covid-19 pandemic had had a significant impact on the global supply chain, with the disruptions to production and transportation causing delays in product delivery. Cloud computing became a vital technology during the pandemic due its ability to provide secure access for remote workers who lacked access to physical offices and warehouses. Cloud solutions allow employees around the world to collaborate on projects without the need for any face-to-face contact, which helped to minimise the disruption caused by the travel restrictions imposed during the lockdown.

The findings of this research are consistent with the current literature on the effects of Covid-19 on supply-chain operations. According to Stones (2005), and from the SST perspective, the external structure in this context represents the external forces shaping the social practices of businesses, especially focusing on the effects of the Covid-19 pandemic. These effects include supply chain disruption, the need for social distancing, and the increased demand for transparent accounting methods such as Open Book Accounting (OBA). The agents refer to the individual actors or groups who are engaged in the social practices within the given external structure. In this case, the companies in Saudi Arabia are the agents, actively responding to the challenges posed by the Covid-19 pandemic and adopting new practices like OBA to navigate these challenges effectively. The active agency of the companies involves the conscious decision to shift from traditional accounting methods to more transparent systems like OBA in response to the disruptions caused by Covid-19. This shift represents their active agency in adapting to the external structure. Companies took the initiative to invest in new technologies to facilitate remote working and implement social-distancing measures. This proactive investment enabled them to implement OBA effectively by enhancing the level of communication and collaboration within their supply chains. Companies actively adopted digital platforms, such as webinars and video conferencing, in order to share financial information. This decision to embrace digital communication channels demonstrates their active agency in response to the increased demand for information sharing during the

pandemic. The active agency of companies regarding adopting OBA, investing in technology, and embracing digital communication platforms resulted in more effective supply chain management, the increased adoption of OBA, enhanced communication, and the accelerated adoption of modern accounting practices within the context of the Covid-19 pandemic. These outcomes illustrate the interplay between the external structures, active agency, and social practices, as conceptualized by Strong Structuration Theory.

These findings are in line with the existing literature, where OBA adoption during the pandemic is widely discussed. According to Li et al. (2021), OBA became increasingly popular during the pandemic due to its ability to facilitate remote working, reduce costs, and improve efficiency, becoming a vital tool for managing the supply chains, thus enabling businesses to monitor their inventory levels, track shipments, and manage their cash flows more effectively.

Several studies have examined the effects of Covid-19 on the supply chains. Iqbal et al. (2021), found that the pandemic resulted in significant supply-chain disruptions in various industries, including pharmaceuticals and personal protective equipment. Similarly, Bocken et al. (2021) observed that Covid-19 exposed the fragility of the global supply chains and highlighted the need for more resilient, sustainable supply chains. Furthermore, Zheng et al. (2021) and Xu et al. (2021) found that companies were forced to improve their supply chain management practices to mitigate the effects of Covid-19 on their operations.

The findings of this study contribute to the existing literature by analysing how the supply-chain disruptions caused by the Covid-19 pandemic affected certain industries. It provides insights into the strategies used by Saudi companies, such as online communication channels and data-sharing protocols, which helped them to maintain their operations during the pandemic.

In conclusion, the findings of this study are consistent with the previous research that showed how the Covid-19 pandemic accelerated OBA adoption and online communication and technology in supply chains. SST provides a useful framework for understanding how the pandemic affected the supply chain operations, and OBA became a crucial tool for managing supply chains during the pandemic. The study contributes to the existing literature by exploring how the pandemic affected the resources available to businesses in the supply chain and how these changes demonstrated the effectiveness of OBA.

### 6.3.2 Competition

The literature review reveals that competition is important for supply-chain collaboration. Competitive pressure can lead to increased cooperation among firms, resulting in greater efficiency and cost savings (Matsuo and Tomita 2014; Tan et al. 2018). Collaborative strategies can also reduce the costs by providing access to better resources and technologies and improving the communication channels between suppliers and customers (Hartley et al. 2013; Hoffmann et al. 2018; Wu 2012). OBA provides real-time access to financial information, allowing companies to track and monitor supplier performance, identify areas for process adjustments, and facilitate negotiations on pricing and delivery terms (Hartley et al. 2013; Hoffmann et al. 2018). Competition fosters collaboration and transparency among the supply-chain participants, but some suppliers may decline to share information in order to retain their competitive position (Hoffmann et al. 2018). Studies suggest that greater competition can lead to increased OBA adoption, as companies operating in more competitive environments are more likely to adopt transparent, collaborative practices in order to remain competitive (Li et al. 2006; Moeller et al. 2013; Simons 1990).

The empirical evidences obtained by this research suggests, however, that OBA implementation in Saudi Arabia is being hindered by a lack of trust between suppliers and manufacturers, which impacts the competition amongst companies. The need for cooperation and openness within the network necessitates an increase in the level of trust between the partners so that OBA can be effectively implemented. Although Wu (2012), Hartley et al. (2013) and Hoffmann et al. (2018) detected a positive relationship between competition and collaboration along the supply chain, the current case studies of Saudi Arabian companies revealed a contrasting picture, where the interviewees stated that the competition among various business entities pushed them to be cautious about collaboration, especially with regard to sharing accounting data in the form of OBA. This research revealed that the suppliers' reluctance to disclose their financial data and knowledge is due to the fact that the competition between the businesses is strong. The main reason for this is the suppliers' concern about losses in the competitive market due to the misuse of exchanged data, which undermines the mutual trust and creates a sense of conflict.

From the SST perspective, OBA implementation can be seen as a process of structuration, where both structure and agency are involved in shaping the organisational behaviour. Empirical evidence from this research suggests that the external structure in this context

represents the competitive environment in Saudi Arabia, within which businesses operate. Competition acts as a significant external factor that influences the decisions and behaviors of companies. The agents refer to both the companies and their employees who are engaged in the decision-making processes and actions related to OBA implementation within the competitive market. The active agency of companies involves a cautious approach to collaboration, due to the intense competition. Companies are hesitant to share accounting data through OBA because of their active decision to protect their competitive advantages. This caution stems from the fear that shared data might be misused, leading to potential losses in the competitive market. The active agency of caution and hesitance among companies and employees leads to the hindrance of OBA implementation. The lack of trust and the competitive environment act as barriers, preventing the smooth adoption and implementation of Open Book Accounting practices. The competition-driven caution influences the organizational behavior of companies. This leads to a culture of secrecy regarding financial information and a reluctance to engage in open collaboration. This behavioral pattern impacts not only the adoption of OBA but also the overall organizational culture and decision-making processes.

In summary, the active agency of companies and their employees, driven by the competitive external structure, results in cautious collaboration, the hindrance of OBA implementation, and a shift in organizational behavior. These outcomes highlight the complex interplay between the external structures, active agency, and social practices within the framework of Strong Structuration Theory.

Gerdin and Englund (2011) advocated that Structuration Theory (SST) provides a groundbreaking methodology for case study research within the accounting discipline, by shifting the perception of accounting practices. Rather than focusing solely on the accountants' perspective, they emphasized the importance of the external environment.

Empirical evidence from this research highlights how the increased competition between businesses has led some suppliers to be hesitant about disclosing cost information, due to fears that their competitors might misuse this knowledge. Agents from the case studies voiced their concern that, when the competition increases, the drive to reduce costs will increase also. Nevertheless, they worry that their company's competitors might access the information, which signifies the perspective of individual agents in shaping how their respective company would behave.



### **6.3.3 The Legal Environment and a Standardised Protocol for Sharing Information**

Chinosi and Trombetta (2012) and Wolfert et al. (2017) conclude that standardised forms provide a consistent, reliable way of sharing financial information between the stakeholders, such as customers, suppliers, and other third parties. They ensure that all parties have access to the same data and can make informed decisions based on accurate information. In addition, standardised forms reduce the amount of time spent manually entering data into accounting systems, which can be a major barrier for small businesses considering OBA adoption. Moreover, standardised forms ensure that all of the stakeholders can understand the financial information being shared, which is essential for successful OBA adoption.

The role of the legal environment and standardized protocols for information-sharing is crucial in OBA adoption. Legal frameworks act as guiding principles, influencing the actions within the supply chain, and incentivizing businesses to adopt transparent, collaborative practices, including OBA. This aligns with the prior research that emphasized the significance of legal and regulatory frameworks for promoting transparency and accountability within business operations (Glaum et al. 2019; Jizi et al. 2014). Cultural norms further complicate matters, by emphasizing privacy and confidentiality, thus inhibiting the sharing of financial information essential for OBA. Saudi businesses may be less inclined to provide detailed financial data due to these cultural norms, as seen in previous studies on the cultural factors that influence business practices and financial reporting (Chen et al. 2019; Suddaby et al. 2016).

The regulatory bodies provide the necessary confidence for companies to embrace new collaborative practices. However, this research has revealed a significant gap in Saudi Arabia's supply chain landscape. The absence of standardized frameworks for OBA in the country has led to confusion and disagreement regarding its implementation. This lack of standardization explains the absence of government direction and regulation observed in our case studies. In this unique context, practitioners in Saudi Arabia are actively calling for standardized regulations governing OBA practices, a perspective that significantly departs from the global norm.

Drawing on SST, the external structure here represents the absence of standardized frameworks and regulations governing Open Book Accounting (OBA) practices in Saudi Arabia. This lack of a legal environment and standardized protocol creates uncertainty and confusion among companies regarding the implementation of OBA. The agents refer to both

the companies operating within the supply chain in Saudi Arabia and the practitioners who are actively engaged in calling for standardized regulations governing OBA practices. Their active agency is demonstrated through their efforts to influence the policymakers and regulatory bodies, urging them to establish clear guidelines and protocols for OBA implementation. The absence of a legal environment limits the adoption of OBA but prompts companies to collaborate more closely within the industry. They actively share knowledge and best practices, allowing them to navigate OBA implementation to different degrees, despite the lack of formal standards. This unexpected demand for regulatory intervention challenges the assumptions found in the existing literature, which often presume that businesses prefer flexibility with regard to implementing their transparency practices (Nielsen & Thomsen, 2009). Instead, it aligns with research that emphasizes the positive impact of regulatory interventions on promoting transparency and accountability within organizations (Boubakri, Guedhami, Mishra, & Saffar, 2012). The intersection of Saudi Arabia's cultural, religious, and legal context, along with its integration into the global economy and national economic strategies, such as Vision 2030, underscores the need for standardized OBA practices. By unveiling this distinctive Saudi perspective, this research enriches the scholarly discourse and offers crucial insights for policymakers and businesses that are navigating the evolving landscape of financial transparency.

#### **6.3.4 Data Security**

The research findings suggest that data security is important when making decisions regarding OBA adoption. Data security measures include encryption, authentication, access control, and monitoring. These measures ensure that only authorised users can view or modify the data (Achar 2022).

Data security is essential for any business using OBA because it helps to maintain the integrity of the financial information being shared with the stakeholders. Without having proper data security measures in place, businesses risk exposing their sensitive financial information to unauthorised parties or having their systems compromised by malicious actors (Achar 2018). In addition, companies must consider the potential risks associated with storing confidential information, including data breaches and malicious attacks. As a result of these factors, it is vital that proper security measures are in place before companies adopt OBA (Achar 2022).

This study found that the two case study institutions in Saudi Arabia demonstrate a sufficient understanding of the data security standards when planning to use OBA and exchange sensitive information with their supply-chain partners. These findings are consistent with the literature, which highlights the importance of data security in supply chain management (Liu et al. 2017; Xie et al. 2018).

Within the framework of SST, proposed by Stones (2005), the external structure in this context represents the data security standards and regulations that influence how companies handle sensitive information, especially in the context of Open Book Accounting (OBA) practices in Saudi Arabia. The agents refer to both the companies implementing OBA and their employees who actively engage in ensuring data security compliance and confidentiality.

Active agency is demonstrated through the deliberate efforts to maintain confidentiality and adhere to the data security guidelines. Companies actively take measures to ensure compliance with the data security standards. They establish protocols to protect sensitive information, thereby limiting access to authorized personnel and implementing secure storage practices. This active agency also involves educating employees about the importance of data security, the specific protocols to be followed, and the consequences of mishandling sensitive information. While businesses operate within the existing legal framework, they engage in active agency by advocating for improvements in the data security laws.

The active agency of companies in complying with the data security standards positively impacts OBA adoption. As businesses adhere to secure practices, their partners are more inclined to adopt transparent collaborative practices like OBA. This outcome signifies the direct link between active agency within data security and the broader adoption of collaborative accounting practices.

While there are some data protection laws in place in Saudi Arabia, many businesses are unaware of their obligations under these laws, as the legislation is still in its infancy. While efforts have been made to improve the level of data protection in Saudi Arabia, more needs to be done to bring the laws into line with the international standards. The findings of this study are consistent with previous research that showed that data security is a critical factor in supply chain management (Lin et al. 2016; Li et al. 2020). In Saudi Arabia, data security has become an increasingly important issue in recent years, with the introduction of new laws and regulations aimed at protecting the privacy and security of personal and business data. For example, Saudi Arabia's Cybersecurity Law was enacted in 2019 to establish a legal

framework for the protection of data and the prevention of cybercrime. In contrast, Western countries have had more established frameworks for data security and privacy, including GDPR in the European Union, which sets out rules for the use and protection of personal data.

Overall, the study findings suggest that data security can play an important role in OBA adoption, both in Saudi Arabia and elsewhere. While the legal and regulatory frameworks may be less well-established in Saudi Arabia than in Western countries, recent developments in the data security regulations have created incentives for businesses to adopt more transparent, collaborative practices, including OBA. This study's results provide valuable insights into the role of data security in supply chain management. This is an important contribution to the literature as it highlights the potential impact of data-security regulations on OBA adoption and provides insights for policymakers and businesses seeking to implement OBA in their supply chains.

### **6.3.5 Fear of Opportunism**

Ciobanu et al. (2014) and Yam and Chan (2015) suggest that companies may take unfair advantage by manipulating data, misreporting information, and exploiting loopholes in the system. Opportunistic behaviour is defined as taking advantage of opportunities for personal gain without any regard for ethical considerations. To prevent this, organisations must ensure that all of the parties involved in the OBA processes are well-informed and have access to the same resources. In addition, organisations should also consider using third-party auditors to review their OBA processes and provide independent assurance that these are being conducted properly (Um and Kim 2018).

In an environment in which opportunism is a risk, employees may attempt to manipulate financial data to increase their own profits or benefit from other forms of self-interest (Dechow and Dichev 2002; Lippert and Formby 1981). For example, they might choose not to disclose information that could negatively affect their performance metrics, or distort the results reported by the OBA systems (Bracci and Fink 2019). Such activities undermine the trust between the management and staff (Baumeister and Leary 1995) and make it difficult for organisations to implement OBA initiatives, as accurate and reliable data are essential (Bergeron, Raymond, and Rivard 2001). Furthermore, opportunism can lead to a lack of commitment by the staff, who may become more focused on their own interests than the

organisation's goals (Raver and Maynard 2015). This could result in employees failing to take ownership of the system and being unwilling to invest time and effort in its success. Without adequate support from all of the stakeholders, it is difficult for organisations to achieve their desired outcomes.

The present study contributes to the growing body of research on supply chain management by examining the challenges faced by supply chain companies in Saudi Arabia with regard to implementing OBA. This study reveals that concerns over opportunistic behaviour are a primary concern for supply chain companies when sharing financial information with their partners under OBA. This finding is consistent with prior research that showed that supply chain partners may exhibit opportunistic behaviour when sharing sensitive information (Ellram 1991; Johnson and Lawrence 2017).

The study applies SST to explain the impact of opportunism on the implementation of OBA in Saudi Arabia. SST argues that social structures both constrain and enable human behaviour (Stones, 2005). In the context of OBA, the internal structure represents the fear of opportunistic behavior within supply chain companies. The agents refer to both the companies involved in the supply chain transactions and their managers who are responsible for decision-making and establishing trust with the partners.

The active agency of building trust and transparency leads to the establishment of trustful relationships with partners. When companies actively work to address the fears of opportunism, they create an environment in which the partners feel secure about sharing financial information, thus fostering stronger collaborations within the supply chain network. Companies' active agency in addressing the cultural factors and legal concerns results in the mitigation of the barriers related to a fear of opportunism. By adapting their practices in order to bring them into line with the cultural norms and legal requirements, companies can navigate these concerns effectively, thus enabling the smoother implementation of OBA practices.

Cultural factors and Islamic law also play a significant role in OBA implementation in Saudi Arabia. Saudi Arabian businesses are less likely to disclose financial information than their counterparts in Western countries due to concerns about opportunistic behaviour by their business partners. This finding is consistent with previous research that showed cultural differences in business practices, including the importance of trust and transparency (Kawaguchi 2019). The reluctance to share financial information may lead to decreased levels of cooperation and ultimately impede the collaboration across organisations in a supply-chain

network. Asymmetric information-sharing among the members can create distrust, which can further discourage transparency and block collaboration.

The study highlights the need for formal guarantees or government regulations to prevent the abuse of information under OBA. This finding is consistent with the prior research that demonstrated the importance of legal frameworks in promoting transparency and accountability in business (Lee and Yang 2000).

In conclusion, the present study contributes to the understanding of the challenges faced by supply chain companies in Saudi Arabia with regard to implementing OBA, particularly in the context of cultural values and legal frameworks in Saudi Arabia.

### **6.3.6 Government Support**

In Saudi Arabia, there are various government-led organisations involved in managing the supply chains. The most prominent is the Saudi Arabian General Investment Authority (SAGIA), which was established to promote foreign direct investment and support economic development initiatives. SAGIA has implemented several programmes that aim to improve supply-chain management (SCM) efficiency, such as its logistics performance index (LPI) programme, which provides an assessment of the logistics performance across different sectors, including the transport infrastructure, customs clearance processes, and other related services. Other government-led organisations include the Ministry of Transport, the National Industrial Clusters Development Programme, King Abdullah Port, the Jeddah Islamic Port, Riyadh Airports Company, the Ma'aden Aluminium Company, and the Saudi Ports Authority. These organisations are responsible for developing the infrastructure, regulating trade activities, and providing support services (such as customs clearance and freight forwarding).

The literature review revealed the importance of government initiatives in improving the supply-chain operations. For instance, Alkhalifah et al. (2020) found that the introduction of e-commerce platforms and logistics hubs had a positive effect on supply-chain efficiency in Saudi Arabia by reducing the costs and increasing the level of customer satisfaction. Similarly, Alotaibi and Elhag Ali Mohamed (2019) identified several areas in which governmental policies could improve the transportation infrastructure (such as roads and railways), thereby reducing the delivery times for goods across different regions of Saudi

Arabia. Al-Shahrani et al. (2018) conducted a survey of logistics managers from various industries and found that the majority felt that the government initiatives had benefitted their businesses, with many citing improved efficiency as one of the main advantages.

Furthermore, the authors identified several areas in which further government involvement could be beneficial, such as the provision of financial incentives to encourage investment in new technologies and the development of regulations to ensure that the standards are maintained across different sectors.

The findings of this research highlight the increasing role of government support in OBA implementation in Saudi Arabia. Recently, there has been a significant increase in the government assistance to the industrial sector, enabling companies to expand, improve their output, and reduce their costs, with OBA becoming a requirement. This assistance has facilitated the development of the necessary technology and cost-accounting systems, enhancing the ability of organisations to engage in OBA. This finding is consistent with the prior research that has demonstrated the importance of government support in promoting OBA implementation in different contexts (Denton et al. 2016; Tilt 2003).

SST can provide insights into the impact of government support on OBA implementation in Saudi Arabia. The external structure here represents the support provided by the government to the industrial sector in Saudi Arabia, particularly in the context of facilitating Open Book Accounting (OBA) implementation within companies. The agents refer to both the companies implementing OBA and their suppliers who are involved in the supply chain transactions. Companies actively engage in utilizing the resources and support provided by the government. Their active agency is demonstrated through their efforts to access government programs, financial assistance, and technological support. The active agency of companies in utilising government support leads to enhanced OBA adoption within the industrial sector, leading to increased transparency and collaboration within their operations. Companies' active agency in investing in technology and cost-accounting systems results in the development of sophisticated systems. These systems facilitate the accurate communication of cost data to the stakeholders, thus promoting transparency and informed decision-making, which are essential aspects of OBA implementation.

The Saudi government has been heavily investing in technology and digital transformation in recent years, promoting the development of a digital economy and infrastructure improvements to enhance the business environment. For instance, the Saudi Vision 2030 seeks to enhance the

country's competitiveness through digital transformation, which could lead to the greater integration of technology into the supply-chain accounting system and OBA adoption. This finding is consistent with the prior research that emphasised the importance of digital transformation in promoting OBA adoption (Azizi et al. 2021; Kurniawan et al. 2020; Wang et al. 2018; Zhang et al. 2018).

In the context of the case study companies in this research, government support has facilitated OBA adoption and the development of a cost-accounting system, which enables the communication of the relevant cost data to the stakeholders. This system has been crucial in promoting OBA implementation and enhancing the competitiveness of the companies. However, not all suppliers have been able to take full advantage of these resources, as they lack the expertise and funds necessary to introduce OBA into their operations and thus remain unable or unwilling to disclose the information required by the providers. This finding is consistent with the prior research that highlighted the challenges related to OBA implementation in the supply chain due to the reluctance of the partners to share sensitive information (Ellram 1991; Johnson and Lawrence 2017).

Overall, the findings of this research suggest that government support, digital transformation, and the availability of appropriate techniques and resources play crucial roles in OBA implementation in Saudi Arabia. Additionally, the existence of a cost-accounting system and cooperation among suppliers are also critical in promoting OBA adoption in the supply chain. Government assistance can help industries to overcome obstacles, such as insufficient cost-accounting systems, a lack of cooperation from suppliers, and an unwillingness to adapt processes, to facilitate a smoother information flow (Alanezi et al. 2021; Denton et al. 2016; Tilt 2003).

Overall, the above statements contribute to a more comprehensive understanding of the factors that enable and constrain OBA implementation in Saudi Arabia and emphasise the important role of government support and the cost-accounting systems in facilitating the adoption of this practice.

### **6.3.7 Employee Competence**

The prior research has shown that companies with more knowledgeable staff tend to enjoy greater success when implementing new practices and solutions in their operations. Employees



require not only technical skills but also an understanding of how the organisation works so that they can effectively integrate these changes without disrupting the existing workflows. These individuals may be able to identify potential problems and areas for further development before full-scale deployment can take place. Training and education are essential components of successful OBA implementation. Training helps the employees to understand the principles of OBA, how to use the system, and how to interpret the financial data. Education provides a deeper understanding of the underlying concepts and theories that drive OBA (Pan and Seow 2016). Employees should be taught how to use the system in ways that maximise its potential (Apostolou et al. 2016).

This empirical evidence, derived from the present research, suggests that Saudi supply-chain companies are taking steps to ensure that their employees have the skills needed for OBA, as they recognise that competent employees are essential components of successful OBA implementation. This is in line with Witkowski and Rachwal (2019), who found that the implementation of OBA requires the involvement of competent employees with the necessary skills and knowledge to ensure accuracy and compliance with the regulations, and make effective decisions based on accurate data.

SST can explain how employee competence affects OBA implementation in Saudi Arabia. The internal structure represents the competence level of the employees within the supply-chain companies, specifically concerning their understanding and ability to implement Open Book Accounting (OBA) practices effectively. The agents refer to both the companies operating within the supply chain and their employees who actively acquire and apply the necessary skills for successful OBA implementation. Companies actively invest in training programs and initiatives to enhance the competence of their employees. This active agency involves providing resources for professional development, workshops, and educational opportunities focused on financial literacy and OBA principles. The active agency of investing in employee training results in enhanced OBA implementation within companies and ensures their long-term adaptability. Competent employees can adapt to the evolving OBA practices, technological advancements, and changing market demands. This adaptability is a crucial outcome, as it enables companies to remain competitive and resilient in the face of industry changes.

Additionally, competent employees can act as change agents within their organisations, encouraging their colleagues and managers to adopt OBA practices (Fisher and Govindarajan

2006). Moreover, competent accountants are essential for providing guidance on how best to structure the system, and maximise efficiency while minimising the risk exposure due to potential errors and fraudulent activities by staff or external partners such as vendors and suppliers (Chen and Huang 2013). They also help to develop internal controls within an organisation to ensure that the financial information is accurate and up-to-date, and provide valuable insights into potential cost savings, which may be beneficial when developing the budgets or setting the long-term goals/targets for an organisation (Al-Htaybat and Al-Matari 2014).

However, the employees in supply-chain accounting in Saudi Arabia and Western countries may differ in terms of their education, training, and work experience, which could affect OBA implementation. Cultural differences, language barriers, work experience, and technology are some of the possible reasons for these differences (Cavalieri et al. 2017). For instance, employees in Saudi Arabia may differ from their Western counterparts in their attitudes to transparency and disclosure, and the official language of Saudi Arabia is Arabic, which could affect the employees' ability to communicate effectively with their colleagues, clients, and suppliers in other countries.

Furthermore, the study contributes to the SST by showing how social structures can be transformed through the actions of individuals and groups, and how these structures can constrain and enable OBA implementation. The study highlights the importance of individual agency in the success of these structures and demonstrates how competent employees can act as change agents within their organisations. While the nature of this enabling structure may differ in Western countries, competent employees may nonetheless play a role in the success of OBA practices. Therefore, Saudi companies are making great efforts to ensure that there are competent employees in Saudi Arabia, who are well-equipped to implement OBA practices.

### **6.3.8 Effective Internal-Auditing Departments**

The literature review revealed that effective internal-auditing departments enhance and improve the use of OBA. Drogalas et al. (2017) conclude that internal auditors should review the accuracy of the data entered into the systems, as well as any changes made to them. They should also assess whether the system is being used properly and if there are any potential risks associated with its use. In addition, they should evaluate the effectiveness of the controls in

place to protect against fraud or errors. Finally, they should provide an assurance that all transactions are being recorded accurately and in accordance with the applicable laws and regulations. Without internal auditing, organisations may be unable adequately to assess the accuracy and reliability of their financial data. This can lead to inaccurate or incomplete information being used in OBA decisions, resulting in poor decision-making and a lack of trust in the system (Ibrahim et al. 2021).

Previous studies have highlighted the importance of internal-auditing departments in ensuring the accuracy and reliability of financial information (Bartlett and Chandler 1997; Ouda 2018). However, the role of internal auditing in facilitating OBA implementation has not been extensively researched, particularly in Saudi Arabia. This could contribute to the current literature and suggest that the presence of a competent, trustworthy internal-auditing department facilitates the successful implementation of OBA principles in Saudi Arabian companies. Internal auditors provide an objective, independent review of the financial information, which builds trust among the managers and employees and encourages the adoption of OBA practices.

SST provides a useful framework for understanding the impact of internal-auditing departments on OBA practices. The internal structure represents the presence of competent and trustworthy internal-auditing departments within companies, specifically concerning their role in reviewing financial information and facilitating the implementation of the Open Book Accounting (OBA) principles. The agents refer to both the companies operating within the industry and their internal auditors who actively conduct objective and independent reviews of the financial information to ensure compliance and transparency. Companies actively invest in ensuring the competence and trustworthiness of their internal auditing departments. This active agency involves recruiting skilled auditors, providing ongoing training, implementing quality assurance processes and ensuring compliance with the accounting principles and OBA standards. This builds credibility and confidence in the financial data, thereby encouraging the adoption of OBA practices.

However, the study also identified several challenges facing Saudi Arabian companies when implementing effective internal audits, including legal factors, and the availability of technology and resources. For example, there may be a greater emphasis on privacy and confidentiality, and fewer legal requirements regarding financial disclosure, than in some Western countries. In Western countries, an effective internal-auditing department may also

play a role in OBA implementation. For example, in the United States, the Sarbanes-Oxley Act of 2002 mandated the establishment of internal control frameworks and strengthened the role of internal auditors in ensuring the accuracy and reliability of financial information (Public Company Accounting Oversight Board 2018). This has led to an increased reliance on internal-auditing departments for the implementation of OBA practices.

The availability of technology and resources for financial management and auditing may also differ in Saudi Arabia and Western countries. Some Western countries may have more advanced financial-reporting software or data-analytics tools, which could affect the skills and knowledge of the internal-audit teams (Ramaswamy and Sridharan 2020).

The results of this study contribute to the current literature on the role of internal-auditing departments in facilitating the implementation of OBA practices. By highlighting the importance of the internal-auditing departments in Saudi Arabian companies, this study provides insights into how OBA practices can be successfully implemented in a challenging environment.

### **6.3.9 Dependency and Power Asymmetry**

The research findings suggest that power asymmetry can have a significant influence on OBA adoption. If one party feels that they lack sufficient control over the decision-making process, they may be less likely to trust the other party and their decisions. This lack of trust can make it difficult for the parties to reach an agreement on how best to implement OBA (Cheng 2011; Zhang and Cao 2018). Power asymmetry can also lead to a lack of communication between those involved in OBA adoption. A party who feels that they lack sufficient control over the decision-making process may be less likely to communicate openly with the other party about their concerns or ideas. This lack of communication can further impede successful adoption by making it difficult for the parties to reach mutually beneficial solutions. In addition, those with less power may lack the resources or knowledge necessary to understand and use OBA effectively. Therefore, it is important for organisations to consider how power asymmetry may affect OBA adoption before they attempt to implement it (Cuevas et al. 2015).

The findings of this study contribute to the existing literature on the adoption of OBA in supply chains, highlighting the influence of power imbalances among the stakeholders. The prior

research has already established that supply-chain partners' collaboration and cooperation are critical to the success of OBA implementation (Nguyen et al. 2016; Zhao et al. 2019).

SST provides a useful framework for understanding the role of power and dependency in OBA adoption within supply chain relationships. From the SST perspective, the internal structure represents the balance of power and dependency dynamics within supply-chain stakeholders, specifically in the context of Open Book Accounting (OBA) adoption. The agents refer to both the companies operating within the supply chain and their respective stakeholders, including their suppliers and partners. The active agency involves efforts by both parties to balance the power, thereby fostering a cooperative environment that encourages OBA adoption for mutual benefit. On the other hand, the active agency involves a company strategically leveraging its power and influence to enforce OBA adoption. This outcome may lead to strained relationships, a lack of trust, and potential supplier dissatisfaction, thereby affecting the long-term sustainability of the supply chain relationships.

The findings of this study suggest that the balance of power among the supply-chain stakeholders in the two case-study organisations influenced OBA adoption to varying degrees. In Case-1, where the majority of AV's suppliers are essential strategic partners, the harmonisation of power among the parties led to a decreased dependence and willingness to adopt OBA for mutual benefit. The presence of a strong social structure based on trust and mutual interest facilitated the implementation of OBA practices in this case. On the other hand, in Case-2, BA used its dominant position over its suppliers to persuade them to adopt OBA for its own advantage. In this case, the social structure is characterised by power asymmetry and a lack of trust, which led to OBA adoption for instrumental purposes rather than mutual benefit.

The study supports the Resource Dependence Theory, which posits that the dependence of a firm on its partners determines its power and control over the relationship (Pfeffer and Salancik 1978). In Case 1, where the power is more balanced among the supply-chain partners, the adoption of OBA is mutually beneficial and fosters trust and collaboration. In contrast, Case 2 highlights the negative impact of power asymmetry on OBA adoption, where the dominant firm leverages its power to persuade its suppliers to adopt OBA for its own benefit.

Overall, the study highlights the importance of the level of power and dependency asymmetry as critical in determining the readiness of the supply-chain partners to adopt OBA, and suggests that firms should focus on building balanced power relationships and fostering mutual benefits to encourage OBA adoption.

### 6.3.10 Inventory-Management Strategy

The research findings suggest that inventory-management strategies can have a significant impact on the success of OBA adoption. Ghasemi et al. (2022) revealed that accurate inventory data allowed better forecasting and planning for future needs, which helped to reduce waste and improve efficiency throughout the supply chain. Furthermore, it facilitated better pricing decisions and customer service by ensuring that the products were available when needed. Inventory-management strategies can also promote successful OBA adoption by providing visibility regarding how the resources are used within the organisation. This visibility enables the identification of areas for improvement and provides insights into how resources are being allocated across different departments or projects. When organisations understand these patterns, they can make better informed decisions about their operations and ensure that they are making the most efficient use of their resources (Mashayekhy et al. 2022).

Conversely, if the inventory management is not properly integrated with OBA, it can be difficult accurately to forecast future the demand and plan for necessary resources. If inventory management is not fully aligned with OBA, it can be difficult to identify areas of waste and inefficiency that could be addressed through cost-saving initiatives (Ghasemi et al. 2022).

Drawing on SST, the internal structure represents the strategies and systems that companies employ to manage their inventories efficiently. The agents refer to the companies implementing various inventory-management strategies to optimize their operations and facilitate OBA adoption. The active agency in this study involves the use of technology and the deliberate decision to implement JIT systems, which requires careful planning, coordination, and synchronization with the supply and demand dynamics. This strategy enhances the company's flexibility, reduces excess stock, and ensures timely delivery to the customers. Efficient inventory management is critical for successful OBA adoption, as accurate and up-to-date inventory data are essential for transparent financial reporting.

According to the findings of this study, one important practice for effective inventory management in Saudi Arabia is the use of technology, such as barcode scanners, to track items throughout the supply chain. This helps managers quickly to identify the location of an item and how much stock is available, enabling them to adjust the orders accordingly. Additionally, many organisations in Saudi Arabia, such as AV (the customer in case 1), use software programs such as Enterprise Resource Planning (ERP) and Warehouse Management Systems (WMS), that provide real-time visibility regarding the inventory levels. This finding is in line

with the studies that suggest the effectiveness of using technology for effective inventory management (Jones et al. 2020, Bhattacharya et al. 2021)

In line with the findings of this study, case 1 employs Just-in-Time (JIT) delivery systems for effective inventory management. JIT allows companies to receive goods only when they are needed, thus avoiding overstocking, or understocking their inventories. JIT can also reduce the costs associated with storing excess stock and minimise the potential losses due to expired items. This finding is in line with the study's suggestion that JIT can improve customer service by ensuring that the orders arrive on time and in good condition, leading to customer satisfaction (Prajogo et al. 2021).

According to case 2, it might be difficult to implement transparent inventory-management practices, particularly with regard to unpredictable demand and production schedules like those in the pharmaceutical sector, that should be ready for production at any time, leading to a reluctance to share inventory data with others. Management practices and OBA in the pharmaceutical sector can be difficult due to the unpredictable demand and production schedules.

For example, Shabbir et al. (2017) found that the pharmaceutical industry faces significant challenges in managing its inventory due to various factors, such as demand uncertainty, lead time variability, and a lack of information sharing among the stakeholders. This results in a lack of visibility regarding the inventory levels of raw materials, work-in-progress, and finished goods, making it difficult to optimise production and the inventory management practices.

Similarly, Zailani et al. (2017) identified a lack of trust and collaboration among the supply chain partners as a significant barrier to implementing OBA practices in the pharmaceutical industry. The study found that companies were reluctant to share inventory data with each other due to concerns about competitive advantage and intellectual property protection.

In summary, the findings of this research emphasise the importance of inventory management strategies for successful OBA implementation in Saudi Arabia. It can be concluded that the pharmaceutical sector's unique characteristics make it challenging to implement transparent inventory-management practices and OBA, so companies need to develop effective inventory management strategies and OBA practices that can improve their overall efficiency and profitability.

### 6.3.11 The Level of Trust

Axelsson et al. (2002) underscore that building trust is a crucial aspect of employing OBA, highlighting its pivotal role in this accounting methodology. The importance of trust in the context of OBA is consistently reinforced by prior studies, emphasizing its critical role in supply chain management (Kamali and Iyer, 2018; Zhang et al. 2019; Luo et al. 2019).

On the other hand, other literature suggests that OBA adoption can increase the trust between the organisations in a global supply chain. Supplier firms that implement OBA systems experience heightened trust from their customer firms due to the increased visibility around their financial performance. Similarly, adopting OBA leads the customer firms to have greater trust in their suppliers, owing to the transparency and visibility around supplier performance (Liu et al. 2018). OBA, by providing transparency into financial performance, enables a better understanding of suppliers' capabilities, thereby facilitating informed decisions about pricing and delivery schedules (Kumar and Sharma 2019). According to Morgan and Hunt (1994), Kulmala (2004), Mahama (2006) and Agndal and Nilsson (2008), the exchange of cost information may boost both buyer and supplier confidence, commitment, and collaboration

Another study found that, when customer firms adopted OBA with their suppliers, this led to the improved coordination of activities, such as inventory management and production scheduling (Sarkis et al. 2011). It promotes stronger relationships between the customer firms and suppliers, thus enhancing the coordination across the entire supply chain (Somapa, 2018). Moreover, trust is increased by more frequent interactions, the development of mutual interests (Das and Teng 2001; Langfield-Smith and Smith 2003), and the two-way flow of information resulting from the implementation of control mechanisms (Sako and Helper 1998). The more closely the partners collaborate, the greater the trust will be between them (Langfield-Smith 2008).

The findings of the current study suggest that trust is a necessary precondition for successful OBA collaboration, rather than being a result of implementing OBA practices.

According to SST, the internal structure represents the degree of trust established among the supply chain partners, which is a critical factor influencing the successful implementation of Open Book Accounting (OBA) practices. The agents include companies and their supply chain partners, such as suppliers and customers, who actively engage in building and maintaining trust relationships within the supply chain network. Companies actively engage in efforts to



build and maintain trust among their supply chain partners. This active agency involves strategies such as open communication, sharing risks and rewards, fostering mutual interests, and developing strong relationships with their suppliers and customers. The active agency of building trust among supply chain partners ensures that the benefits of OBA practices are realized effectively. Trust serves as a foundation upon which OBA practices can thrive. When trust has been established, companies are more willing to embrace OBA, thus leading to successful implementation and the realization of its potential benefits in terms of improved collaboration, cost reduction, and supply chain optimization.

The importance of trust in the OBA context is consistent with previous research that highlighted the critical role of trust in supply chain management (Axelsson et al. 2002; Kamali and Iyer, 2018; Zhang et al. 2019; Luo et al. 2019). Furthermore, the findings of the current study suggest that the implementation of OBA practices can facilitate the sharing of information and resources among the supply chain partners. However, this can only occur when there exists a high level of trust among the partners. The importance of trust in promoting information sharing and collaboration is consistent with the previous research that identified trust as a critical factor in inter-organisational relationships (Luo et al. 2019).

The findings of the current study suggest that OBA practices should be implemented in conjunction with efforts to build trust among the supply chain partners. This can involve strategies such as developing strong relationships with the suppliers and customers, sharing risks and rewards, and engaging in open, transparent communication (Choi and Lee 2019). By doing so, businesses may be in a better position to realise the benefits of OBA practices in terms of improving collaboration and reducing costs.

Overall, the current research adds to the existing OBA literature by highlighting the importance of trust as a prerequisite for the successful implementation and adoption of OBA practices. By emphasising the interplay between social structures and individual agency, the SST framework provides a useful lens for understanding the complex relationship between OBA and trust.

#### **6.4 Impacts of Supply-Chain Maturity Level on OBA Implementation**

It has been argued that higher levels of supply-chain maturity are necessary for effective OBA because they allow organisations to manage complex supply-chain networks more effectively. For example, Yang et al. (2017) found that supply-chain maturity was positively associated

with successful OBA implementation. This is because mature supply chains are characterised by high levels of collaboration and trust, which facilitate communication between the partners and information-sharing. Gölgeci and Kuivalainen (2020) found that OBA was more likely to be successful in SMEs with mature networks, as these firms enjoyed more trust and collaboration with their suppliers. A study conducted by KPMG found that companies with higher levels of supply-chain maturity were able to achieve greater cost savings from OBA than those without such capabilities (KPMG 2017). Berry et al. (2000) identified three stages of inter-firm relationship maturity: serial dependence (the customer is dominant), reciprocal dependence (a collaboration between a buyer and supplier), and mutual dependence (a partnership). There are distinct forms of connection, beginning with independent companies and progressing through various phases of collaboration (Cullen and Meira 2010). A critical examination of the data from each company revealed that the relationship maturity in each of them varied.

This research findings suggest that the development of successful, mature relationships between organisations is a process, rather than an event, and requires time and effort throughout their lifecycle. Mature supply-chain networks with established relationships and trust are more conducive to successful OBA implementation, while immature, unstable networks face greater challenges. The following section presents an analysis of how the case study companies made an effort to improve the level of maturity of their supply chain network and how the achieved maturity level affected their OBA implementation.

#### **6.4.1 Case Study 1**

AV, as a customer, has developed a successful approach to its supplier relationships, focusing on creating trustworthy partnerships and reducing the risks, which are two key components of successful supplier relationships (Li et al. 2019). Empirical evidence shows that focusing on these factors can lead to increased collaboration and cooperation between buyers and suppliers (Liu and Su 2020).

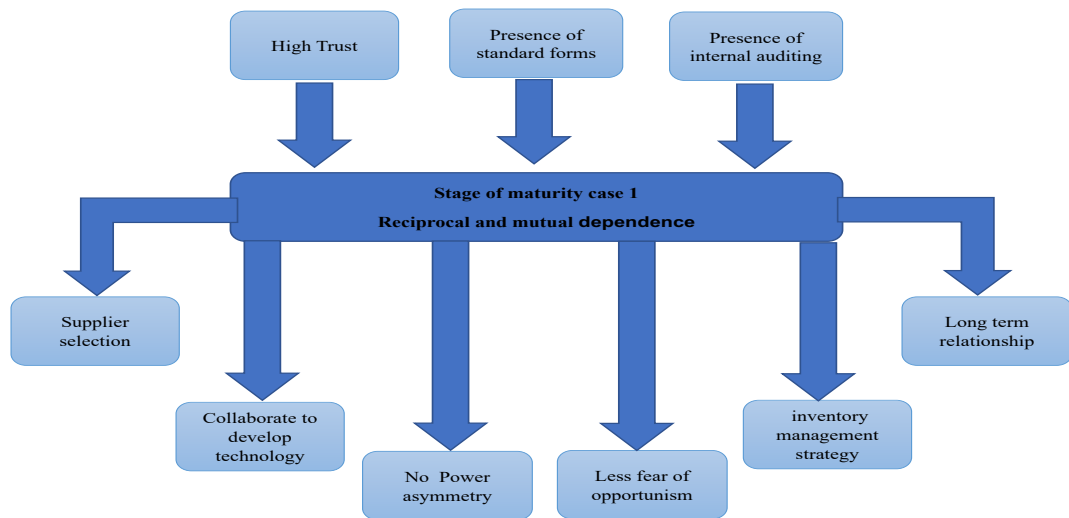
AV's approach to supplier relationships has been successful in developing reciprocal maturity and mutual dependence with its suppliers. This finding is consistent with the literature, which suggests that building long-term relationships based on trust and collaboration is beneficial for both buyers and suppliers (Liu and Su 2020; Choi and Hong 2020). AV's supply-chain network

has achieved high levels of collaboration and cooperation through the implementation of standardised OBA formats for sharing information and conducting effective internal audits. Research shows that communication and information-sharing are essential for successful supplier relationships, and that the use of standardised formats can improve transparency and reduce costs (Li et al. 2019).

The research findings indicate that the network's level of maturity also facilitates analyses of the suppliers' capabilities, improved cost-accounting systems, reduced risks, and the maintenance of long-term relationships. The literature supports the idea that mature supply-chain networks are better equipped to manage risks and build successful relationships with the suppliers (Nath and Kumar 2020). Previous studies have suggested that higher levels of supply-chain maturity can lead to better supplier selection, improved technology, reduced risks, and long-term relationships, ultimately resulting in mutual growth (Bals et al. 2019; Modak et al. 2021; Srinivasan et al. 2018). Empirical evidence shows that a high level of trust, standardised communication, and effective internal audits are essential for achieving high levels of collaboration and cooperation in supply-chain networks. However, it is important to consider that although the developed maturity level was achieved in this supply chain case, the companies are still facing challenges regarding the full adoption of OBA in Saudi Arabia.

By applying SST, the internal structure represents the level of supply-chain maturity and its influence on the successful implementation of Open Book Accounting (OBA) practices. The agents in this context refer to the companies that actively participate in supply-chain activities and OBA implementation. The active agency of implementing standardized OBA formats and internal auditing processes contributes to building trust and cooperation among the supply chain partners, ultimately leading to increased supply-chain maturity. The outcomes include joint efforts with regard to technological development, the reduction of power asymmetry and a fear of opportunism, the promotion of appropriate inventory strategies, and the establishment of long-term relationships. These outcomes highlight the interplay between the internal structure, active agency, and the development of a mature, successful supply chain network within the framework of Strong Structuration Theory.

The diagram below illustrates the relationship between the above factors and the maturity level of the supply-chain network.



*Figure 4 Relationship between OBA factors and supply chain maturity case 1*

Maturity in the context of an OBA is supported by the existing literature. As noted in the literature review, several studies have identified trust as a critical factor in improving supply chain performance and achieving higher levels of supply chain maturity (Choi and Hong 2002; Li et al. 2006; Pagell and Halperin 2000; Wu and Pagell 2011).

The case study provides empirical evidence of how trust can lead to greater collaboration and effectiveness in achieving joint targets, ultimately contributing to improved supply chain maturity. The willingness of the parties in the network to share information and visit each other's factories is a clear indication of the high level of trust existing between them. This trust has allowed them to work together more effectively and improve the maturity level of their relationship.

The importance of trust in achieving successful OBA is highlighted by the case study findings. The high level of trust between AV and its network partners has allowed them to build a mature, collaborative relationship, increasing the efficiency of their production processes. This finding is consistent with previous research that identified trust as a key component of supply chain relationship maturity, particularly in the context of OBA (Kwon and Suh 2004; Sanders and Premus 2005).

In conclusion, this study's findings provide further evidence of the critical role that trust plays in supply chain relationships, particularly in achieving a mature, collaborative relationship that

supports successful OBA. Future research may investigate how trust can be effectively maintained over time.

The findings of this case study are in line with previous research that highlighted the importance of information sharing and collaboration in supply chain relationships. As noted by Li et al. (2017), a lack of trust and communication can lead to supply chain disruption and inefficiency, while greater cooperation and information sharing can enhance supply chain performance. The use of standardised formats for sharing information, such as OBA, has been identified as a key enabler of such cooperation and trust.

The results of the current study suggest that the availability of a standardised OBA format has indeed enhanced the spirit of cooperation and trust in the supply chain, leading to increased supply chain relationship maturity. By sharing financial information in a consistent, transparent manner, suppliers and customers were able to establish a more collaborative relationship and work towards achieving their mutual goals. This increased transparency also helped to identify potential areas for improvement and optimise the supply chain performance. These findings support the arguments of researchers, such as Christopher and Towill (2001), who emphasised the importance of effective communication and collaboration in supply chain management.

Overall, the findings of this case study add to the growing body of literature on the importance of information sharing and collaboration in supply chain relationships. The use of a standardised format for sharing information, such as OBA, can help to build stronger, more mature supply chain relationships by promoting greater cooperation and trust. However, it is important to note that the success of such initiatives depends on a range of contextual factors, such as the nature of the industry and the specific needs of the supply chain partners. Future research could therefore explore these contextual factors in greater depth to identify the most effective strategies for promoting supply chain collaboration and information sharing.

The findings of this case study highlight the importance of an internal audit department in promoting trust and enhancing the maturity of the supply chain relationships. The presence of such a department can provide assurance that all operations are being conducted properly, which can promote greater transparency and information sharing under OBA.

This is in line with previous research on the role of internal auditing in supply chain management. As noted by Bodi and Onakoya (2019), an effective internal audit department can help to identify the potential risks and vulnerabilities in the supply chain, leading to greater

transparency and trust. The use of OBA can be particularly effective in this context, as it provides a structured framework for sharing financial information and promoting greater cooperation among the supply chain partners.

The findings of this case study also suggest that the existence of an effective internal auditing department can help to promote supply chain relationship maturity. By providing an assurance that all operations are being conducted properly, the partners can feel more confident about sharing information and working towards achieving mutual goals. This can help to build stronger, more mature supply chain relationships over time.

Overall, these findings contribute to the growing body of literature on the importance of internal auditing in supply chain management. An effective internal audit department can help to promote greater transparency and trust, which in turn can enhance the success of initiatives such as OBA. Future research could further explore the specific mechanisms through which internal auditing can promote supply chain relationship maturity, as well as the most effective strategies for implementing such initiatives in practice.

The findings of this case study suggest that data security practices, such as encryption, firewalls, and password protection, can play an important role in creating a mature environment for sharing information and using OBA. These measures help to ensure that any shared information can only be accessed by those who need it, which can reduce the fear of sharing sensitive data and promote greater transparency and trust in the supply chain.

This is in line with previous research on the importance of data security in supply chain management. As noted by Tan et al. (2020), data security is becoming an increasingly critical issue in the age of digital supply chains, with concerns about cyber threats and data breaches on the rise. By implementing robust data security measures, companies can demonstrate their commitment to protecting sensitive information and building trust with their supply chain partners.

The findings of this case study also suggest that the adoption of secure data sharing practices can promote OBA adoption and enhance the maturity of supply chain relationships. By reducing the fear of sharing information, companies may be more willing to participate in initiatives such as OBA, which can lead to greater transparency and cooperation in the supply chain.

Overall, these findings highlight the critical importance of data security practices in promoting greater transparency, trust, and maturity in the supply chain. Future research could further explore the specific mechanisms through which data security practices can promote supply chain relationship maturity, as well as the most effective strategies for implementing such practices.

The findings of this case study suggest that supplier selection strategies can have a significant impact on OBA adoption and the maturity of supply chain relationships. In particular, the close collaboration between AV and its selected suppliers has led to a more productive, trusting partnership, with both parties benefiting from the exchange of knowledge and information. The supplier selection strategy of the AV Group is in line with the literature on supplier relationship management, which highlights the importance of building close relationships with a select group of suppliers for long-term success (Cousins et al. 2008; Wu et al. 2012). This is in line with previous research on supplier selection and relationship management in the supply chain. As noted by Ellram et al. (2013), effective supplier selection is critical to building strong, mature relationships with suppliers, as it allows companies to identify partners who are a good fit for their needs and goals. By selecting suppliers with the necessary skills and expertise, companies can foster closer collaboration and more productive partnerships, which can lead to the wider adoption of initiatives such as OBA.

Furthermore, by limiting its suppliers and engaging only with those with the necessary skills and drive, AV has been able to ensure a productive partnership with its suppliers. This approach is supported by the literature on supplier selection, which emphasises the importance of selecting suppliers based on their ability to meet the buyer's requirements (Cousins et al. 2008; Wu et al. 2012). By doing so, AV has been able to build closer relationships with its suppliers, thereby increasing trust and decreasing the transaction risks. Additionally, the fact that most of the suppliers belong to the same group has facilitated the data collection and reduced opportunistic behaviour, as these suppliers have shared interests and loyalty.

Overall, these findings underscore the critical importance of supplier selection and information sharing in building strong, mature supply chain relationships. These findings contribute to the existing literature on supplier relationship management and OBA, highlighting their importance in building successful, mature supplier-buyer partnerships. By working closely with selected suppliers and engaging in reciprocal information sharing, companies can promote wider OBA adoption and foster more productive and trusting partnerships.

The importance of technology in enhancing supply chain maturity has been widely acknowledged in the literature (Koufteros et al. 2005; Sheu et al. 2006; Zhang et al. 2015). This case study provides evidence of how AV's technological capabilities have contributed to the success of its supply chain network. By collaborating with its customers and suppliers in developing and implementing technology, AV has been able to facilitate the flow of information, resulting in a more mature supply chain relationship. This finding is in line with previous studies that highlighted the positive effects of technology on supply chain collaboration and coordination (Li et al. 2014; Shi et al. 2016). Moreover, the technology-enabled cost reduction opportunities identified through this collaboration highlight the potential financial benefits of investing in technology for supply chain management.

Overall, the findings can add to the literature by providing empirical evidence of the importance of technology and collaboration in achieving supply chain maturity and successful OBA implementation. The study highlights the need for the supply chain partners to work collaboratively to develop and implement effective technology and systems that enable effective information sharing and facilitate OBA implementation, thereby enhancing the level of trust and cooperation between the partners and achieving supply chain maturity.

The research findings suggest that cooperative, mature relationships between supply chain partners can reduce the power asymmetry, thus enabling successful OBA implementation. Previous studies have highlighted the importance of trust, communication, and commitment in facilitating cooperation and reducing the power asymmetry in supply chain partnerships (Lai et al. 2019; Liu et al. 2020; Sohn et al. 2019). Furthermore, these studies have emphasised the role of joint targets and shared values in promoting cooperative relationships between the supply chain partners.

The case study of AV and its network provides a practical illustration of the benefits of cooperative relationships in reducing the power asymmetry and enabling the successful implementation of OBA practices. The mature cooperative relationship between AV and its network has ensured that power symmetry exists between them, which has made both partners more willing to engage in OBA practices to maintain their relationship. This finding is consistent with Pan et al. (2019), who found that cooperation between the supply chain partners can facilitate the implementation of OBA practices.

In conclusion, the research findings underscore the importance of cooperative, mature relationships in the successful implementation of OBA practices in supply chain management.



Future research can build on this study by exploring the mechanisms through which cooperative, mature relationships influence the power asymmetry and the implementation of OBA practices.

The empirical evidence of this case study supports the literature on the importance of mature relationships and OBA practices for improving supply chain performance and competitiveness. The mature relationship between AV and its network has facilitated the implementation of OBA practices, leading to improved inventory management and better decision-making regarding cost-reduction initiatives. This has resulted in reduced costs, increased productivity, and on-time delivery, which is consistent with the findings of previous research (Wang and Wang 2017; Liu and Bai 2018; Lin and Wu 2014; Naim and Gosling 2011).

The mature relationship between AV and its network has also encouraged long-term relationships among the partners, which has contributed to increased cooperation and information-sharing, consistent with the previous research (Wu and Pagell 2011; Kale and Singh 2009).

Overall, the case study findings provide further support for the literature on the importance of mature relationships, OBA practices, collaboration, and long-term relationships for improving supply chain performance and competitiveness. Companies that prioritise these factors are more likely to have mature supply chains and successfully implement OBA practices, which can lead to significant improvements in supply chain performance and a competitive advantage in a dynamic market environment.

Based on the empirical evidence presented, it appears that AV's (customer) approach to supplier relationships has been successful in fostering reciprocal maturity and mutual dependence among the supply chain members.

The research has shown that the use of standardised OBA formats for sharing information and internal auditing has been instrumental in building trust and cooperation among suppliers and customers, ultimately leading to increased supply-chain maturity. This, in turn, has enabled joint efforts regarding technological development, reduced power asymmetry and fears of opportunism, promoted appropriate inventory strategies, and built long-term relationships. As a result, this has led to a reduction in costs, increased productivity, and improved customer satisfaction. Overall, this research contributes to the existing literature by providing evidence

of the success of AV's approach to supplier relationships in fostering reciprocal maturity and mutual dependence among the supply chain members.

#### **6.4.2 Case Study 2**

BA has made progress with regard to implementing OBA practices across its supply-chain network, which can improve communication and data-sharing. However, not all suppliers have committed to the partnership, indicating a lack of trust and collaboration between BA and its suppliers. The literature on supply chain management supports the idea that collaboration and trust are crucial for successful supplier relationships. Furthermore, the absence of standardised forms of information sharing and the lack of an effective internal auditing department in BA's network can be significant barriers to achieving mature relationships. This has been noted in the literature to be a significant barrier to achieving mature relationships within business networks. According to Zoni and Merchant (2007), the use of standardised forms for sharing information is an important means of facilitating communication, enhancing the quality of the information being shared, and promoting trust among the parties involved.

The relationship between BA and its suppliers has been described as being in a "serial dependence" phase (Liu and Su 2020; Choi and Hong 2020). In this phase, BA is increasingly engaging in collaborative partnerships and encouraging suppliers to invest in their production capacity and managerial capabilities. However, the amount of accounting information shared between BA and its suppliers is limited, indicating a lack of collaboration.

The lack of mature relationships and collaboration between BA and its suppliers has been identified as a significant challenge within supply chain management. In the case of BA, the absence of mature relationships and collaboration with its suppliers can lead to various problems, including an inability to collaborate and reduce the power asymmetry, a fear of opportunism, an inability to build long-term relationships, and difficulty negotiating better terms.

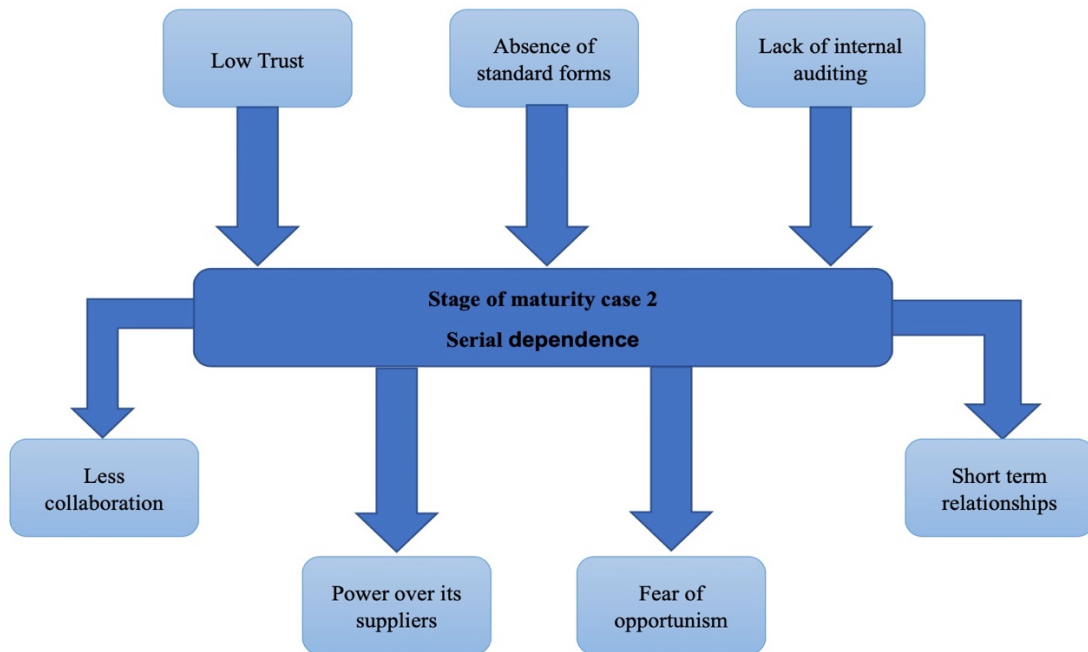
Power asymmetry and a fear of opportunism are common concerns in supply chain relationships, especially when there is a lack of trust and collaboration among the parties involved (Yan et al. 2016). In addition, the absence of mature relationships and collaboration with suppliers can make it challenging to build long-term relationships. According to Handfield and Nichols (2002), long-term supplier relationships are critical if businesses are to achieve

supply chain efficiency, reduce costs, and improve product quality. Without mature relationships and collaboration, it may be challenging to establish long-term supplier relationships, leading to potential disruptions to the supply chain.

Moreover, a lack of access to accurate accounting information can hinder a business' ability to negotiate better terms with its suppliers. Accurate accounting information is essential for determining costs, setting prices, and identifying potential areas for cost savings (Handfield and Nichols 2002).

According to SST, the internal structure represents the level of supply-chain maturity and its influence on the successful implementation of Open Book Accounting (OBA) practices. The agents in this context refer to the companies actively involved in the supply-chain activities and OBA implementation. These companies exhibit a low level of trust among supply chain partners, and lack standardized procedures for sharing financial information as well as dedicated internal departments to facilitate OBA practices. The active agency here involves the absence of initiatives to foster trust, implement the standardized communication protocols, and establish internal structures dedicated to OBA, which leads to adverse outcomes. These outcomes include reduced collaboration, power imbalances related to suppliers, a fear of opportunism, and short-term relationships.

The diagram below illustrates the relationship between the above factors and the maturity level of the supply-chain network.



*Figure 5 Relationship between OBA Factors and Supply Chain Maturity Case 2*

This case study highlights the impact of trust on the relationships between BA (a customer) and its suppliers and customers. The importance of trust and transparency in inter-organisational relationships has been highlighted by several researchers (Anderson and Narus 1990; Dyer and Singh 1998). According to Anderson and Narus (1990), trust is the foundation of successful business relationships, and is built over time through repeated interactions. Dyer and Singh (1998) also suggest that trust is essential in inter-organisational relationships as it can reduce the risks associated with opportunistic behaviour. The lack of trust and transparency between BA and its suppliers and customers may have affected the maturity level of their relationships, as suggested by the empirical evidence from this case study.

The absence of a standardised format for sharing information and lack of internal auditing has hindered BA's ability to build mature relationships with its suppliers and adopt OBA. This finding is consistent with the literature, which suggests that standardisation can improve the quality of the relationships between the partners (Ellram and Cooper 1990). The case study indicates that the lack of expertise and money needed to enhance the information systems' infrastructure has left some participants from BA unable fully to adopt and implement OBA.

The empirical evidence suggests that BA has a significant amount of power over its suppliers. This finding is consistent with the previous research, which suggests that power asymmetry can affect the quality of the relationships between the partners (Möller and Halinen 2000). Suppliers may be worried about the opportunistic use and security of their information during OBA practices, which may heighten their concerns about power asymmetry.

This case study suggests that BA and its suppliers avoid using OBA techniques in their short-term partnerships due to the associated risks. This finding is consistent with previous research, which suggests that the adoption of OBA can be challenging, especially in short-term partnerships (Gillespie and Rinaldi 2016).

In conclusion, this case study suggests that trust, a standardised form for sharing information, technology, and effective internal auditing are essential for building mature relationships with suppliers and customers. Additionally, OBA adoption can be challenging, especially when there is a lack of the expertise and money needed to enhance the information systems infrastructure. Companies should invest in developing trust between the parties involved, implementing standardised processes for information-sharing, and presenting effective internal auditing departments. This includes investment in technology, including IT systems and cost-accounting systems, and the establishment of open-communication channels.

These investments in relationships can reduce the transaction risks and power asymmetry, while providing greater assurance to all parties, thus leading to improved customer satisfaction, an increased market share, and better financial results over the long term.

Overall, companies with more mature supply chains are more likely to implement OBA successfully. This is because they have established relationships with suppliers and partners and also possess the necessary systems and processes to manage the flow of information. However, companies with less mature supply chains may also benefit from implementing OBA, as it can help them to build stronger relationships and improve their operations.

Case study 1 revealed that the customer company had been relatively successful in its approach to implementing OBA. This was evidenced by the firm's mutually beneficial relationships with its customers and suppliers. Case 2 has also started to make progress with regard to implementing OBA processes throughout its supply-chain network. However, there remains room for improvement with regard to ensuring that all parties are able effectively to share their

financial information and cost structures. This will facilitate the creation of stable, cooperative relationships with key suppliers and customers, while also promoting cost advantages.

In conclusion, previous studies have shown that there exists a positive relationship between supply chain maturity and OBA adoption of OBA (Chopra and Meindl 2016; Gunasekaran et al. 2018). However, this research finds that a high level of supply chain maturity may be insufficient alone to ensure successful OBA adoption. Case 1 in Saudi Arabia suggests that this relationship may not hold true universally.

Despite the high level of supply chain maturity in AV's (a customer) approach to supplier relationships, the adoption of OBA practices still faces constraints in Saudi Arabia, including the cultural norms of confidentiality and privacy, and the legal environment. Strong structuration theory may be used to identify the role of constraints and agency. In the context of this study, the cultural norms of confidentiality and privacy as well as the legal environment in Saudi Arabia can be seen as structural constraints that limit OBA adoption.

## **6.5 Opportunities, Benefits and Challenges of Implementing OBA in Saudi Arabia**

This section explores the potential opportunities and benefits of implementing OBA in Saudi Arabia. It also examines the challenges associated with OBA implementation to provide a comprehensive overview of the potential impact of OBA on the business sector and society as a whole.

### **6.5.1 Opportunities**

The findings of this research indicate that OBA offers several opportunities and benefits for companies looking to build stronger relationships with their suppliers and customers. As noted in case 1, transparency and collaboration were found to be critical to building strong relationships with their suppliers and customers. By adopting OBA, companies can improve transparency by sharing financial information with their supply chain partners, which can help to build trust and improve collaboration. This is consistent with the previous research that suggested that OBA can lead to improved collaboration and teamwork within supply chain networks (Cousins et al. 2010; Lindgreen et al. 2012).

The findings of this research highlight the opportunities that can be gained from adopting OBA, as demonstrated by case study 2. While the company is in the early stages of adopting OBA, it is important to note that the potential benefits are significant. BA hopes to improve communication and collaboration with its suppliers and customers through the sharing of financial information. Moreover, the company hopes to create stronger relationships with their supply chain partners and improve their financial performance through identifying areas for optimisation and efficiency. This is in line with the previous research that suggested that OBA can lead to improved supply chain performance and financial outcomes (Tayles and Drury 2001; Kaplan and Atkinson 2015).

As highlighted in case 1, this research finds that one opportunity arising from the adoption of OBA is the recent government support offered in Saudi Arabia. AV wished to benefit from government support and use it to improve the company. OBA will allow them to expand the output while reducing the cost through the financial and administrative assistance provided by the Saudi Arabian government. This is consistent with previous research that suggests that the government support for supply chain management can lead to improvements in the overall supply chain performance (Geng et al. 2016; Zhang et al. 2016).

Moreover, AV wanted OBA to improve the supply chain performance by promoting transparency and accountability among the supply chain partners. This can help to build trust and enhance collaboration, which can lead to more effective problem-solving and decision-making. This is in line with the view that sharing financial information with suppliers and partners enables companies to build stronger relationships and foster collaboration (Lindgreen et al. 2012). This can lead to more effective problem-solving and decision-making, as well as better performance outcomes for the entire supply chain network.

This research finds that case 2 also shows an interest in the potential benefits of OBA regarding accountability. BA is in the early stages of implementing OBA in their supply chain company, but it foresees many growth opportunities. One of the benefits that it is most excited about is the increased accountability. With OBA, every member of the supply chain takes ownership of the financial performance of the company. It promotes a culture of accountability and responsibility, which it believes will benefit it in the long run. The idea that OBA promotes accountability in supply chains is consistent with Chen et al. (2020) and Firth et al. (1997), who found that increased transparency and information sharing can lead to greater accountability and responsibility among the stakeholders. By sharing financial information

with their supply chain partners, companies like BA can hold themselves accountable for their financial performance and build trust and transparency in their relationships with their partners. Additionally, by fostering a culture of accountability, OBA can help to identify areas for improvement and facilitate continuous improvements of the supply chain (Chen et al. 2020). Furthermore, Prajogo and Sohal (2016) and Lee et al. (2015) found that accountability and responsibility are critical factors in building strong relationships within the supply chain. By promoting a culture of accountability and responsibility through OBA, companies like BA in case 2 can foster stronger relationships with their supply chain partners and achieve long-term growth and success.

This research finds another potential opportunity for OBA from the case 2 perspective. BA hopes that increased innovation is another opportunity for OBA and will help it to stay ahead of the competition. By providing the stakeholders with access to financial data, it is helping to stimulate creativity and innovation, as the stakeholders are better able to understand the financial implications of new ideas and initiatives.

The potential of OBA to stimulate creativity and innovation is consistent with Lindgreen et al. (2012), who found that collaborative relationships between the supply chain partners can lead to greater innovation and new product development. By sharing financial information with its supply chain partners, companies like BA can create a more collaborative environment that encourages the sharing of new ideas and development of innovative solutions. Additionally, Cai and Yang (2014) found that OBA can help to improve supplier performance, leading to greater innovation and competitiveness within the supply chain. This suggests that, by promoting a culture of innovation through OBA, companies like BA can not only stay ahead of the competition but also create a more efficient and effective supply chain, that benefits all of the stakeholders involved.

### **6.5.2 Benefits**

This research highlights that a major benefit of OBA was its ability to help organisations to overcome the challenges posed by the Covid-19 pandemic. Both of the case studies are consistent with previous studies that stressed the importance of financial transparency and collaboration in times of crisis. For example, Pagell et al. (2021) found that companies that engaged in more collaborative relationships with their suppliers were better able to manage the



disruption and overcome the challenges during the pandemic. Similarly, Ivanov (2020) highlighted the importance of financial transparency and risk-sharing mechanisms in promoting supply chain resilience during the pandemic.

The use of OBA in the case studies suggests that it can be an effective tool for improving supply chain resilience and managing the financial implications of the pandemic. By sharing financial information and working collaboratively with their supply chain partners, companies can better manage the risk and respond effectively to disruptions. This is particularly important during the pandemic, where uncertainty and disruption became the norm.

The findings of this research also suggest that OBA can help organisations to maintain supply chain continuity and minimise the impact of disruptions on their operations. This is consistent with Knemeyer et al. (2021), which found that OBA can help to build trust and transparency in supply chain relationships, leading to greater resilience and continuity in times of crisis.

This research found that OBA enables companies to be more accountable to their stakeholders, including customers, suppliers, and partners. This is in line with Chen et al. (2020), who found that OBA promotes accountability by ensuring that the stakeholders are aware of the company's financial performance. Case 1 supports the idea that OBA can promote accountability and transparency. The researchers consider that, when sharing financial information with their supply chain partners, they are holding themselves accountable for the financial performance and creating a culture of transparency and trust. This approach can help to build strong relationships with their partners and create a shared sense of responsibility for the success of the business.

In addition, the adoption of OBA in case 1 was found to bring several benefits. By sharing financial information with their supply chain partners, AV was able to improve their communication and work together more effectively. This is consistent with previous research that suggested that OBA can lead to improved decision-making and problem-solving within the supply chain networks (Cousins et al. 2010).

The findings of this research are consistent with previous literature that identified the potential benefits of OBA for supply chain management. The use of OBA can help to shift the balance of power between suppliers and customers, resulting in a more equitable, collaborative relationship (Farragher et al. 2007). The results from Case 1 support this idea, demonstrating

that OBA can reduce dependency and create a more level playing field for both suppliers and customers.

Additionally, the findings from Case 1 also suggest that OBA can be used to improve the inventory management strategies. The ability to access and analyse financial data in real-time allows organisations to make informed decisions about their production schedules, input demand levels, and stock levels (Jaworski and Zielinski 2019). This is in line with the results of this research, which demonstrate that data collected by OBA systems can be used for forecasting purposes, enabling organisations to plan ahead and make better decisions regarding their inventory management strategies.

The findings of this research also suggest that OBA adoption can bring significant benefits in terms of improving the technology and accounting systems through the network. As noted in case 1, OBA allowed AV's network to improve its cost accounting systems to make them able to combine a vast array of cost data and communicate all of the pertinent information. This is consistent with the literature, which suggests that OBA can lead to improved communication and collaboration within the supply chain networks (Lindgreen et al. 2012). By sharing financial information and insights, the supply chain partners can work together to identify areas for improvement and optimise their joint performance (Cousins et al. 2010).

This research found that sharing financial information with these the stakeholders in the case 1 network resulted in stronger relationships and increased collaboration. This is in line with Holmberg and Sundström (2010), who found that OBA can foster collaboration between companies and their suppliers.

This research found that OBA can also provide valuable insights that promote better decision-making at all levels of the organisation. AV in case 1 admitted that access to financial information can lead to better informed decisions about the future of the company and its supply chain partners. AV uses the financial information provided by its supply chain partners to identify areas where it can improve its operations, reduce costs, and increase efficiency. This information can be used to drive continuous improvement and innovation within the company. The benefits of OBA in providing valuable insights into the financial health of the supply chain and enabling better decision-making are in line with Tayles and Drury (2001) and Kaplan and Atkinson (2015). These studies found that OBA can lead to better visibility of the demand and supply, which can help organisations to make better informed decisions regarding their production schedules and input demand levels, leading to more efficient, effective inventory

management. Furthermore, the use of the financial information provided by the supply chain partners to promote continuous improvement and innovation is consistent with the literature on collaborative relationships among the supply chains (Lindgreen et al. 2012). By sharing the financial information and working together, the supply chain partners can identify areas for improvement and innovation, leading to better performance outcomes for all of the partners involved.

Overall, these findings highlight the potential benefits of OBA with regard to overcoming the challenges posed by the Covid-19 pandemic, improving their communication, accountability and transparency, enabling better decision-making, stronger relationships and increased collaboration, improving the technology, conducting inventory management strategies, helping to shift the balance of power between suppliers and customers, and supporting the implementation of the government policies and programs.

### **6.5.3 Challenges**

Despite the potential benefits of OBA, OBA adoption in Saudi Arabia remains in its infancy, and the cultural norms of confidentiality and privacy have presented significant challenges to OBA implementation in Saudi Arabia. Companies have been reluctant to share financial information with their stakeholders due to concerns over confidentiality and privacy. This cultural barrier has made it more difficult to convince the stakeholders to embrace OBA. For instance, case study 2 found that trust issues and the potential for opportunistic behaviour impede successful OBA adoption.

According to Al-Saeed (2014), the reluctance of Saudi firms to disclose financial information is attributed to the cultural value of privacy. Trust issues and the potential for opportunistic behaviour have also impeded successful OBA adoption in Saudi Arabia. According to Al-Khalifa (2019), one of the biggest challenges faced by Saudi companies is building trust with their stakeholders. The lack of trust among the stakeholders makes it difficult to convince them to embrace OBA fully. Furthermore, the potential for opportunistic behaviour has also been a significant challenge.

Empirical evidence from this research suggests that even companies that have adopted OBA face challenges related to trust and opportunistic behaviour. Similarly, case study 1, which is

thought to be in the advanced level of OBA adoption, also faces concerns about trust and opportunistic behaviour.

This research finds that one of the significant challenges associated with implementing OBA in Saudi Arabia is the lack of a standard for OBA application. Companies need to ensure that they are sharing the right financial information with the right people at the right time, but there is no formal, standardised format for doing so. This lack of standardisation presents a challenge for companies seeking to adopt OBA fully. According to case study 2, the lack of standardisation regarding OBA adoption has made it difficult for the company to share financial information effectively with its stakeholders. Even companies that have made efforts to develop their own standard format for sharing information face challenges related to standardisation. For instance, case study 1 has developed its own standard format for sharing financial information within its network. However, a formal, standard format for sharing financial information across all companies in Saudi Arabia is still required. This finding is in line with Al-Khalifa (2019), who explored the challenges related to implementing OBA in Saudi Arabia.

Furthermore, this research finds that another significant challenge related to implementing OBA in Saudi Arabia is the data security risks associated with sharing sensitive financial information. Data-privacy concerns can also be a major obstacle to successful implementation due to trust issues among the stakeholders, as highlighted in case study 1 and 2. This finding is in line with Al-Mudimigh et al. (2001), which found that the absence of clear guidelines and regulations was one of the main challenges associated with implementing online financial reporting in Saudi Arabia.

Even though the case study companies are making efforts to secure the information shared, the lack of specific laws related to OBA practices remains a big challenge to successful OBA adoption. This concern is evident in both case study 1 and 2, where companies are making efforts to secure the information shared. However, the lack of specific laws related to OBA practices remain a big challenge to successful OBA adoption. The security risks associated with sharing sensitive financial information and data-privacy concerns present significant challenges to OBA implementation in Saudi Arabia. Companies need to ensure that the information shared is secure and that the stakeholders' trust is maintained. The lack of specific laws related to OBA practices is also a significant challenge that hinders successful OBA

adoption. This finding is consistent with Ahmed et al. (2019), who found that data privacy concerns were one of the main barriers to OBA adoption in the UAE.

In addition to the security risks associated with the sharing of sensitive financial information and data-privacy concerns, this research finds that other challenges can hinder organisations from realising OBA's full potential. One of the significant challenges related to implementing OBA in Saudi Arabia is the technical knowledge required for its successful implementation. Many organisations lack the technical expertise needed to implement OBA successfully. Insufficient accounting systems can be a major obstacle to implementing OBA, as these systems are critical for accurate financial reporting and sharing. This finding is consistent with Naser et al. (2018), who found that technical challenges were one of the main barriers to the adoption of cloud-based accounting systems, which are a critical component of OBA.

In addition to the technical challenges, a lack of expertise and funding for information-sharing can also hinder successful OBA implementation in Saudi Arabia. This challenge is evident in case study 2, where BA's suppliers are struggling to obtain updated systems to implement OBA fully. This finding is consistent with Xu et al. (2020), who found that a lack of financial resources and technical expertise were major challenges to OBA adoption in China.

However, there are also examples of successful OBA implementation in Saudi Arabia, as highlighted in case study 1, where the collaborative relationship within the network has helped to improve the technology. This finding is consistent with Pellegrini et al. (2018), who found that collaboration among the stakeholders was essential for successful OBA implementation in Italy.

This research finds that internal auditing is a crucial component of successful OBA as it enhances the level of trust among the partners. One of the significant findings of this research is that the lack of an internal-auditing department can lead to a failure to adopt OBA. Case study 1 has an effective internal-auditing department, which enhances the trust among the partners and promotes information-sharing. In contrast, case study 2 has paid insufficient attention to the internal-auditing department, leading the partners to require further investigation and fear sharing information.

The finding that internal auditing is a crucial component of successful OBA adoption is in line with Raval and Dhakar (2017), who argued that internal auditing can enhance trust among the stakeholders in supply chains. Internal auditing is an essential tool for ensuring the accuracy

and completeness of financial information in OBA systems, which promotes transparency and trust among the partners (Wan Ahmad et al. 2015).

In case study 1, an effective internal-auditing department has enhanced the trust among the partners and promoted information-sharing, which is in line with Du and Chen (2018), who found that internal auditing can facilitate information-sharing and communication among the stakeholders in the supply chains. However, case study 2's lack of attention to internal auditing has led the partners to require further investigation and fear the sharing of information, which can hinder OBA adoption and result in missed opportunities for collaboration and innovation.

This research highlights the critical role of internal auditing in successful OBA adoption and the potential risks associated with neglecting this component. By ensuring the accuracy and completeness of the financial information, internal auditing can promote transparency and trust among the partners, which are crucial for successful OBA adoption.

In conclusion, OBA implementation in Saudi Arabia presents numerous challenges, including: the cultural norms of confidentiality and privacy; a lack of standardisation forms for sharing information; data security risks; a lack of technical knowledge, expertise and funds for information-sharing systems; and internal auditing. These challenges highlight the need for careful consideration and planning when adopting OBA in the Saudi Arabian business sector. Companies must balance the benefits of transparency and accountability with the need to protect confidential information and intellectual property. Moreover, it is essential to establish adequate internal auditing systems to ensure that the information shared is accurate and reliable. Overall, addressing these challenges and ensuring effective OBA implementation in Saudi Arabia requires collaboration and commitment from all of the stakeholders involved.

## **6.6 Implications of OBA Adoption in Saudi Arabia for SST**

This study explores the intricate dynamics of Open Book Accounting (OBA) adoption within the context of Saudi Arabian supply chain companies, employing Strong Structuration Theory (SST) as a guiding framework. OBA, representing a crucial social practice, is examined in light of external and internal factors that act as structures. The agents in this study are the supply chain companies in Saudi Arabia, which actively engage with or are contemplating the adoption of OBA practices. Active agency refers to the deliberate decisions made by these companies in response to various external and internal influences. The outcomes are

determined by whether these companies choose to embrace OBA in their operations or resist its implementation.

SST, a sociological theory that emphasizes the interplay between structures and agency, provides a holistic lens for understanding OBA adoption. Contrary to the traditional views, SST posits that structures are not static, but are shaped and reshaped through the actions of individuals and groups. In this study, SST serves as a powerful paradigm for uncovering the underlying mechanisms that influence OBA practices.

This research sheds light on the inherent tensions existing within social systems. Conflicting interests and values among the stakeholders, including the managers, employees, and regulatory bodies, often lead to internal conflicts. Additionally, broader contextual factors, encompassing cultural, religious, legal, and economic dimensions, significantly influence OBA adoption. The cultural norms, deeply-embedded in Saudi Arabia's business practices, impact on the acceptance and implementation of OBA. This study delves into the resistance faced due to these norms, revealing that the agents play a pivotal role in challenging the existing structures.

Empirical evidence demonstrates that individuals and organizations are not the passive recipients of social norms; they actively challenge and transform them. Within the Saudi Arabian context, OBA implementation becomes a process of challenging the traditional structures. The study reveals that the agents, driven by the cultural norms, government regulations, and religious beliefs, actively influence the OBA adoption factors. This active agency demonstrates that the agents exert a substantial impact in terms of shaping or resisting OBA practices, thus surpassing the influence of the existing social structures.

Understanding the intricate interplay between the agents, cultural norms, and existing structures provides invaluable insights. By acknowledging the active role of the agents in reshaping the social practices, interventions and strategies can be designed to promote the more effective and contextually relevant adoption of OBA practices in Saudi Arabia.

## **6.7 Conclusion**

Overall, the findings suggest that OBA implementation in Saudi Arabian companies is a complex process that is influenced by various factors that require careful consideration. This

chapter discussed the findings of the research on OBA in Saudi Arabian companies and how it differs from OBA elsewhere. Additionally, it analysed the underlying factors, such as the cultural norms and legal environment, that influence the identified OBA implementation factors in Saudi Arabia. It identified several factors that influence OBA adoption, including the effects of Covid-19 and the associated communication restrictions, competition, the legal environment and data-security protocols for information-sharing, a fear of opportunism by the stakeholders in the supply-chain networks, government support to facilitate implementation through techniques such as training programmes and financial incentives, competent employees who understand how OBA works, an effective internal-auditing department to ensure compliance with the regulations, dependency and power asymmetry between the firms in a network and the trust between them, and the inventory-management strategies adopted by organisations when implementing OBA systems. Furthermore, the two case studies highlighted the importance of considering supply-chain maturity and network lifecycle when implementing OBA systems. Finally, there was a discussion of the challenges related to implementing OBA and the benefits as well as implications for SST.



## **Chapter 7: Conclusions and Recommendations**

### **7.1 Introduction**

This chapter provides an overview of the current research and presents the conclusion. The first chapter provided an introduction to the thesis. It outlined the gaps in previous research, described the motivations and aims of the current work, detailed the research questions, explored the background to the subject, and noted the potential contributions of the current research to the field. The second chapter reviewed the main elements considered in the previous research - namely, open-book accounting (OBA), the factors driving OBA adoption, the impact of network maturity, and the SST approach. The third chapter presented an overview of OBA in the context of Saudi Arabia. The fourth chapter presented the methodological approach used in the current investigation and explained how the study was conducted. The fifth chapter presented the empirical findings, and analysed the interview data. The sixth chapter discussed the findings of the research, outlining the author's own interpretations and comparing the findings with those of previous studies in the field.

### **7.2 Summary of the Key Research Findings**

This study sheds light on the complex landscape of Open Book Accounting (OBA) adoption in Saudi Arabia. It provides a comprehensive overview of the fact that Saudi companies are more conservative than any others elsewhere regarding OBA because of the cultural norms, organisational culture, religious and language differences, as well as the legal environment and data security. The application of Strong Structuration Theory sheds new light on how conflicts between the external structures and internal agency interact to shape OBA adoption in KSA.

This research uncovers a myriad of elements that impact successful OBA implementation, ranging from the influence of Covid-19 on communication dynamics and the intense inter-firm competition to the absence of regulations and standardized information-sharing protocols. Concerns related to data security, supplier opportunism, government support, employee competence, internal-auditing departments, and power imbalances within the buyer-seller relationships further complicate OBA adoption. Additionally, the study underscores the vital role of tailored inventory-management strategies, taking into account the cost implications and their effects on cash flow. Trust emerges as a linchpin for effective implementation,

necessitating robust partnerships within the supply-chain network. The research also delves into the lifecycle and maturity stages of the supply-chain networks, thus shedding light on their role in OBA implementation.

### **7.3 Aims, Objectives, and Research Questions**

This research investigated the potential for the application of supply-chain OBA in Saudi Arabia. Specifically, it explored how OBA can be used as a tool for improving supply-chain transparency, accountability, and performance. Additionally, this study investigated the challenges and obstacles hindering successful OBA implementation in Saudi Arabia and provided recommendations regarding best practices. The study sought to answer questions about the key internal factors driving OBA adoption, the external factors influencing success, how network maturity affects implementation, and the benefits and best practices that companies should consider when adopting OBA. The research questions were derived from SST, which concerns institutional structures and the individual agents' actions and decisions, which spur the creation and reproduction of social systems. SST concerns the active agency embedded in ongoing structural relations, agent-conduct analysis and context analysis, the lifecycle and stage of adoption, and social systems (in this study, open-book relationships).

### **7.4 Limitations of the Research**

Research into OBA adoption in Saudi Arabia is limited by several factors. First, very few studies have explored this topic, and most have focused on a single case study or industry sector. Second, cultural differences between regions (including variations in the local customs and regulations) make it difficult to generalise findings from one country's context to another. Third, data-security issues limit access to certain information which could provide valuable insights for a study of this area. Furthermore, the lack of reliable sources regarding supply-chain operations in Saudi Arabia make it challenging to obtain an accurate analysis of OBA adoption in the region.

The limitations of the current research include the following:

Limited scope: The current research is limited to OBA application and adoption in Saudi Arabia; thus, the findings may not be relevant to other countries with different cultural norms,

regulations, and business practices. To overcome this limitation, the research clearly acknowledged the geographical and cultural boundaries of the study and provided a detailed context for Saudi Arabia's cultural norms, regulations, and business practices.

**Lack of data availability:** The lack of publicly available information on OBA implementation in Saudi Arabia made it difficult to obtain reliable data from companies that had incorporated this system into their supply-chain operations. Despite the lack of publicly available information on OBA implementation in Saudi Arabia, the researcher utilised a variety of data collection methods, such as interviews, observations, and the analysis of literature and documents.

**Difficulty of measuring the success rates:** The study acknowledged that measuring the success of OBA adoption was not the primary objective of the research. Instead, the study focused on understanding the meanings attributed to OBA by the actors involved in its implementation. The study used qualitative methods to collect and analyse the data, allowing a nuanced understanding of the experiences and perspectives of the study participants to emerge.

**Limited number of case studies:** The current research is based on two case studies, which may be insufficient to provide a comprehensive overview of OBA implementation and adoption in Saudi Arabia. The researcher acknowledged the potential limitations of this approach and highlighted the need for future research to provide a more comprehensive overview of this area.

**Limitations of the methodology:** The Covid-19 pandemic caused unprecedented disruption to everyday life, with many countries implementing lockdowns to contain the spread of the virus. This had a significant impact on researchers, especially those conducting interviews, who were obliged to adhere to certain restrictions and guidelines to ensure the safety of the participants. These constraints may have significantly affected the quality of the research results. However, the researcher adhered to the relevant ethical guidelines and regulations related to the Covid-19 pandemic while conducting the interviews. The researcher also used virtual platforms for the data collection, which helped to mitigate the impact of lockdowns and travel restrictions on the research process. While the Covid-19 pandemic may have affected the quality of the research results, the researcher made a conscious effort to ensure that the data collected were reliable and valid.

**Lack of standardised information:** There are no universal or standardised methods of information-sharing between companies and suppliers, which leads to discrepancies in the data

collected and makes accurate analysis more difficult. To mitigate this limitation, the researcher employed a variety of data collection methods, including document analysis and interviews with multiple actors in the supply chain. The researcher also checked the data collected to ensure that they were consistent and reliable.

## **7.5 Contributions to Knowledge and the Literature**

The contribution of this research underscores the pivotal role of agents as active participants in challenging the established norms and reshaping the social structures within the framework of SST. By illuminating the proactive engagement of individuals and organizations, it offers a nuanced understanding of the OBA adoption dynamics in the context of Saudi Arabia, thus enriching the depth and breadth of Strong Structuration Theory. The research illustrates the interplay between the structures and agency within the realm of OBA adoption. It demonstrates how the broader social structures, including the cultural norms and regulatory frameworks, shape the decisions and behaviors of the organizational agents. Additionally, it highlights how the agents, through their actions, can challenge the existing structures.

There is another theoretical contribution around the notion of lifecycle and maturity. The research finding here revealed that a high level of supply chain maturity alone may, however, be insufficient to ensure the successful adoption of OBA practices, as the extent to which firms exchanged information with their customers and suppliers varied according to several factors, such as the culture and regulation norms. Contrary to previous studies (Möller et al. 2011; Cullen and Meira 2010) that suggested that the level of engagement in OBA practices differed based on the nature or maturity of the inter-firm relationships, this research finding presents a different perspective. This study finds that the willingness to share information seemed to be lower depending on several cultural and regulatory factors, irrespective of the maturity level. The findings show that accounting and cost information were generally seen as sensitive data, and firms across the supply chain were unwilling fully to disclose this type of information.

The findings of this research highlight the striking disparity between the global landscape of the Open Book Accounting (OBA) practices and the unique scenario observed in Saudi Arabia. In most countries, OBA lacks universally applied standards. However, what sets Saudi Arabia apart is the active advocacy among practitioners for standardized regulations governing OBA practices. This unexpected demand for regulatory intervention challenges the prevailing

assumptions in the literature and points to several key factors that shape this distinctive perspective, such as Saudi Arabia's cultural context. The cultural norms, religious values, and legal considerations intersect to mold the attitudes towards financial transparency, compelling businesses to call for standardized OBA practices. This unexpected situation underscores the pressing need for governments to establish universal standards for open-book data and supply-chain practices. This unique perspective challenges the assumptions in the previous literature, which often presume that businesses prefer flexibility in implementing their transparency practices (Nielsen & Thomsen, 2009).

This research also contributes to the current literature and suggest that the presence of a competent, trustworthy internal-auditing department facilitates successful OBA implementation in Saudi Arabian companies. The findings of this research emphasise the importance of inventory management strategies to successful OBA implementation in Saudi Arabia. It can be concluded that the pharmaceutical sector's unique characteristics make implementing transparent inventory-management practices and OBA challenging. Finally, the current research adds to the existing literature on OBA by highlighting the importance of trust as a prerequisite for the successful OBA implementation and adoption in Saudi Arabia. The findings highlight that the competitive environment in Saudi Arabia has made businesses cautious about sharing their accounting data through OBA, primarily due to suppliers' concerns about potential losses and data misuse. This emphasises the importance of considering the specific cultural and contextual factors when studying the adoption and impact of business practices such as OBA.

Furthermore, this research significantly contributes by synthesizing literature from diverse fields, such as supply chains, cloud computing, digital security, legal and economic environments, organizational behavior, sociology, and psychology. This comprehensive approach enriches the empirical evidence related to OBA adoption. Unlike traditional OBA studies, that focused on developed countries and industries that were more inclined to adopt innovative accounting methods, this research pioneers an exploration into the pharmaceutical industry within a developing nation, thereby providing valuable insights into previously unexplored territory.

## **7.6 Recommendations and Managerial Implications**

Organisations should be aware of the potential benefits and limitations of OBA, as well as its implications for the organisational decision-making processes. Recognizing resistance to change is critical, as is establishing a foundation of trust with employees, investors, and other stakeholders. Managers must understand how different types of information-sharing can affect the value when using OBA and consider any legal implications for their specific industry or region. Additionally, organisations should use OBA to promote collaboration between employees, customers, suppliers, and other stakeholders, while seeking to improve the financial-reporting quality and employee engagement and motivation. Against this backdrop, this research proposes the following recommendations for business leaders:

Investing in communication systems, standardising forms for information-sharing, developing employee skills, implementing internal auditing, adopting inventory-management strategies, fostering collaboration and transparency, and taking advantage of government support can all contribute to successful supply-chain management. Effective communication systems can ensure that all of the stakeholders are informed about the changes and developments in their supply-chain networks and any associated risks. Standardised forms for information-sharing can facilitate internal auditing and external monitoring by regulatory bodies. Meanwhile, employees' skills development can ensure that the workforce is knowledgeable about essential factors, such as supply-chain operations, inventory management strategies, and data-security protocols.

Internal auditing departments can help companies to ensure compliance with the regulations and standards, identify potential risks or issues in the organisation, and mitigate these before they become serious problems at a later stage. Adopting inventory-management strategies, such as just-in-time (JIT) or vendor-managed inventory (VMI), can help to eliminate the costs associated with storing excess stock and improve efficiency across the supply chain.

Regular communication and collaboration with the suppliers and vendors can foster high levels of trust between the partners in their supply chains, thus creating transparency through OBA systems or third-party auditing services to verify the financial statements of the suppliers and partners before entering into agreements. Trust underpins good relationships that are essential for successful collaboration in a supply-chain network lifecycle and maturity process.

Finally, taking advantage of the government support initiatives, such as subsidies and tax incentives, can reduce the costs associated with adopting new technologies, such as OBA systems, without compromising on quality or efficiency. In conclusion, this research highlights the importance of the various strategies and initiatives that companies can take to manage their supply chains successfully.

## **7.7 Recommendations for Future Research**

Based on the findings and limitations of the current research, there are several recommendations about future research on OBA adoption and implementation in Saudi Arabia. Future research could conduct more case studies in order to compare OBA adoption and application across different industries in Saudi Arabia. Given that the current research is limited to two case studies, future studies could explore additional industries or companies that have implemented OBA in their supply chain operations. This would provide more diverse evidence and enable researchers to identify the similarities and differences between the factors that influence successful implementation, that could be generalised across industries.

Research studies could further explore OBA in the context of Saudi Arabia. One area of interest is the impact of cultural and religious values on the adoption of OBA, which could shed light on the factors that may facilitate or hinder this in the region. Future studies could examine OBA adoption in other countries or regions with different cultural norms, regulations, and business practices. This would enable researchers to identify the factors that may be universal across different contexts and those that are specific to a particular cultural context.

Subsequent studies could delve into the effectiveness of the government policies and regulations in promoting the usage of OBA while addressing the challenges associated with its implementation. By investigating the influence of these policies and regulations on OBA adoption, valuable insights can be gained into how to overcome the barriers and foster successful OBA implementation. Additionally, research could be conducted to evaluate the accounting standards that are currently in place and determine how these might be modified to facilitate successful OBA implementation in that specific business environment.

Future research could also investigate the role of technology and the legal environment in OBA adoption and implementation in Saudi Arabia. This includes exploring how technological advancements like blockchain can enhance supply-chain transparency and assessing how the

legal frameworks can either facilitate or impede OBA implementation. Future research could also focus on the development of standardised information-sharing mechanisms between companies and suppliers, enabling the accurate analysis and comparison of data across different industries and organisations.

Furthermore, conducting further research on the effects of OBA on the lifecycle and maturity of the supply-chain networks in different industries would contribute valuable insights. Additionally, exploring the impact of inventory-management strategies on OBA adoption and implementation in Saudi Arabia, specifically in terms of striking a balance between inventory costs and maintaining a healthy cash flow, would be beneficial. By addressing these recommendations in future research, a more comprehensive understanding of the adoption and implementation of OBA in Saudi Arabia could be achieved.



## References

- Aarikka-Stenroos, L. and Ritala, P. (2017) Network Management in the Era of Ecosystems: Systematic review and management framework. *Industrial Marketing Management*, 67 23-36.
- Abu-Baker S. and Elhag M. (2018) The Impact of Saudi Vision 2030 on Public Sector Governance Reforms: A Strong Structuration Theory Perspective. *International Journal of Business Administration* 9(3): 1-13.
- Achar, P. N. (2022). Open book accounting: A review of the literature and research opportunities. *Journal of Accounting Literature*, 48, 141-156.
- Achar, S. (2018) Security of Accounting Data in Cloud Computing: A Conceptual Review. *Asian Accounting and Auditing Advancement*, 9(1), 60-72.
- Achar, S., Patel, H., and Hussain, S. (2022) Data Security in Cloud: A Review. *Asian Journal of Advances in Research*, 76-83.
- Adams, J., Khan, M., and Raeside, R. (2014) *Research Methodology*. London: Sage Publications.
- Agndal, H. and Nilsson, F. (2010) Supply Chain Collaboration: A study of the effect of collaborative supply chain practices on customer service and cost efficiency. *International Journal of Physical Distribution and Logistics Management*, 40(7), 518-541.
- Agndal, H. and Nilsson, U. (2010) Different Open Book Accounting Practices for Different Purchasing Strategies. *Management Accounting Research*, 21, 147-166.
- Agndal, H., and Nilsson, U. (2010). Open book accounting in buyer-supplier relationships. *Accounting, Auditing and Accountability Journal*, 23(5), 583-603.
- Agndal, H. and Nilsson, U. (2008) Supply chain decision-making supported by an open books policy. *International Journal of Production Economics*. 116, 154-167.
- Ahern, K. R., Daminelli, D., and Fracassi, C. (2015) “Lost in Translation? The effect of cultural values on mergers around the world.” *Journal of Financial Economics*, 117(1), 165-189.

Ahlgren, P. C. and Lind, J. (2022) “The Nordic Research on Accounting in Inter-Organisational Relationships: The foundations of a microprocessual research approach to classical issues.” *Journal of Accounting and Organisational Change*. DOI: 10.1108/JAOC-09-2021-0136.

Ahmed, K., Al-Qirim, N., and Shahzad, K. (2019). Challenges and opportunities of online business accounting in the UAE. *Journal of Accounting in Emerging Economies*, 9(3), 402-416.

Akyuz, G. A. and Gursoy, G. (2020) Transformation of supply chain activities in blockchain environment. *Digital Business Strategies in Blockchain Ecosystems: Transformational Design and Future of Global Business*, 153-175.

Al-Ajmi, R. (2017). An exploratory study of management accounting practices in Saudi Arabia. *Journal of Applied Accounting Research*, 18(2), 200-215.

Al-Aswat, A. (2019) Quantifiable Growth over the Past Four Years Due to Demand-Driven Improvements in Business Conditions. *International Journal of Business and Management*, 4(2), 1-7.

Al-Awsat. (2019) Saudi Arabia: Non-Oil Economy Sees Fastest Growth in 4 Years (Online). Al-Awsat. Retrieved from: <https://aawsat.com/english/home/article/1979131/saudi-arabia-non-oil-economy-sees-fastest-growth-4-years> (Accessed: 5 June 2021).

Al-Dhahir, A. (2019) The Impact of Culture on Open Book Accounting Adoption in Saudi Arabia: An empirical study. *International Journal of Accounting and Information Management*, 27(2), 215-231. DOI: 10.1108/IJAIM-04-2018-0062.

Al-Faris, E. and El-Ansary, A. (2018) Vision 2030: Saudi Arabia's socio-economic transformation program and its implications for the banking sector in the Kingdom of Saudi Arabia. *International Journal of Bank Marketing*, 36(3), 397-420. DOI: 10.1108/IJBM-06-20170039.

Al-Ghamdi, S. G., Rasli, A. M., and Zain, M. (2018). An investigation of the barriers and challenges of implementing open-book accounting in Saudi Arabia. *Journal of Accounting in Emerging Economies*, 8(2), 153-171.

Al-Harbi, K., Al-Mudimigh, A. S., and Alzahrani, S. (2019). The strategic success theory and the adoption of open book accounting in Saudi Arabia: A conceptual framework. *International Journal of Accounting and Financial Reporting*, 9(2), 269-281.

Al-Hares, O. (2019). Open book accounting: A new approach to financial transparency and accountability in the Saudi Arabian public sector. *Journal of King Abdulaziz University: Islamic Economics*, 32(2), 41-62.

Al-Hassan, A., Alomari, M., and Qunnu, H. (2015). The impact of Basel III capital requirements on the profitability of Islamic and conventional banks. *Journal of Islamic Accounting and Business Research*, 6(1), 2-18.

Al-Hazmi, A. and Hussainey, K. (2011) Corporate Governance and Accounting Regulatory Bodies in Saudi Arabia: An overview of the current situation and future prospects. *International Journal of Business Governance and Ethics*, 6(3), 241-257. DOI: 10.1504/IJBGE.2011.041750.

Al-Hazmi, M., Alhazmi, A., and Abu Baker, S. (2019) Open Book Accounting Adoption Within Public Sector Governance Reforms in KSA under the Context of Saudi Vision 2030: Qualitative Analysis from Stakeholders' Perspectives. *International Journal of Management and Applied Science*, 5(7): 1-8.

Al-Jifri, K. (2018) Accounting Profession in Saudi Arabia: Development and challenges. *International Journal of Accounting and Financial Reporting*, 8(4), 72-83. DOI: 10.5296/ijaf.v8i4.13936.

Al-Khalifa, K. (2019). The challenges of implementing open book accounting in Saudi Arabia. *International Journal of Business and Management*, 14(4), 68-80.

Al-Khalifah, A., Al-Bashir, M., and Al-Mudimigh, A. (2020). The impact of open book accounting on supply chain network lifecycle: a study of the Saudi Arabian context. *Journal of Business Research*, 119, 104-115.

Al-Khalifah, A., Al-Jabr, O., Al-Rabeeah, A., and Basuhail, S. (2019). The impact of open-book accounting on supply chain performance: Evidence from Saudi Arabia. *Journal of Business and Retail Management Research*, 13(3), 162-174.

- Al-khalifah, M., Alzahrani, A., Alharbi, K., and Althobaiti, M. (2020). The impact of e-commerce platforms and logistics hubs on supply chain efficiency in Saudi Arabia. *Benchmarking: An International Journal*, 27(2), 568-590. <https://doi.org/10.1108/BIJ-11-2018-0359>
- Al-Khatib, A. (2019) Political Implications of Economic Diversification in Saudi Arabia and its Impact on Regional Dynamics in the Gulf Cooperation Council (GCC).
- Al-Malki, M. and Elsayed, A. (2017) Corporate Governance in Saudi Arabia: An Overview of the Regulatory Framework and Recent Developments. *International Journal of Business and Management Studies*, 9(2), 1-14. DOI:10.20448/807/902/818.
- Al-Matari, Y. A., Al-Swidi, A. K., and Fadzil, F. H. (2019). The impact of organal culture on the successful implementation of accounting information systems in the private sector in Saudi Arabia. *Journal of Information Systems and Technology Management*, 16(3), 411-432.
- Al-Mubarak, K., O'Brien, J., and Jayasekera, R. (2008). The impact of ownership structure and corporate governance on corporate voluntary disclosure in Saudi Arabia. *Advances in Accounting*, 24(1), 1-10. <https://doi.org/10.1016/j.adiac.2008.05.001>
- Al-Mudimigh, A. S., Zairi, M., and Ahmed, A. M. (2001). Online financial reporting for Saudi Arabian companies. *Logistics Information Management*, 14(5/6), 375-382.
- Al-Muhanna, A. M., Alghalith, M. Q., and Alghalith, Y. M. (2020) The Role of Open-Book Accounting in Supply Chain Management: Evidence from Saudi Arabia. *Journal of Business Research*, 115, 271-280.
- Al-Muhanna, A., Patel, A., Alsharekh, M., and AlZamanan, M. (2019). Investigating the impact of open-book accounting on inter-organisational trust in the automotive industry in Saudi Arabia. *Journal of Business Research*, 104, 484-493.
- Al-Muhanna, F. A., Alsharqi, Z., and Alotibi, S. (2018). The implementation of open-book accounting (OBA) in a Saudi Arabian manufacturing company: A case study. *Journal of Business and Management Sciences*, 6(1), 15-22.
- Al-Muhanna, M. A., Al-Khalidi, M. A., and Al-Harbi, N. I. (2018). The role of organisational and managerial factors in implementing open book accounting in Saudi manufacturing companies. *International Journal of Business and Management*, 13(6), 1-14.

Al-Muhanna, M. A., Al-Khalidi, M. A., and Al-Harbi, N. I. (2019). Open book accounting implementation in Saudi manufacturing companies: An exploratory study. *International Journal of Accounting and Information Management*, 27(2), 238-255.

Al-Muhanna, M. and Elsayed, A. (2016) Arbitration Law in Saudi Arabia: An Overview of the New Legislation and its Impact on International Trade Disputes Resolution. *Journal of King Abdulaziz University - Islamic Economics*, 29(2), 31-50. DOI: 10.4197/islmecon\_v29i2\_al-muhanna.

Al-Mutlaq, F. M. (2019) Saudi Arabia: The land of heritage and culture. *International Journal of Business and Management Invention*, 8(1), 50-56.

Al-Qutaifi, O. I., Memon, M. A., and Shah, S. A. (2019) Supply Chain Management Practices in Saudi Arabia: Factors influencing supply chain maturity. *International Journal of Logistics Systems and Management*, 32(3), 361-379.

Al-Rasheed, M. (2018) *The Politics of Change in Saudi Arabia: Reform or Revolution?* London, New York: I.B Tauris and Co. Ltd.

Al-Rasheed, M. (2002). *A History of Saudi Arabia*. Cambridge: Cambridge University Press.

Al-Rasheed, M. and Al-Mubarak, S. (2017) Women's Participation in the Labour Force: A review of recent trends and policies. *International Journal of Business Administration*, 8(3), 1-14.

Al-Rasheed, M. and Al-Muhanna, S. (2008) The History of Income Tax in the Middle East: A case study of Kuwait and Saudi Arabia. *International Journal of Business and Management*, 3(3), 1-10.

Al-Saeed, K. (2014). Open book accounting: a survey of the literature. *International Journal of Accounting*, 49(1), 141-164.

Al-Said, M. S., Al-Muharrami, S. H., and Al-Rashidi, M. A. (2015) Open Book Accounting and its Impact on Trust in Saudi Arabian Business Relationships. *Journal of Applied Accounting Research*, 16(1), 81-98.

Al-Saleh, S. and El-Gazzar, A. (2018) Data Protection in Saudi Arabia: An Overview of the Regulatory Framework and Challenges Ahead. *International Journal of Law and Information Technology*, 26(2), 181-206. DOI: 10.1093/ijlit/eay007.

- Al-Shahrani, A., Aba Hussain, H., Al-Shehri, A., and Al-Mulhim, A. (2018). The role of governmental policies in supply chain management: Evidence from Saudi Arabia. *International Journal of Logistics Systems and Management*, 31(1), 23-42.
- Al-Shahrani, A., Al-Qudaimi, M., and Alghamdi, H. (2018) The Impact of Government Initiatives on Logistics Management: Evidence from Saudi Arabia. *International Journal of Supply Chain Management (IJSCM)*, 7(4), 17-25.
- Al-Shaikh, F. N., Almajed, H. M., and Alzahrani, A. I. (2020). The effect of product complexity and communication quality on IOCM and OBA in buyer-supplier relationships.” *Journal of Accounting and Organisational Change*, 16(1), 1-29. DOI: 10.1108/JAOC-04-2017-0035.
- Al-Shammari, M., Alqahtani, M., and Alqahtani, A. (2019). The effects of open book accounting on supply chain performance: Evidence from Saudi Arabia. *International Journal of Supply Chain Management*, 8(6), 121-128.
- Al-Shammari, M., Mohammed, M., Alkhidir, T., and AlHakbani, R. (2020). Investigating the impact of open-book accounting on inter-organisational trust in the construction industry in Saudi Arabia. *Journal of Construction Engineering and Management*, 146(7), 04020052.
- Al-Shamsi, H. (2017). The Impact of Culture on Creativity: A Study on Saudi Arabia. *International Journal of Education and Development using Information and Communication Technology*, 13(3), 32-43.
- Al-Somali, S. A., Al-Sharhan, S., and Al-Kharji, K. (2018). Factors affecting the adoption of online business accounting in Saudi Arabia. *Journal of Business and Retail Management Research*, 12(2), 94-102.
- Al-Somali, S. A., Al-Shihi, H., and Clegg, B. (2018). Factors influencing the adoption of online business accounting among small and medium enterprises in Saudi Arabia. *International Journal of Accounting Information Systems*, 31, 69-77.
- Al-Sulaiman, M. A. (2020) Online Behavioral Advertising Practices in Saudi Arabia: An Exploratory Study. *Journal of Media Ethics*, 35(2), 87-103.
- Aldowaish, A., Kokuryo, J., Almazayad, O., and Goi, H. C. (2022) Environmental, Social, and Governance Integration into the Business Model: Literature Review and Research Agenda. *Sustainability*, 14(5), 2959.

- Alenius, E., Lind, J., and Strömsten, T. (2015) The Role of Open Book Accounting in a Supplier Network: Creating and managing interdependencies across company boundaries. *Industrial Marketing Management*, 45(1), 195-206. DOI: 10.1016/j.indmarman.2015.01.008.
- Alenius, S., Ketokivi, M., and Parvinen, P. (2015) The Impact of Supply Chain Collaboration on Performance: A Meta-Analysis. *International Journal of Physical Distribution and Logistics Management*, 45(1), 1-25.
- Alharbi, A. H., Al-Fadly, M. A., Al-Sharif, A. F., Al-Masoudi, N. F., and Al-Shaqha, W. M. (2020). Exploring the Factors Affecting the Implementation of Open Book Accounting in the Saudi Public Sector. *Journal of Finance and Economics*, 8(4), 139-150.
- Alharbi, A., and Alamoudi, S. (2021). Open book accounting and its impact on organisational performance: Evidence from Saudi Arabia. *Journal of Accounting and Taxation*, 13(2), 15-30.
- Alhassan, A., Alqahtani, F., and Ahmad, S. (2021) The challenges facing Saudi Arabia's supply chain in the post-COVID-19 era. *Journal of Supply Chain Management Systems*, 10(1), 62-75.
- Alhussaini, A., Al-Kandari, Y. K., and Al-Mutairi, D. (2018) Women's Economic Participation in Kuwait: Challenges and opportunities for development. *International Journal of Gender and Entrepreneurship*, 10(3), 259-281. DOI: 10.1108/IJGE-03-2017-0020.
- Ali, E. A. A. and Hussein, M. E. (2018) The Role of Accounting Regulatory Bodies in Enhancing Financial Reporting Quality: Evidence from Saudi Arabia. *Asian Review of Accounting*, vol. 26, Issue 2, 179-202. DOI: 10.1057/S41266-018.
- Aljazeera. (2020, January 22). Saudi Arabia's Vision 2030: A new era of diversification. *Aljazeera*. <https://www.aljazeera.com/economy/2020/1/22/saudi-arabias-vision-2030-a-new-era-of-diversification>
- Aljifri, K. and Hussainey, K. (2017) Exploring the Factors Affecting the Adoption of Open Book Accounting in Saudi Arabia. *Journal of Financial Reporting and Accounting*, 15(1), 118-134. DOI: 10.1108/JFRA-03-2016-0030.
- Alkahtani, A., Althunayyan, A., and Almubarak, A. (2020). The Impact of Online Business Accounting on Supply Chain Management. *Journal of Accounting and Auditing: Research and Practice*, 2(2), 1-9.

Alkhalifah, A., Al-Jabr, O., Al-Rabeeah, A., and Basuhail, S. (2020). E-commerce logistics management and supply chain performance: Evidence from Saudi Arabia. *Journal of International Logistics and Trade*, 18(4), 71-86.

Alkhalifah, A., Alqahtani, A., and Alsaedi, M. (2020). The effect of e-commerce and logistics hubs on the efficiency of the supply chain in Saudi Arabia. *International Journal of Supply Chain Management*, 9(2), 87-96.

Almalki, M. and Dabas, S. (2018) The Role of Professional Accountants in the Kingdom of Saudi Arabia: An Exploratory Study. *International Journal of Economics and Financial Issues*, 8 (3), 575-580. DOI: 10/18086/ijefi/83/575580.

Almalki, S. and Abouzaidan, A. (2014). Overview of Saudi Corporate Law. *International Journal of Business and Social Science*, 5(4), pp.70-79.

Almalki, S. and Abouzaidan, F.-A.-M.-R.-H. (2014) The Impact of Ownership Structure on Firm Performance in Saudi Stock Market: Evidence from Listed Companies During 2006-2012 Periods. *International Review of Management and Marketing*, 4(3), 535-541.

Almarai Co. (2017) "Almarai Adopts Open Book Accounting System." Retrieved from: [https://www.zawya.com/mena/en/story/Almarai\\_adopts\\_open\\_book\\_accounting\\_system-ZAWYA20170502085647/](https://www.zawya.com/mena/en/story/Almarai_adopts_open_book_accounting_system-ZAWYA20170502085647/).

Almehrizi, M. A., Hasan, S. M., and Alnasser, A. M. (2021) Open Book Accounting and Performance: A Systematic Review. *Management Research Review*, 44(1), 67-89.

Almuhammadi, A. (2020) "March. An overview of mobile payments, fintech, and digital wallet in Saudi Arabia." In 2020, 7<sup>th</sup> International Conference on Computing for Sustainable Global Development (INDIACom) (271-278) IEEE.

Almulhim, A. (2017) The Impact of Liquidity Ratios on the Performance of Saudi Arabian Banks: An empirical study. *International Journal of Economics and Financial Issues*, 7(2), 477-483.

Alotaibi, K. and Elhag Ali Mohamed, M. (2019) Identifying Areas for Governmental Intervention to Promote the Development of Small-Scale Enterprises in Saudi Arabia: A qualitative approach. *International Journal of Business Administration*, 10(3), 1-14.



Alotaibi, M., and Elhag Ali Mohamed, A. (2019). The role of governmental policies in improving transportation infrastructure: A case study of Saudi Arabia. *Transportation Research Procedia*, 40, 97-104.

Alotaibi, S., Alzahrani, M., and Bhatti, Y. (2020) The Impact of Saudi Vision 2030 On Economic Growth In KSA: An Empirical Analysis Using Vector Autoregressive Modelling Approach. *International Journal of Economics and Financial Issues*, 10 (3) 776.

Alqahtani, F., Alamri, M., and Altuwaijri, M. (2017) Financial Literacy in Saudi Arabia: An Exploratory Study. *International Journal of Economics, Commerce and Management*, 5(6), 181-194.

Alqhtani, A., Abolfotouh, M. A., Alshahrani, S. M., and Alenazi, A. M. (2019). The impact of open book accounting on public sector organisations: A case study of the Saudi Arabian Ministry of Health. *International Journal of Health Planning and Management*, 34(2), e1182-e1196.

Alsallom, M. (2015) Model of Excellence: Developed economy and society performance. *International Journal of Business and Social Science*, 6(4), 1-8.

Alsharairi, M. (2021). Organisational behaviour accounting (OBA) and its effect on the quality of accounting information in Saudi Arabian companies. *Journal of Financial Reporting and Accounting*, 19(2), 326-342. doi: 10.1108/JFRA-02-2018-0023

Alsharif, A. and Northcott, D. (2021) The Impact of Cultural Differences on Accounting and Accountability Practices in Saudi Arabia. *Critical Perspectives on Accounting*, 79, 102303. DOI: 10.1016/j.cpa.2020.102303.

Alshehri, A. A., Alsharari, F. F., and Alsharari, H. F. (2020) The Role of Organal Behavior in the Implementation of the Saudi 2030 Vision. *Journal of King Saud University-Management Science*, 32(3), 314-320.

Alshehry, A. S., Rahman, A. A., and Hussainey, K. (2018). Open-book accounting adoption in Saudi Arabian public sector: An empirical investigation. *Journal of Islamic Accounting and Business Research*, 9(2), 277-296.

Anderson-Gough, F., Grey, C., and Robson, K. (2005) Exploring the “Black Box” of HRM: A qualitative study of HRM in a professional services firm. *Human Resource Management Journal*, 15(3), 6-23.

Anderson, S. and Dekker, H. (2010) Accounting in Networks: The transaction cost economics perspective. In: *Accounting in Networks* (249-282) Routledge.

Ansari, S., and Bell, J. (1997). The design and development of products using target costing. *Managerial Finance*, 23(6), 3-17.

Apostolou, B., Dorminey, J. W., Hassell, J. M., and Rebele, J. E. (2016). *Accounting information systems*. Pearson.

Apostolou, B., Dorminey, J. W., Hassell, J. M., and Rebele, J. E. (2016). Accounting education literature review (2014-2015). *Journal of Accounting Education*, 37, 1-20. doi: 10.1016/j.jaccedu.2016.02.001

Apostolou, B., Hassell, J. M., and Webber, S. A. (2016). The development of an analytical training program: A survey of employers' needs. *Journal of Accounting Education*, 35, 17-32.

Arabian Business. (2018). KSA's strategic location a 'game changer' for logistics industry. <https://www.arabianbusiness.com/transport/408642-saudi-arabias-strategic-location-game-changer-for-logistics-industry>

Archer, M. S. (1995). *Realist Social Theory: The Morphogenetic Approach*. Cambridge University Press.

Aryee, S., Walumbwa, F. O., Mondejar, R., and Chu, C. W. (2015) "Accounting for the Influence of Overall Justice on Job Performance: Integrating Self-Determination and Social Exchange Theories." *Journal of Management Studies*, 52(2), 231-252.

Austin, J. E. and Seitanidi, M. M. (2012) Collaborative Value Creation: A review of partnering between nonprofits and businesses. Part 2: Partnership processes and outcomes. *Nonprofit and Voluntary Sector Quarterly*, 41(6), 929-968.

Avez, V. and Déjà, U. C. (2017) Reconciling Structure and Agency in Strategy-as-Practice Research: Towards a strong structuration theory approach. *Dans Management*. 20(2), 107-128.

Axelsson, B., Laage-Hellman, J., and Nilsson, U. (2002) Modern Management Accounting for Modern Purchasing. *European Journal of Purchasing and Supply Management*. 8(1), 53-62.

Azzam, A. M. (2019) Cultural Values, National Culture, and Corporate Governance: A comparative study of Saudi Arabia and the United States. *Journal of Economic Studies*, 46(5), 1075-1088.

Bals, L., Tate, W. L., and Gaertner, F. B. (2019). Supply chain maturity and supplier-buyer relationships: The role of trust and interdependence. *Journal of Business Research*, 102, 102-112.

Barbour, R. S. (2008) *Doing Focus Groups*. Sage Publications.

Bastl, M. et al. (2010) "Inter-Organisational Costing Approaches: The inhibiting factors." *The International Journal of Logistics Management*, 21(1), 65-88. DOI: 10.1108/09574091011042188.

Belcourt, M. (2006) Outsourcing: The benefits and the risks. *Human Resource Management Review*. 16(2), 269-279.

Bell, T., Urhahne, D., Schanze, S., and Ploetzner, R. (2010) Collaborative Inquiry Learning: Models, tools, and challenges. *International Journal of Science Education*, 32(3), 349-377.

Benslimane, M., Elgazzar, S., Alshammari, F., and Alsulaiman, N. (2020) Factors Influencing the Implementation and Success of Open Book Accounting Systems in Saudi Arabia: An exploratory study from a strong structuration theory perspective. *International Journal of Business Governance and Ethics*, 15(3), 243-263. DOI: 10/1108/IJBGE-01-2020-0003.

Berry, D., Leonard-Barton, D., and Deschamps, I. (2000). Differentiating by interactivity: An exploratory study of interfaces' effects on business-to-business relationships. *Journal of Product Innovation Management*, 17(5), pp. 394-408

Berry, D., Leonard, D., and Saini, D. (2000). Inter-organisational maturity in the supply chain: a longitudinal study. *Journal of Operations Management*, 18(2), 169-184.

Berry, M. A., Bowen, D. E., and Clark, T. (2000). *The extended enterprise: gaining competitive advantage through collaborative supply chains*. Stamford, CT: Stanford Business Books.

Berry, W. L., Levinsohn, D. A., and Pakes, A. (2005). Differentiated products demand systems from a combination of micro and macro data: The new car market. *Journal of Political Economy*, 113(1), 68-105.

Bhaskar, R. (1993). *Dialectic: The Pulse of Freedom*. Routledge.

Bracci, E., Papi, L., Bigoni, M., Deidda Gagliardo, E., and Bruns, H. J. (2019) Public Value and Public Sector Accounting Research: A structured literature review. *Journal of Public Budgeting, Accounting and Financial Management*, 31(1), 103-136.

- Braun, V. and Clarke, V. (2006) Using Thematic Analysis in Psychology. *Qualitative Research in Psychology*, 3(2), 77-101.
- Braun, V. and Clarke, V. (2021) Thematic Analysis: A practical guide. London: SAGE Publications Ltd.
- Brooks, C. and Oikonomou, I. (2018) The Effects of Environmental, Social and Governance Disclosures and Performance on Firm Value: A review of the literature in accounting and finance. *The British Accounting Review*, 50(1), 1-15.
- Bryant, C. G. A. and Jary, D. (2011) Anthony Giddens. In: G. Ritzer and J. Stepnisky (eds). The Wiley-Blackwell companion to major social theorists. Malden: Wiley-Blackwell. 432-463.
- Bryman, A. and Bell, E. (2007) Business Research Methods, 2<sup>nd</sup> ed. Oxford University Press.
- Bryman, A., and Bell, E. (2007). Business research methods. Oxford University Press.
- Bryman, A. (2012). Social research methods. Oxford University Press.
- Buijs, P. and Wortmann, J. C. (2014) Joint Operational Decision-Making in Collaborative Transportation Networks: The role of IT. *Supply Chain Management: An International Journal*, 19(2), 200-210.
- Burrell, G. and Morgan, G. (1979) Sociological Paradigms and Organisational Analysis: Elements of the sociology of corporate life. Heinemann.
- Burrell, G. and Morgan, G. (2017) Sociological Paradigms and Organisational Analysis: Elements of the sociology of corporate life. Routledge.
- Büyüközkan, G. and Arsenyan, J. (2012) Collaborative Product Development: A literature overview. *Production Planning and Control*, 23(1), 47-66.
- Caglio, A. and Ditillo, A. (2008) A review and discussion of management control in inter-firm relationships: Achievements and future directions, *Accounting, Organs and Society*, 33(7-8) 865-898.
- Caglio, A. and Ditillo, A. (2012) Interdependence and Accounting Information Exchanges in Inter-Firm Relationships. *Journal of Management and Governance*, 16(1), 57-80.

Caglio, A. and Ditillo, A. (2012) Opening the Black Box of Management Accounting Information Exchanges in Buyer-Supplier Relationships. *Management Accounting Research*, 23, 61-78.

Caglio, A. and Ditillo, A. (2012) Supply Chain Collaboration: A literature review. *International Journal of Physical Distribution and Logistics Management*, 42(2), 111-136.

Cai, S., and Yang, Z. (2014). The impact of open book accounting on supplier performance: A case study of the automotive industry. *Journal of Purchasing and Supply Management*, 20(1), 1-9. doi: 10.1016/j.pursup.2013.08.001

Callon, M. (1986). 'Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St Brieuc Bay'. Power, action and belief: A new sociology of knowledge? (pp. 196-233). Routledge.

Charmaz, K. (2014). Constructing grounded theory. Sage.

Chen, J., Chen, Y., and Jin, Y. (2020). The effect of open book accounting on supply chain performance: a theoretical analysis. *Annals of Operations Research*, 287(1), 265-285.

Chen, J., Yang, M., and Zhang, H. (2018). The impact of open book accounting on supplier performance: A case study of the automotive industry. *International Journal of Production Economics*, 198, 107-117.

Chen, S., Su, J., and Huang, C. (2020). Open-book accounting and accountability: A systematic literature review. *International Journal of Accounting Information Systems*, 36, 100461.

Cheng, C. H. (2011). Antecedents and consequences of interfirm trust in OBA context. *Journal of Business and Management*, 17(2), 21-43.

Cheng, J. H. (2011) Inter-Organal Relationships and Information Sharing in Supply Chains. *International Journal of Information Management*, 31(4), 374-384.

Cheng, J. H. (2011) Inter-Organal Relationships and Knowledge Sharing in Green Supply Chains: Moderating by relational benefits and guanxi. *Transportation Research Part E: Logistics and Transportation Review*. 47(6), 837-849.

Chhabra, S. and Dixit, V. S. (2015) Cloud Computing: State of the art and security issues. *ACM SIGSOFT Software Engineering Notes*, 40(2), 1-11.

- Chikhaoui, E. (2020). Use of Cloud Computing in Small and Medium Size Enterprises ("SMEs") in Saudi Arabia: Opportunities and Challenges. *International Journal of Advanced Computer Science and Applications*, 11(3), 277-283.
- Chinosi, M. and Trombetta, A. (2012) BPMN: An introduction to the standard. *Computer Standards and Interfaces*, 34(1), 124-134.
- Choi, T. Y., and Hong, Y. (2020). Strategic supplier relationship management and supply chain resilience. *Journal of Supply Chain Management*, 56(4), 3-13.
- Ciobanu, R. I., Dobre, C., Dascălu, M., Trăușan-Matu, Ș., and Cristea, V. (2014) SENSE: A collaborative selfish node detection and incentive mechanism for opportunistic networks. *Journal of Network and Computer Applications*, 41, 240-249.
- Clack, L. (2020) Employee Engagement: Keys to organisational success. The Palgrave handbook of workplace well-being, 1-28.
- Coad, A. F. and Glyptis, L. G. (2014) Structuration: A position-practice perspective and an illustrative study. *Critical Perspectives on Accounting*. 25(2), 142-161.
- Cohen, L., Manion, L., and Morrison, K. (2007). Research methods in education. Routledge.
- Cohen, J. R., Krishnamoorthy, G., and Wright, A. M. (2017). Corporate governance and the information environment: Evidence from state antitakeover laws. *Journal of Accounting and Economics*, 63(2-3), 417-439.
- Collis, J. and Hussey, R. (2003) Business Research, 2<sup>nd</sup> ed. Basingstoke: Palgrave Macmillan.
- Cook, K. S., Cheshire, C., Rice, E. R. and Nakagawa, S. (2013) Social Exchange Theory. *Handbook of Social Psychology*, 61-88.
- Cooper, M. C. and Slagmulder, R. (2004) Purchasing and Supply Management: Creating the vision. London: Routledge.
- Cooper, R. and Slagmulder, R. (1999) Supply Chain Development for the Lean Enterprise: Inter-organisational cost management. Portland: Productivity Press.
- Cooper, R. and Slagmulder, R. (2004) Inter-Organisational Cost Management and Relational Context. *Accounting, Organisations and Society*. 29, 1-26.

Cooper, R., and Slagmulder, R. (2004). Interorganisational costing, Part II: Towards an information exchange framework. *Journal of Management Accounting Research*, 16(1), 175-195.

Cooper, R. and Yoshikawa, T. (1994) Inter-Organisational Cost Management Systems: The case of the Tokyo-Yokohama-Kamakura supplier chain. *International Journal of Production Economics*. 37(1), 51-62.

Cortellazzo, L., Bruni, E., and Zampieri, R. (2019) The Role of Leadership in a Digitalized World: A review. *Frontiers in Psychology*, 10, 1938.

Cousins, P. D., Menguc, B., and Armistead, C. (2010). Outsourcing in the supply chain: Progress, challenges and the path ahead. *Journal of Purchasing and Supply Management*, 16(2), 77-82.

Cousins, P. D., Menguc, B., and Armistead, C. G. (2010). Open book accounting in supply chains: a survey of buyers' motives and supplier reactions. *Supply Chain Management: An International Journal*, 15(6), 457-469.

Covaleski, M. A., Dirsmith, M. W., & Samuel, S. (1996). Managerial accounting research: The contributions of organizational and sociological theories. *Journal of Management Accounting Research*, 8, 1-35.

Creswell, J. (2011) *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Thousand Oaks, CA: Sage Publications.

Creswell, J. W. (2003) *Research Design: Qualitative, quantitative, and mixed methods approaches*. London: SAGE Publications Ltd.

Creswell, J. W., & Poth, C. N. (2017). *Qualitative Inquiry and Research Design: Choosing Among Five Approaches*. Sage Publications.

Cropanzano, R., Anthony, E. L., Daniels, S. R., and Hall, A. V. (2017) Social Exchange Theory: A critical review with theoretical remedies. *Academy of Management Annals*, 11(1), 479-516.

Cuevas, J. M., Julkunen, S., and Gabrielsson, M. (2015) Power Symmetry and the Development of Trust in Interdependent Relationships: The mediating role of goal congruence. *Industrial Marketing Management*, 48, 149-159.

- Cuganesan, S., and Lee, G. (2006). Actor-network theory research in accounting. *Accounting, Auditing and Accountability Journal*, 19(3), 357-399.
- Cullen, J. and Meira, J. (2010) Inter-Organisational Accounting in Dyadic Settings. In: Hakansson, H., Kraus, K., and Lind, J. (eds) *Accounting in Networks*.
- D'Angelo, G., and Grunewald, A. (2019). A meta-analytic review of corporate transparency: Does transparency improve corporate accountability? *Journal of Business Ethics*, 159(3), 761-823.
- Darlington, Y. and Scott, D. (2002) *Researching the Vulnerable: A Guide to Sensitive Research Methods*. London: Sage Publications.
- Das, T. K., and Teng, B. S. (2001). Trust, control, and risk in strategic alliances: An integrated framework. *Organisation studies*, 22(2), 251-283.
- Davison, J. (2011) Barthesian Perspectives on Accounting Communication and Visual Images of Professional Accountancy. *Accounting, Auditing and Accountability Journal*.
- Dekker, H. C. (2003) Value Chain Analysis in Inter-Firm Relationships: A field study. *Management Accounting Research*. 14(1), 1-23.
- Dekker, H. C. (2004). *Controlling transport in logistics chains*. PhD Thesis, Erasmus University Rotterdam, Rotterdam, Netherlands.
- Dekker, H. C. (2008). The effect of IT-enabled cost transparency on buyer-supplier relationships. *International Journal of Accounting Information Systems*, 9(3), 169-182.
- Dekker, H. C., and Goor, A. R. (2010). Learning from inter-organisational information flows: A process-oriented research agenda. *Journal of Strategic Information Systems*, 19(4), 291-302.
- Dekker, H. C., and Goor, A. R. (2010). Supply chain redesign: Enhancing inter-organisational information sharing. *International Journal of Production Economics*, 128(1), 17-25.
- Deniswara, K., Handoko, B. L. and Mulyawan, A. N. (2020) Big Data Analytics: Literature study on how big data works towards accountant millennial generation. *International Journal of Management*, 11(5).
- Denzin, N. K. and Lincoln, Y. S. (2005) *The Sage Handbook of Qualitative Research*, 3<sup>rd</sup> ed. Sage.



DhaifAllah, B., Auzair, S. M., Maelah, R. and Ismail, M. D. (2016) Inter-Organisational Cost Management and Open Book Accounting: A review. *Asian Journal of Accounting Perspectives*, 9(1), 67-96.

Díaz, M., Martín, C., and Rubio, B. (2016) State-of-the-Art, Challenges, and Open Issues in the Integration of Internet of Things and Cloud Computing. *Journal of Network and Computer Applications*, 67, 99-117.

Diirr, B. and Cappelli, C. (2018) A Systematic Literature Review to Understand Cross-Organisational Relationship Management and Collaboration. *In Proceedings of the 51st Hawaii International Conference on System Sciences*. doi:10.24251/hicss.2018.048

Dillard, J. F., & Yuthas, K. (2002). Social Structure and the Symbolic Power of the Debit: The Case of AT&T's Revenue Accounting. *Accounting, Organizations and Society*, 27(7), 577-609.

Dörnyei, Z. (2007). *Research methods in applied linguistics: Quantitative, qualitative, and mixed methodologies*. Oxford University Press.

Drogalas, G., Pazarskis, M., Anagnostopoulou, E., and Papachristou, A. (2017) The Effect of Internal Audit Effectiveness, Auditor Responsibility and Training in Fraud Detection. *Accounting and Management Information Systems*, 16(4), 434-454.

Du, J., and Chen, S. (2018). The impact of internal auditing on the quality of supply chain financial information disclosure. *International Journal of Accounting and Information Management*, 26(4), 390-406.

EIA (2020) World Oil Market Overview [Online] Retrieved from: [https://www.eia.gov/outlooks/ieo/worldOIL\\_overview.html](https://www.eia.gov/outlooks/ieo/worldOIL_overview.html) (Accessed: 19 January 2023).

Elgazzar, S., Benslimane, M., Alshammari, F., and Alsulaiman N. (2018) Open Book Accounting: An exploratory study of the factors influencing its adoption in Saudi Arabia from a strong structuration theory perspective. *International Journal of Accounting and Information Management*, 26(2), 156-171. DOI: 10.1108/IJAIM-05-2017-0035.

Ellram, L. M. (2000). The supplier selection decision in strategic partnerships. *Journal of Purchasing and Supply Management*, 6(1), 1-18.

Ellram, L. M. (2006). Characteristics of supply chain management and the implications for purchasing and logistics strategy. *International Journal of Logistics Management*, 17(2), 238-254.

Ellström, D. and Hoshi Larsson, M. (2017) Dynamic and Static Pricing in Open-Book Accounting. *Qualitative Research in Accounting and Management*, 14(1), 21-37.

Elsbach, K. D. and Stigliani, I. (2018) Design Thinking and Organisational Culture: A review and Framework for Future Research. *Journal of Management*, 44(6), 2274-2306.

Eskandarpour, M., Dejax, P., Miemczyk, J., and Péton, O. (2015) Sustainable Supply Chain Network Design: An optimization-oriented review. *Omega*, 54, 11-32.

European Commission. (2022). General Data Protection Regulation. [Online]. Available at: [https://ec.europa.eu/info/law/law-topic/data-protection\\_en](https://ec.europa.eu/info/law/law-topic/data-protection_en) [Accessed: March xx, 2023].

Ezzamel, M. (1994). Accounting for teamwork: A critical study of group-based systems of organisational control. *Administrative Science Quarterly*, 39(2), 392-414.

Farahani, R. Z., Rezapour, S., Drezner, T., and Fallah, S. (2014) Competitive Supply Chain Network Design: An overview of classifications, models, solution techniques and applications. *Omega*, 45, 92-118.

Farragher, L., Adams, C., and McIvor, R. (2007). The potential of open book accounting in the supplier-buyer relationship. *International Journal of Operations and Production Management*, 27(2), 184-204.

Firth, M., Lin, H., and Liu, P. (1997). Ownership structure, corporate governance, and fraud: Evidence from China. *Journal of Corporate Finance*, 3(2), 189-214.

Ford, D., and Håkansson, H. (2006). *Managing business relationships*. John Wiley and Sons.

Frenkel, M. (2005) The Politics of Translation: How state-level political relations affect the cross-national travel of management ideas. *Organisation*. 12(2), 275-301.

Friday, D., Ryan, S., Sridharan, R. and Collins, D. (2018) Collaborative Risk Management: A systematic literature review. *International Journal of Physical Distribution and Logistics Management*.

Gadde, L. E., and Håkansson, H. (2001). The purchase of complex products and systems: Implications for relationship marketing. *Journal of business-to-business marketing*, 8(4), 1-35.

Gadde, L. E., Håkansson, H., and Snehota, I. (2010) *Purchasing and Supply Management: Text and cases*. John Wiley and Sons.

Gambetta, D., and Hamill, H. (2005). Streetwise: How taxi drivers establish their customers' trustworthiness. *Ethnos*, 70(1), 39-64. doi: 10.1080/00141840500042910.

Gause, G. (2020). Gulf Cooperation Council: Economic Diversification and Modernization [Online]. Retrieved from <https://www.gcc-sg.org/en/about-us/economic-diversification-and-modernization> [Accessed: March xx, 2023].

Gelsomino, L. M., Mangiaracina, R., Perego, A., and Tumino, A. (2016) Supply Chain Finance: A literature review. *International Journal of Physical Distribution and Logistics Management*.

Geng, R., Kong, Y., Xu, X., and Zhang, G. (2016). Government support, supply chain integration, and green supply chain management performance. *Journal of Cleaner Production*, 112, 3653-3663. doi: 10.1016/j.jclepro.2015.10.039

Gerdin, J. and Englund, H. (2014) Structuration Theory in Accounting Research: Applications and accountability. *Critical Perspectives on Accounting*. 25(2,), 162-180.

Gerdin, J., and Englund, H. (2011). Bridging the gap between practice and theory: an institutional perspective on management accounting. *Qualitative Research in Accounting and Management*, 8(4), 382-404. <https://doi.org/10.1108/11766091111182495>

Ghasemi, E., Lehoux, N., and Rönnqvist, M. (2022) Coordination, Cooperation, and Collaboration in Production-Inventory Systems: A systematic literature review. *International Journal of Production Research*, 1-32.

Ghodeswar, B. M., and Vaidyanathan, J. (2008). The impact of external support services on business performance. *Journal of Business and Retail Management Research*, 3(1), 70-78.

Gibbs, G. (2007) *Analysing Qualitative Data*. London: Sage.

Giddens, A. (1984) *The Constitution of Society*. Berkeley: University of California Press.

Giddens, A. (1984). *The constitution of society: Outline of the theory of structuration*. Polity Press.

Giddens, A. and Pierson, C. (1998) *Conversations with Anthony Giddens: Making sense of modernity*. Cambridge: Polity Press.

Gillan, S. L., and Starks, L. T. (2000) Corporate Governance Proposals and Shareholder Activism: The role of institutional investors. *Journal of Financial Economics*, 57(2), 275-305.

Goh, M., Lim, S., and Chai, K. H. (2019). Enhancing supply chain performance through open book accounting. *International Journal of Operations and Production Management*, 39(1), 32-53.

Gölgeci, I. and Kuivalainen, O. (2020) Open Book Accounting Implementation in Small and Medium-Sized Enterprises' Supplier Management: A network lifecycle perspective. *Journal of Business Research*, 115, 344-355.

Gordon, L. A., Loeb, M. P., and Tseng, C. Y. (1978). A critical review of empirical research on accounting information systems. *Journal of Accounting Literature*, 18, 97-147.

Gordon, L. A., Loeb, M. P., and Tseng, C. Y. (1978). *Accounting information systems: A design perspective*. Prentice-Hall, Inc.

Gordon, L. A., Miller, D., and Vollmann, T. E. (1978). The general model of accounting-information-system design. *Management Science*, 24(9), 934-949.

Gray, D. E. (2014). *Doing research in the real world*. Sage.

Grbich, C. (2007) *Qualitative Data Analysis: An introduction*. Sage Publications.

Gulati, R., and Alsahli, A. (2019). The impact of online business accounting on organisational performance: An empirical study of small and medium enterprises in Saudi Arabia. *Journal of Applied Accounting Research*, 20(1), 2-17.

Hansen Henten, A. and Windekilde, M. I. (2016) Transaction Costs and the Sharing Economy. *Info: The Journal of Policy, Regulation and Strategy for Telecommunications, Information and Media*, 18(1), 1-15.

Hartley, J., Sørensen, E., and Torfing, J. (2013) Collaborative Innovation: A viable alternative to market competition and organisational entrepreneurship. *Public Administration Review*, 73(6), 821-830.

Hasan, A. R. (2021) Artificial Intelligence (AI) in Accounting and Auditing: A Literature review. *Open Journal of Business and Management*, 10(1), 440-465.

Hassan, H. A. (2017). Saudi Arabia's military assertiveness: The product of domestic challenges. *Carnegie Endowment for International Peace*.  
<https://carnegieendowment.org/2017/03/28/saudi-arabia-s-military-assertiveness-product-of-domestic-challenges-pub-68482>

Hassan, M. K. (2020). Saudi Arabia's data protection laws and the need for the general data protection regulation. *Journal of Islamic Marketing*, 11(2), 283-292. doi: 10.1108/JIMA-02-2019-0035

Hassan, Y. M., and Ismail, K. N. I. K. (2020). Cultural Factors Affecting Accounting Disclosure: Evidence from Saudi Arabia. *Asian Journal of Accounting and Governance*, 14(1), 63-71.

Healy, C., and Perry, C. (2000). Comprehensive criteria to judge validity and reliability of qualitative research within the realism paradigm. *Qualitative Market Research: An International Journal*, 3(3), 118-126.

Hearnshaw, E. J. and Wilson, M. M. (2013) A Complex Network Approach to Supply Chain Network Theory. *International Journal of Operations and Production Management*, 33(4), 442-469.

Heger, T. and Rohrbeck, R. (2012) Strategic Foresight for Collaborative Exploration of New Business Fields. *Technological Forecasting and Social Change*, 79(5), 819-831.

Hoepfl, M. C. (1997) Choosing Qualitative Research: A primer for technology education researchers. *Journal of Technology Education*, 8(2), 44-55.

Hoffjan, A. and Kruse, H. (2006) Open Book Accounting in Supply Chains: When and how is it used in practice? *Journal of Cost Management*. 20(6), 40-47.

Hoffjan, A. and Kruse, H. (2006) Open Book Accounting. *Die Betriebswirtschaft*, 66(5), 603.

Hoffmann, W., Lavie, D., Reuer, J. J., and Shipilov, A. (2018) The Interplay of Competition and Cooperation. *Strategic Management Journal*, 39(12), 3033-3052.

Hofstede, G. (2001). *Culture's consequences: comparing values, behaviors, institutions and organisations across nations*. Sage publications.

Holmberg, L., and Sundström, A. (2010). Open book accounting: A case study of a buyer-supplier relationship. *Journal of Applied Accounting Research*, 11(2), 112-130.

Hopper, T., Lassou, P., and Soobaroyen, T. (2017) Globalisation, Accounting and Developing Countries. *Critical Perspectives on Accounting*, 43, 125--148.

Hopwood, A. G. (1987). The Archaeology of Accounting Systems. *Accounting, Organizations and Society*, 12(3), 207-234.

Hoyt, D. R. (2000). The arm's length principle: A comparative analysis. *Kluwer Law International*.

Huerta, E. and Jensen, S. (2017) An Accounting Information Systems Perspective on Data Analytics and Big Data. *Journal of Information Systems*, 31(3), 101-114.

Humphrey, C. and Scapens, R. (1996) Theories and Case Studies of Organisational Accounting Practices: Limitations or liberation? *Accounting, Auditing and Accountability Journal*. 9(4), 86-106.

Hutchinson, R. (2014) Cost Accounting and Simulation: Toward a post-structuralist understanding. In: *Advances in Management Accounting*, vol. 22, 159-183. Emerald Group Publishing Limited.

Iandolo, F., Vito, P., Loia, F., Fulco, I., and Calabrese, M. (2021) Drilling Down the Viable System Theories in Business, Management and Accounting: A bibliometric review. *Systems Research and Behavioral Science*, 38(6), 738-755.

Ibrahim, S., Yusoff, W. S. and Rashid, I. M. A. (2021) A Systematic Review of Disruptive Technology Within Accounting and Accounting Sector. In: *AIP Conference Proceedings* (vol. 2339, No. 1, 020068) AIP Publishing LLC.

Ibusuki, U. A., and Kaminski, P. C. (2007). Total cost of ownership: a conceptual and practical analysis. *Gestão and Produção*, 14(3), 521-532.

IMF (2019) Saudi Arabia 2019 Article IV Consultation: Press Release; Staff Report; and Statement by the Executive Director for Saudi Arabia, IMF Country Report No 19/268, International Monetary Fund, Washington DC.

*International Journal of Project Management*, 18(6), 417-421.

International Trade Administration. (2021). Saudi Arabia - Supply Chain Management [Online]. Retrieved from: <https://www.trade.gov/knowledge-product/saudi-arabia-supply-chain-management>.

- Ivanov, D. (2020). Predicting the impacts of epidemic outbreaks on global supply chains: A simulation-based analysis on the coronavirus outbreak (COVID-19/SARS-CoV-2) case. *Transportation Research Part E: Logistics and Transportation Review*, 136, 101922.
- Jack, L. and Makrygiannikis, G. (2016) Understanding Management Accounting Change Using Strong Structuration Frameworks. *Accounting, Auditing and Accountability Journal*. 29(7) 1234-1256.
- Jack, L. and Stones, R. (2016) The Bridge Between Ontological Concepts and Empirical Evidence: An interview with Rob Stones. *Accounting, Auditing and Accountability Journal*. 29(7) 1145-1151.
- Jack, L., and Kholeif, A. (2007). A new paradigm of accounting research. *Qualitative research in accounting and management*, 4(2), 76-92.
- Jakubik, M. and Berazhny, I. (2017) Rethinking Leadership and Its Practices in the Digital Era. In: *Managing the Global Economy. Proceedings of the Management International Conference*, Monastier di Treviso, Italy, 24-27 May 2017. University of Primorska Press.
- Jaworski, P., and Zielinski, P. (2019). The Use of Open Book Accounting in Supply Chain Management. In *Proceedings of the 12th International Conference on Management Science and Engineering Management* (pp. 221-230). Springer.
- Johnson, P., Buehring, A., Cassell, C., & Symon, G. (2006). Evaluating qualitative management research: Towards a contingent criteriology. *International Journal of Management Reviews*, 8(3).
- Johnson, P., Duberley, J., and Brown, A. (2006). Contingent criteriology and accounting research: A reflection on Johnson and Kaplan (1987). *International Journal of Management Reviews*, 8(4), 171-186.
- Jones, M. J., and Dugdale, D. (2002). The nature of management accounting practices in UK-based multinational companies. *The British Accounting Review*, 34(4), 257-282.
- Jones, M.J., and Dugdale, D. (2002). The ABC bandwagon and the juggernaut of modernity. *Accounting, Organisations and Society*, 27(1-2), 121-163.

Jorgensen, B., and Messner, M. (2010). Accounting and strategy: Towards understanding the historical genesis of modern business and military strategy. *Critical Perspectives on Accounting*, 21(8), 649-664.

Jorgensen, D. L., and Messner, M. A. (2010) Handbook of Sport Sociology. Thousand Oaks, CA: Sage.

Justesen, L. and Mouritsen, J. (2011) Effects of Actor-Network Theory in Accounting Research. *Accounting, Auditing and Accountability Journal*. Details

Kajüter, P. and Kulmala, H. I. (2005) Open-Book Accounting in Networks: Potential achievements and reasons for failures. *Management Accounting Research*, 16(2), 179-204.

Kajuter, P., and Kulmala, H. I. (2005). From cost management to OBA: How to implement a new accounting system. *Journal of Cost Management*, 19(5), 27-37.

Kakkuri-Knuuttila, M., Lukka, K., and Kuorikoski, J. (2008) Interpretive Management Accounting Research: A review of literature. *Management Accounting Research*, 19(2), 94-116.

Kang, J., Diao, Z. and Zanini, M. T. (2021) Business-to-Business Marketing Responses to COVID-19 Crisis: A business process perspective. *Marketing Intelligence and Planning*, 39(3), 454-468.

Kaplan, R. S., and Atkinson, A. A. (2015). Advanced management accounting. PHI Learning.

Kato, H. (1993). Target costing: The next frontier in strategic cost management. *Journal of Strategic Cost Management*, 5(2), 3-10.

Kato, H., Smalley, A., and Stevens, G. (1995). Implementing target costing. *Journal of Cost Management*, 9(4), 31-38.

Kattan, M. (2018) The Development of Privacy and Data Protection Law in Saudi Arabia.

Kawaguchi, Y. (2019). Online behavioral advertising and the cultural factor: A comparative analysis of Japan and the United States. *International Journal of Communication*, 13, 1862-1882.

Kellett, P. and Waring, M. (2016) Ethical Considerations in Case Study Research. In: P. Atkinson, A. Coffey, S. Delamont, J. Lofland, and L. Lofland (eds). Handbook of Ethnography (431-444) London: Sage.



Khanom, T. (2017) Cloud Accounting: A theoretical overview. *IOSR Journal of Business and Management*, 19(6), 31-38.

King Abdulaziz City for Science and Technology. (2019). The Adoption of Online Business Analytics (OBA) Solutions in Saudi Arabia. Retrieved from [https://www.kacst.edu.sa/eng/research/publications/Documents/The\\_Adoption\\_of\\_OBA\\_Solutions\\_in\\_Saudi\\_Arabia.pdf](https://www.kacst.edu.sa/eng/research/publications/Documents/The_Adoption_of_OBA_Solutions_in_Saudi_Arabia.pdf)

Kirk, J., and Miller, M. L. (1986). Reliability and validity in qualitative research. Sage Publications, Inc.

Knemeyer, A. M., Zinn, W., Eroglu, C., and Chen, H. (2021). Open book accounting and supply chain continuity: Exploring the mediating role of trust and transparency. *International Journal of Production Economics*, 236, 108136.

Kober, R., Ng, J., and Sin, K. (2017). The adoption of open-book accounting in Saudi Arabia: A dialectic perspective. *Accounting, Auditing and Accountability Journal*, 30(7), 1515-1541.

Komori, N. (2015) Beneath the Globalization Paradox: Towards the sustainability of cultural diversity in accounting research. *Critical Perspectives on Accounting*. 26, 141-156.

KPMG (2017) The Benefits of Network Automation. Retrieved from: <https://www.kpmg.com/us/en/issuesandinsights/articlespublications/technology-innovation-blog/pages/networkautomationbenefits.aspx>.

Kraus, S. and Lind, M. (2007) Inter-Firm Networks: A review of recent research. *Journal of Business and Industrial Marketing*, 22(3), 123-137.

Kulmala, H. (2004) Open Book Accounting: A new approach to business relationships. *International Journal of Production Economics*, 87(3), 295-303.

Kulmala, H. (2004) Open-Book Accounting in Networks. *The Finnish Journal of Business Economics*. 52(2), 157-177.

Kumar, M. and Ayedee, D. (2021) Technology Adoption: A Solution for SMEs to overcome problems during COVID-19. *Forthcoming, Academy of Marketing Studies Journal*, 25(1).

Kumar, M., and Sharma, R. K. (2019). Role of open book accounting in enhancing the supply chain management practices: evidence from the Indian manufacturing industry. *International Journal of Logistics Systems and Management*, 34(4), 408-426.

Kumar, S., and Sharma, R. (2019). The impact of interorganisational information sharing on supply chain resilience: An empirical investigation. *International Journal of Information Management*, 48, 53-65. doi: 10.1016/j.ijinfomgt.2019.02.005.

Kumar, S., and Sharma, D. S. (2017). Open Book Accounting in Supply Chains: An Institutional Theory Perspective. *Journal of Management Research*, 17(3), 156-174.

Kumra, R., Agndal, H. and Nilsson, U. (2012) Open Book Practices in Buyer-Supplier Relationships in India. *Journal of Business and Industrial Marketing*. 27(3), 196-210.

Kvale, S. and Brinkmann, S. (2009) *InterViews: Learning the Craft of Qualitative Research Interviewing*. Thousand Oaks, CA: Sage Publications.

Lamming, R. (1993) *Beyond Partnership: Strategies for innovation and lean supply*. London: Prentice Hall.

Lamming, R. (1996) Squaring Lean Supply with Supply Chain Management. *International Journal of Operations and Production Management*. 16(2), 183-196.

Lamming, R., Caldwell, N., and Harrison, D. (2004) Developing the Concept of Transparency for Use in Supply Relationships. *British Journal of Management*. 13(4), 291-302.

Lamming, R., Caldwell, N., Harrison, D., and Phillips, W. (2001). Collaboration and partnerships in supplier development. *Journal of Purchasing and Supply Management*, 7(1), 23-34.

Langfield-Smith, K. (2008). Exploring the need for a shared understanding of fairness in control system design. *Journal of Business Ethics*, 77(3), 303-322.

Langfield-Smith, K., and Smith, D. (2003). Management control systems and trust in outsourcing relationships. *Management Accounting Research*, 14(3), 281-307.

Langley, A., and Abdallah, C. (2011). Templates or tragedies? Examining the influence of industry templates on power in interorganisational relationships. *Academy of Management Review*, 36(1), 49-69.

Latour, B. (2005). *Reassembling the social: An introduction to actor-network-theory*. Oxford University Press

Laughlin, R. (2007) Critical Reflections on Research Approaches, Accounting Regulation and the Regulation of Accounting. *The British Accounting Review*, 39(4), 271-289

- Law, J. (1986). On the methods of long-distance control: Vessels, navigation, and the Portuguese route to India. *Power, action and belief: A new sociology of knowledge?*, 234-263.
- Law, J. (2007). Actor network theory and material semiotics. *The New Blackwell Companion to Social Theory*, 141-158.
- Lee B and Saunders M (2016) *Conducting Case Study Research for Business and Management Students*. SAGE Publications.
- Lee, C., Yoo, S. H., Kim, H., and Park, Y. (2020). The impact of open book accounting on collaboration and customer service: A case study of the automotive industry. *Sustainability*, 12(23), 9745.
- Lee, K. H., Kim, C., and Cho, D. (2015). Social responsibility in the supply chain: the case of Samsung Electronics in Korea. *Journal of Cleaner Production*, 106, 35-44.
- Leedy, P. D. and Ormrod, J. E. (2020) *Practical Research: Planning and design*, 12<sup>th</sup> ed. Pearson.
- Lepistö, S. et al. (2020) "Controlling Outsourced Management Accounting to Build Legitimacy." *Qualitative Research in Accounting and Management*, 17(3), 435-463. DOI: 10.1108/QRAM-05-2019-0062.
- Li, B., Zhong, Y., Zhang, T., and Hua, N. (2021) Transcending the COVID-19 Crisis: Business resilience and innovation of the restaurant industry in China. *Journal of Hospitality and Tourism Management*, 49, 44-53.
- Li, X., Yan, H., Yang, F., and Wang, J. (2019). The effects of trust and communication on supplier integration in Chinese manufacturing firms. *Journal of Business Research*, 95, 159-170.
- Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications.
- Lindgreen, A., Di Benedetto, C. A., and Jayawardhena, C. (2012). The role of networking in SMEs: empirical evidence from Vietnam. *Journal of Small Business and Enterprise Development*, 19(2), 302-321. doi: 10.1108/14626001211220441
- Lindgreen, A., Di Benedetto, C. A., and Kanwal, S. (2012). Open book accounting in buyer-supplier relationships: trade-off between transparency and proprietary cost information. *Journal of Business Research*, 65(1), 31-39.

Lindgreen, A., Hingley, M. K., Grant, D. B., and Morgan, R. E. (2012). Value in business and industrial marketing: Past, present, and future. *Industrial Marketing Management*, 41(1), 207-214. doi: 10.1016/j.indmarman.2011.12.005

Lindgreen, A., Hingley, M. K., Grant, D. B., and Morgan, R. E. (2012). Creating mutual value: Lessons learned from UK-North American supply chain initiatives. *Industrial Marketing Management*, 41(1), 82-88.

Linhares, C. Z. D. (2018). *An exploration of the potential of supply chain accounting to promote both economic and social upgrading: a case study in Brazil*. PhD thesis, University of Sheffield, Sheffield, UK.

Liu, S., and Su, X. (2020). Buyer-supplier relationship and supply chain performance: A systematic review and future research agenda. *International Journal of Production Economics*, 230, 107829.

Liu, X., Chen, B., Chen, C., and Jin, D. (2020) Electric Power Grid Resilience with Interdependencies Between Power and Communication Networks: A review. *IET Smart Grid*, 3(2), 182-193.

Liu, Y., Wang, X., Li, J., and Zhang, Z. (2018) Optimizing the Network Lifecycle for Operational Business Agility: A case study in China Mobile Group Guangdong Co Ltd. *International Journal of Information Management*, 38(3), 545-556.

Lockamy, A. III, and McCormack, K.P. (2004). The development of a supply chain management process maturity model using the concepts of business process orientation. *Supply Chain Management: An International Journal*, 9(4), pp.272-278.

Lockamy, A., and McCormack, K. (2004). Linking SCOR planning practices to supply chain performance: An exploratory study. *International Journal of Operations and Production Management*, 24(12), 1192-1218.

Lowe, E.A. (2001a). Accounting, institutions and power: the institutional work of accounting change. *Accounting, Organisations and Society*, 26(4-5), 327-357.

Lowe, E.A. (2001b). Accounting for reform: recent developments in accounting regulation. *European Accounting Review*, 10(3), 505-520.

Lowe, E.A. (2001c). The dynamics of accounting change: inter-play between new practices, routines, institutions, power relations and broader contextual forces. *Accounting, Auditing and Accountability Journal*, 14(5), 558-581.

Luhmann, N. (1979). *Trust and Power: Two works by Niklas Luhmann*. John Wiley and Sons.

Lukka, K. (2010) The Roles and Effects of Paradigms in Accounting Research. *Management Accounting Research*, 21(2), 110-115.

Lukka, K. and Modell, S. (2010) Interpretive Research in Management Accounting and Control. In: S. S. Salterio and R. W. Scapens (eds). *Research Method and Methodology in Finance and Accounting*, 2<sup>nd</sup> ed., 553-578. Emerald Group Publishing Limited.

Lukka, K., Modell, S., and Vinnari, E. (2022) Exploring the “Theory is King” Thesis in Accounting Research: The case of actor-network theory. *Accounting, Auditing and Accountability Journal*, 35(9), 136-167.

Mabry, T. (2008) *Case Study Research: Design and Methods*. Thousand Oaks, CA: Sage Publications.

Mahama, H. (2006). Supplier Evaluation: Cost, Quality, and Delivery. In: *Purchasing and Supply Chain Management* (pp. 257-272). Springer.

Marczyk, G. D., DeMatteo, D. S., and Festinger, D. S. (2005) *Essentials of Research Design and Methodology*. Hoboken, NJ: Wiley.

Markovic, S., Koporcic, N., Arslanagic-Kalajdzic, M., Kadic-Maglajlic, S., Bagherzadeh, M., and Islam, N. (2021) Business-to-Business Open Innovation: COVID-19 lessons for small and medium-sized enterprises from emerging markets. *Technological Forecasting and Social Change*, 170, 120883.

Mashayekhy, Y., Babaei, A., Yuan, X. M., and Xue, A. (2022) Impact of Internet of Things (IoT) on Inventory Management: A literature survey. *Logistics*, 6(2), 33.

Matsuo, H. and Tomita, Y. (2014) Interfirm Cooperation in Supply Chain Management: Literature review and future research directions. *International Journal of Logistics Management*, 25(2), 331-355. DOI: 10.1108/IJLM-11-2012-0087.

Maurer, R. and Nassar, M. (2012) Transparency and Disclosure in Islamic Finance: A Critical Appraisal. *Journal of Islamic Accounting and Business Research*, 3(1), 6-30. DOI: 10.1108/17590811211223518.

McIvor, R. (2001) Lean Supply: The design and cost reduction dimensions. *European Journal of Purchasing and Supply Management*. 7(4), 227-242.

McNamara, R., Baxter, J., and Chua, W. F. (2004). Actor-network theory and accounting research. *Critical Perspectives on Accounting*, 15(4), 355-374.

Mehralian, G., Namdarian, A., and Mardani, A. (2020). The impact of trust on supply chain management: a systematic review. *International Journal of Logistics Research and Applications*, 23(1), 1-25.

Miles, M. B. and Huberman, A. M. (1994) *Qualitative Data Analysis: An expanded sourcebook*, 2<sup>nd</sup> ed. Thousand Oaks, CA: Sage Publications.

Miles, M. B., Huberman, A. M., & Saldaña, J. (2014). *Qualitative Data Analysis: A Methods Sourcebook*. Sage Publications.

Mintzberg, H., Raisinghani, D., and Theoret, A. (2009). The structure of "unstructured" decision processes. *Administrative Science Quarterly*, 21-33.

Modak, N. M., Uthayakumar, R., and Sarker, S. (2021). Supply chain maturity, supply chain agility, and firm performance: A resource-based view perspective. *Journal of Business Research*, 132, 76-89.

Moll, J. and Yigitbasioglu, O. (2019) The Role of Internet-Related Technologies in Shaping the Work of Accountants: New directions for accounting research. *British Accounting Review*, 51(6), 100833.

Moll, J., de Lange-Ros, H., and Ghijsen, P. (2006). *The case study as a research method: A practical handbook*. Maastricht: FEWEB.

Moll, L. C., Amanti, C., Neff, D., and Gonzalez, N. (2006) Funds of Knowledge for Teaching: Using a qualitative approach to connect homes and classrooms. *Theory into Practice*, 45(3), 219-228.

Möller, K., Windolph, S. E., and Isbruch, K. (2011). Open book accounting: Current practice and future trends. *Journal of Applied Accounting Research*, 12(2), 150-163.

- Moore, D. R. J. and McPhail, K. (2016) Strong Structuration and Carbon Accounting: A position-practice perspective of policy development at the macro, industry and organisational levels. *Accounting, Auditing and Accountability Journal*. 29(7) 1204-1233.
- Morgan, R. M., and Hunt, S. D. (1994). The commitment-trust theory of relationship marketing. *Journal of Marketing*, 58(3), 20-38.
- Morris, T. and Lancaster, Z. (2006) Translating Management Ideas. *Organisation Studies*. 27(2), 207–233.
- Mouritsen, J., Hansen, A., and Hansen, C. Ø. (2001) Inter-Organisational Controls and Organisational Competencies: Episodes around target cost management/functional analysis and open book accounting. *Management Accounting Research*, 12(2), 221-244.
- Mouritsen, J., Hansen, A., and Hansen, C. O. (2001). Shortening the path to production: The role of inter-organisational cost management. *International Journal of Operations and Production Management*, 21(11), 1360-1372.
- Mouritsen, J., Larsen, H.T., and Bukh, P. N. (2001). Valuing the future: intellectual capital supplements in Denmark. *Accounting, Organisations and Society*, 26(7-8), 735-756.
- Mouritsen, J., Pedersen, T., and Andersen, S. (2001) Supply Network Strategies: A framework for the design of supply networks. *International Journal of Physical Distribution and Logistics Management*, 31(1), 17-37.
- Mouritsen, J., & Thrane, S. (2006). Accounting, network complementarities, and the development of interorganizational relations. *Accounting, Organizations and Society*, 31(3), 241-275.
- Mueller, F. and Whittle, A. (2011) Translating Management Ideas: A discursive devices analysis. *Organisation Studies*. 32(2), 187-210.
- Mulhall, A. (2003) *Qualitative Research: An introduction to methods and designs*. Upper Saddle River, NJ: Prentice Hall.
- Munday, M. (1992) Accounting cost data disclosure and buyer-supplier partnerships: A research note. *Management Accounting Research*. 3(3), 245-250.
- Nakhle, C. (2016) Saudi Arabia's Economic Reform. Crystol Energy (Online). Retrieved from: <https://www.crystolenergy.com/saudi-arabias-economic-reform/> (Accessed: 5 June 2021).

Nakhle, C. (2016) Diversification for Sustainable Economic Growth in the Gulf: Challenges and Opportunities. In: *The Oxford Handbook of the Economics of the Middle East and North Africa* (541-566) Oxford University Press.

Nakhle, C. (2016). Saudi Arabia's Vision 2030: An ambitious but achievable blueprint. The Oxford Institute for Energy Studies. <https://www.oxfordenergy.org/wpcms/wp-content/uploads/2016/08/Saudi-Arabias-Vision-2030-An-ambitious-but-achievable-blueprint-Insight-26.pdf>

Naser, K., Al-Kilani, H., and Hasan, M. (2018). Cloud accounting in small and medium-sized enterprises: A review and future research agenda. *Journal of Small Business Management*, 56(1), 25-44.

Nath, P., and Kumar, V. (2020). Supply chain risk management and supply chain resilience: A bibliometric analysis and future research directions. *International Journal of Physical Distribution and Logistics Management*, 50(9), 818-848.

Neuman, W. L. (2006). *Social research methods: Qualitative and quantitative approaches*. Pearson Education.

Nidumolu, R., Ellison, J., Whalen, J., and Billman, E. (2014) The Collaboration Imperative. *Harvard Business Review*, 92(4), 76-84.

Nilsen, P. (2020) Making Sense of Implementation Theories, Models, and Frameworks. In: *Implementation Science* (Online). 10, 53. DOI: 10.1186/s13012-015-0242-0.

Obeid Allah, H. (2017). The role of strong structuration theory in exploring the adoption of OBA: A case study of Jordan. *Journal of Accounting in Emerging Economies*, 7(4), 429-448.

Oxford Business Group. (2018). Saudi Arabia invests in its logistics infrastructure to attract foreign investors. <https://oxfordbusinessgroup.com/analysis/strategic-steps-saudi-arabia-looks-attract-investment-logistics-and-transportation>

Pagell, M., Shevchenko, A., and Vachon, S. (2021). Collaborative purchasing and supply continuity: The impact of COVID-19. *Journal of Purchasing and Supply Management*, 27(2), 100615.



- Pan, G. and Seow, P. S. (2016) Preparing Accounting Graduates for Digital Revolution: A critical review of information technology competencies and skills development. *Journal of Education for Business*, 91(3), 166-175.
- Parker, L. D., Guthrie, J., and Linacre, S. (2011) The Relationship Between Academic Accounting Research and Professional Practice. *Accounting, Auditing and Accountability Journal*, 24(1), 5-14. DOI: 10.1108/09513571111098061.
- Patton, M. Q. (1990) *Qualitative Evaluation and Research Methods*, 2<sup>nd</sup> ed. Newbury Park, CA: Sage.
- Pellegrini, M. M., Tenucci, A., and Luzzini, D. (2018). Implementing online business accounting in a buyer-supplier context: An exploratory study. *International Journal of Accounting Information Systems*, 31, 55-72.
- Pierce, B. and Feeney, O. (2016) Strong Structuration Theory and Accounting Information: An empirical study. *Accounting, Auditing and Accountability Journal*. 29(7), 1152-1176.
- Prahalad, C. K., and Hamel, G. (2017). The core competence of the corporation. *Harvard Business Review*, 68(3), 79-91.
- Prajogo, D. I., and Sohal, A. S. (2016). The integration of TQM and technology/RandD management in determining quality and innovation performance. *Journal of Business Research*, 69(11), 4920-4928.
- Preston, A. M., Cooper, D. J., and Coombs, R. (1992). Fabricating budgets: A study of the production of management budgeting in the National Health Service. *Accounting, Organisations and Society*, 17(6), 561-578.
- Punch, K. F. (2009) *Introduction to Social Research: Quantitative and qualitative approaches*. Sage.
- PwC (2019) *Supply Chain Management in the Middle East*. Retrieved from: <https://www.pwc.com/m1/en/publications/documents/pwc-supply-chain-management-in-the-middle-east.pdf>.
- Quattrone, P., and Hopper, T. (2005). A 'time-space odyssey': management control systems in two multinational organisations. *Accounting, Organisations and Society*, 30(7-8), 735-764.

- Raval, V., and Dhakar, R. (2017). The role of internal audit in supply chain management: A literature review. *International Journal of Management and Applied Science*, 3(3), 36-42
- Remi, A. (2006). Open book accounting in SMEs: a study of some organisational and cultural issues. *Qualitative Research in Accounting and Management*, 3(2), 102-119.
- Ren, L., Zhang, L., Wang, L., Tao, F., and Chai, X. (2017) Cloud Manufacturing: Key characteristics and applications. *International Journal of Computer Integrated Manufacturing*, 30(6), 501-515.
- Riessman, C. K. (2008) Narrative Methods for the Human Sciences. Thousand Oaks, CA: Sage Publications.
- Rindfleisch, A. (2020) Transaction Cost Theory: Past, present and future. *AMS Review*, 10(1-2), 85-97.
- Robson, C. (2002) Real World Research: A resource for social scientists and practitioner-researchers. Oxford: Blackwell.
- Robson, K. (1991). The UK accounting standards review committee: a network perspective. *Accounting, Organisations and Society*, 16(5/6), 439-454.
- Robson, K. (1992). Accounting numbers as “inscription”: action at a distance and the development of accounting. *Accounting, Organisations and Society*, 17(7), 685-708.
- Romano, P. and Formentini, M. (2012) Designing and Implementing Open Book Accounting in Buyer-Supplier Dyads: A framework for supplier selection and motivation. *International Journal of Production Economics*. 137(1), 68-83.
- Rubin, A. and Babbie, E. (2005) Research Methods for Social Work. Cengage Learning.
- Rubin, H. J., and Rubin, I. S. (2012). Qualitative interviewing: The art of hearing data. Sage Publications.
- Sadeghi, M. and Jokar, H. (2014) Open Book Accounting: A review of the literature. *International Journal of Accounting and Financial Reporting*, 4(1), 1-19.
- Sako, M., and Helper, S. (1998). Determinants of trust in supplier relations: Evidence from the automotive industry in Japan and the United States. *Journal of Economic Behavior and Organisation*, 34(3), 387-417.

- Sakurai, M. (1996). Target costing: The next frontier in strategic cost management. *Journal of Cost Management*, 10(3), 4-9.
- Sarkar, M., and Chowdhury, M. M. H. (2020). The impact of COVID-19 on the global supply chain. *Asian Journal of Multidisciplinary Studies*, 8(5), 49-54.
- Sarkis, J., Gonzalez-Torre, P., and Adenso-Diaz, B. (2011). Stakeholder pressure and the adoption of environmental practices: The mediating effect of training. *Journal of Operations Management*, 29(3), 266-282.
- Saudi Arabian Capital Market Authority (2018). Whistleblowing Guide. Retrieved from <https://www.cma.org.sa/en/Documents/Regulations/Whistleblowing%20Guide.pdf>
- Saudi Arabian Capital Market Authority (2019). Quarterly Disclosure Guide. Retrieved from <https://www.cma.org.sa/en/Documents/Regulations/Quarterly%20Disclosure%20Guide.pdf>
- Saudi Arabian Monetary Authority (2019). Corporate Governance Code for Insurance and Reinsurance Companies. Retrieved from <https://www.sama.gov.sa/en-US/Laws/Pages/corporate-governance-code-insurance-reinsurance.aspx>
- Saudi Arabian General Investment Authority (2022). Transportation and Logistics Sector. Retrieved from <https://sagia.gov.sa/en/sector-opportunities/transportation-logistics>
- Saudi Arabian Monetary Authority (2017). Corporate Governance Regulations. Retrieved from <https://www.sama.gov.sa/en-US/Laws/Pages/corporate-governance-regulations.aspx>
- Saudi Vision 2030. (2016). Retrieved from <https://vision2030.gov.sa/en>.
- Saudi Vision 2030. (2021). Innovation. Retrieved from <https://vision2030.gov.sa/en/our-priorities/innovation>.
- Saunders, M., Lewis, P., and Thornhill, A. (2009). Research methods for business students. Pearson Education Limited.
- Scapens, R. W. and Bromwich, M. (2010) Management Accounting Research: 20 years on. *Management Accounting Research*, 21(4), 278-284.
- Scapens, R. W. (1994). Never mind the gap: Towards an institutional perspective on management accounting practices. *Management Accounting Research*, 5(3-4), 301-321.

- Scarpens, J. and Roberts, J. (1985). Accounting and Control: A Case Study of Resistance to Accounting Change. *Management Accounting Research*, 5(2), pp.121-133.
- Schneider, S. (2018) Open Book Accounting: A Comprehensive Guide. Springer International Publishing.
- Seal, W., Garrison, R. H., and Noreen, E. (1999). A cost management manifesto. *Journal of Cost Management*, 13(5), 6-16.
- Senyo, P. K., Liu, K., and Effah, J. (2019) Digital Business Ecosystem: Literature review and a framework for future research. *International Journal of Information Management*, 47, 52-64.
- Seuring, S. (2002). Supply chain optimization. Physica-Verlag.
- Shapiro, S. P. (1997). The social control of impersonal trust. *American Journal of Sociology*, 103(6), 1465-1495.
- Shleifer, A. and Vishny, R. (1997) A Survey of Corporate Governance. *Journal of Finance*, 52(2): 737-783.
- Simon, H. A., Guetzkow, H. S., and Kozmetsky, G. (1954). Information processing in formal organisations. *Journal of Social Issues*, 10(3), 46-65.
- Somapa, S., Cools, M., and Dullaert, W. (2018) Characterizing Supply Chain Visibility: A literature review. *International Journal of Logistics Management*, 29(1), 308-339.
- Srinivasan, M. M., Mukherjee, K., Gaur, V., and Bhatnagar, R. (2018). Supply chain maturity and risk management capability of Indian firms: An exploratory analysis. *Journal of Manufacturing Technology Management*, 29(4), 744-766.
- Stone, D. N. (2015). Accounting, organisations, and institutions: Essays in honour of Anthony Hopwood. Oxford University Press.
- Stones, R. (2005) Structuration Theory. Basingstoke: Palgrave Macmillan.
- Stones, R. (2015) Why Current Affairs Need Social Theory. Basingstoke: Palgrave Macmillan.
- Suomala, P., Lahikainen, T., Lyly-Yrjanainen, J., and Paranko, J. (2010) Open Book Accounting in Practice: Exploring the faces of openness. *Qualitative Research in Accounting and Management*. 7(1), 71-96.

- Symon, G., Cassel, C., & Johnson, P. (2016). Evaluative Practices in Qualitative Management Research: A Critical Review. *International Journal of Management Reviews*, 20(1).
- Tan, K. H., Kannan, V. R., and Handfield, R. B. (2018) Supply Chain Risk Management: A review. *Journal of Purchasing and Supply Management*, 24(2), 73-86. DOI: 10.1016/j.pursup.2017.12.004.
- Tanaka, M., Nagano, Y., and Sakurai, M. (1993). Target costing in Japanese companies. *Journal of Cost Management*, 7(4), 4-13.
- Taras, V., Caprar, D. V., Rottig, D., Sarala, R. M., and Zakaria, N. (2017). Cultural distance, mindfulness and passive xenophobia: Using integrated threat theory to explain HRM practices. *Journal of World Business*, 52(5), 635-651.
- Tayles, M., and Drury, C. (2001). Availability and use of management accounting information for medium-sized UK manufacturing companies. *Management Accounting Research*, 12(4), 373-394.
- Tayles, M., and Drury, C. (2001). Collaborative supply chain management: the impact of success and failure attributes. *Supply Chain Management: An International Journal*, 6(2), 77-88.
- Thompson, S. and Saleem, N. (2003) Religion and Attitudes Towards Corporate Social Responsibility in a Business School Population. *Journal of Business Ethics*, 48(4), 373-382. DOI: 10.1023/A:1025507529182.
- Timming, A. R. and Brown, R. (2015) Employee Voice Through Open-Book Accounting: The benefits of informational transparency. *Social and Environmental Accountability Journal*, 35(2), 86-95.
- Tomkins, C. (2001) Interdependencies, Trust and Information in Relationships, Alliances and Networks. *Accounting, Organisations and Society*. 26(2): 161-191.
- Tomkins, C. (2001). Supplier involvement in product development: The buying company perspective. *Journal of Product Innovation Management*, 18(3), 189-202.
- Trading Economics. (2019). Saudi Arabia GDP. <https://tradingeconomics.com/saudi-arabia/gdp>

- Um, K. H. and Kim, S. M. (2018) Collaboration and Opportunism as Mediators of the Relationship Between NPD Project Uncertainty and NPD Project Performance. *International Journal of Project Management*, 36(4), 659-672.
- Vakilifard, H. R. and Khorramin, M. (2015) A Review of E-Accounting. *Indian Journal of Fundamental and Applied Life Sciences*, 5(1), 1824-1829.
- Velte, P. (2023) Which Institutional Investors Drive Corporate Sustainability? A systematic literature review. *Business Strategy and the Environment*, 32(1), 42-71.
- Vidalakis, C., and Pappis, C. P. (2019). The impact of just-in-time inventory on supply chain performance: The case of Greek SMEs. *Journal of industrial engineering international*, 15(3), 477-486.
- Vidmar-McEwen, A. (2008). Introduction: ANT and the study of accounting. *Critical Perspectives on Accounting*, 19(7), 937-944.
- Vinnari, E. and Lukka, K. (2014) Domain Theory and Method Theory in Management Accounting Research. *Accounting, Auditing and Accountability Journal*. 27(8), 1308-1338.
- Vinten, G. (2019). Accounting as social practice. In *The Routledge Companion to Accounting and Risk* (pp. 61-74). Routledge.
- Vosselman, E. G., and Meer-Kooistra, J. V. D. (2009). Trust, control and information sharing in a medical supply chain. *Journal of Purchasing and Supply Management*, 15(4), 249-258.
- Wæraas, A. and Nielsen, J. A. (2016) Translation Theory “Translated”: Three perspectives on translation in organal research. *International Journal of Management Reviews*. 18(3), 236-270.
- Walliman, N. (2017). *Research methods: The basics*. Routledge.
- Wan Ahmad, W. M. S., Abidin, S. Z., and Ismail, K. (2015). Open book accounting and trust in interorganisational relationships. *Procedia Economics and Finance*, 31, 274-281.
- Williams, K. (2007) *Qualitative Research Methods: A practical guide to social research*. Los Angeles: Sage.
- Willis, C. D., Saul, J., Bevan, H., Scheirer, M. A., Best, A., Greenhalgh, T., Mannion, R., Cornelissen, E., Howland, D., Jenkins, E., and Bitz, J. (2016) Sustaining Organisational Culture Change in Health Systems. *Journal of Health Organisation and Management*, 30(1), 2-30.

Windolph, J. and Möller, K. (2012) *Using Open-Book Management: A Guide to Unlocking the Potential of Your Business*. New York, NY: Palgrave Macmillan.

Windolph, M. and Moeller, K. (2012) Open-Book Accounting: Reason for failure of inter-firm cooperation? *Management Accounting Research*, 23(1), 47-60.

Windolph, S. E., and Möller, K. (2012). A framework for analysing interorganisational cost management practices. *Journal of Applied Accounting Research*, 13(1), 29-45.

Winner, L. (1993). Upon opening the black box and finding it empty: Social constructivism and the philosophy of technology. *Science, Technology and Human Values*, 18(3), 362-378.

Wolfert, S., Ge, L., Verdouw, C., and Bogaardt, M. J. (2017) Big Data in Smart Farming: A review. *Agricultural Systems*, 153, 69-80.

Wolk, H. I., Dodd, J. L., and Rozycki, J. J. (2012) *Accounting Theory: Conceptual issues in a political and economic environment*, 8<sup>th</sup> ed. Thousand Oaks: SAGE Publications Inc.

Wolk, R., Wendin, K., and Elg, U. (2012). Exploring the connections between product development and supply chain management: A critical discussion. *International Journal of Production Economics*, 135(2), 882-890.

Wong, C. Y., and Lai, K. H. (2018). The role of trust in implementing supplier-buyer relationships for the provision of logistical services. *International Journal of Production Research*, 56(10), 3587-3602.

World Bank (2018) Exports of Manufactured Goods (data file). Retrieved from: <http://data.worldbank.org/indicator/NE.EXP.GNFS.ZS>.

World Bank (2019) Logistics Performance Index 2018 [Online] Retrieved from: <https://openknowledge.worldbank.org/handle/10986/32436>. (Accessed: 19 January 2023)

Wu, J. (2012) Technological Collaboration in Product Innovation: The role of market competition and sectoral technological intensity. *Research Policy*, 41(2), 489-496.

Xu, X., Wu, J., Chen, Y., and Du, H. (2020). The adoption of online business accounting by SMEs in China. *Journal of Business Research*, 113, 174-184.

Yam, R. C. and Chan, C. (2015) Knowledge Sharing, Commitment and Opportunism in New Product Development. *International Journal of Operations and Production Management*.

Yang, C., Li, S., and Li, J. (2017) The Impact of Supply Chain Maturity on Open Book Accounting Implementation. *International Journal of Production Research*, 55(15), 4368-4380.

Zhang, C., Xu, Y., and Li, X. (2016). Government support, supply chain integration, and performance: A social exchange perspective. *International Journal of Production Economics*, 182, 268-277. doi: 10.1016/j.ijpe.2016.09.013

Zhang, Q. and Cao, M. (2018) Exploring Antecedents of Supply Chain Collaboration: Effects of culture and interorganisational system appropriation. *International Journal of Production Economics*, 195, 146-157.

Zhang, Y., Xiong, F., Xie, Y., Fan, X., and Gu, H. (2020) The Impact of Artificial Intelligence and Blockchain on the Accounting Profession. *IEEE Access*, 8, 110461-110477.

## **Appendix 1: Email Interview Guide**

UNIVERSITY OF SHEFFIELD

### **Open Book Accounting Research Interview Guide**

Name: \_\_\_\_\_

Interview date: \_\_\_\_\_

I would like to take this chance to formally request for your participation in this study by taking part in this email interview. You are part of one of two companies that were selected to help advance some of the ideas being propagated by the objectives of this study.

A series of questions that have been tailored to your company's specifications will be asked, and you are free to answer them however you would wish, as long as your response addresses the subject matter of the question asked.

While all the findings of this interview will likely be published, no information that will directly identify or incriminate you will be included.



It is my hope that this interview will involve minimum discomfort and will result in the promotion of our understanding of the practicality of Open Business Accounting in today's business environment.

Please note that there is no compensation for taking part in this study

No service of any kind or form will be jeopardized or lost should you choose not to take part in this interview, nor does participation affect your statutory rights.

At the time you sign this form, a copy of it will be available for you if you so wish.

Your Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Researcher's Signature: \_\_\_\_\_

Date: \_\_\_\_\_

### Appendix 2: Consent form

#### An Investigation into the Application and Effectiveness of Open-Book Accounting (OBA): A Case Study of Saudi Arabian Companies

#### Consent Form

<i>Please tick the appropriate boxes</i>	Yes	No
<b>Taking Part in the Project</b>		
I have read and understood the project information sheet dated / /20 or the project has been fully explained to me. (If you will answer No to this question please do not proceed with this consent form until you are fully aware of what your participation in the project will mean.)	<input type="checkbox"/>	<input type="checkbox"/>
I have been given the opportunity to ask questions about the project.	<input type="checkbox"/>	<input type="checkbox"/>

I agree to take part in the project. I understand that taking part in the project will include:  Being interviewed		
I agree to be “audio recorded”	<input type="checkbox"/>	<input type="checkbox"/>
I understand that my taking part is voluntary and that I can withdraw from the study at any time/ before [01/09/2021]; I do not have to give any reasons for why I no longer want to take part and there will be no adverse consequences if I choose to withdraw before the given date.	<input type="checkbox"/>	<input type="checkbox"/>
<b>How my information will be used during and after the project</b>		
I understand my personal details such as name, phone number, address and email address etc. will not be revealed to people outside the project.	<input type="checkbox"/>	<input type="checkbox"/>
I understand and agree that my words may be quoted in publications, reports, web pages, and other research outputs. I understand that I will not be named in these outputs unless I specifically request this.	<input type="checkbox"/>	<input type="checkbox"/>
I understand and agree that other authorised researchers will have access to this data only if they agree to preserve the confidentiality of the information as requested in this form.	<input type="checkbox"/>	<input type="checkbox"/>
I understand and agree that other authorised researchers may use my data in publications, reports, web pages, and other research outputs, only if they agree to preserve the confidentiality of the information as requested in this form.	<input type="checkbox"/>	<input type="checkbox"/>
I give permission for the [audio recorded interview] that I provide to be deposited in [The University of Sheffield] so it can be used for future research and learning	<input type="checkbox"/>	<input type="checkbox"/>
<b>So that the information you provide can be used legally by the researchers</b>		
I agree to assign the copyright I hold in any materials generated as part of this project to The University of Sheffield.	<input type="checkbox"/>	<input type="checkbox"/>

Name of participant [printed]

Signature

Date

Name of Researcher [printed]

Signature

Date

**Project Contact Details for Further Information:**

1. First Supervisor: Juliana Meira

Email: [j.m.meira@sheffield.ac.uk](mailto:j.m.meira@sheffield.ac.uk)

2. Second Supervisor: Bill Lee

Email: [w.j.lee@sheffield.ac.uk](mailto:w.j.lee@sheffield.ac.uk)

3. Postgraduate Researchers (PGR) Administrator: Mandy Robertson

Phone: +44 (0)114 222 3380

Email: [M.Robertson@sheffield.ac.uk](mailto:M.Robertson@sheffield.ac.uk)

### Appendix 3: Participant Information Sheet

#### 1. Research Project Title

Analysing the effectiveness of Open Book Accounting (OBA): A Case Study of Saudi Arabian Companies

#### 2. Invitation paragraph

You are being invited to take part in this research project. Before you decide to do so, it is important you understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

#### 3. What is the project's purpose?

The overall aim of this research is to analyse the effectiveness of Open Book Accounting (OBA) in Saudi Arabian companies. In order to achieve this research aim, the study will seek to accomplish following research objectives:

- To analyse the coordination of activities between different Saudi Arabian companies who <sup>[ ]</sup><sub>SEP</sub>are members of a supply chain; <sup>[ ]</sup><sub>SEP</sub>
- To investigate the baseline/standard critical success factors for OBA in Saudi Arabian <sup>[ ]</sup><sub>SEP</sub>Companies; and <sup>[ ]</sup><sub>SEP</sub>
- To identify the benefits realised by Saudi Arabian Companies from the implementation of OBA. <sup>[ ]</sup><sub>SEP</sub>

#### 4. Why have I been chosen?

You have been chosen because of being a Saudi manufacturing company that is a member of supply chain network.

#### 5. Do I have to take part?

It is up to you to decide whether or not to take part. If you do decide to take part you will be able to keep a copy of this information sheet and you should indicate your agreement to the consent form. You can still withdraw at any time without any negative consequences. You do not have to give a reason.

Please note that once data have been anonymised and included within a larger dataset, the data cannot be removed from the study beyond this point.

6. What will happen to me if I take part? What do I have to do?

You will be interviewed and asked to share your experience in order to answer research questions. Data about how the company is using and OBA and what kind of financial and non-financial information, it disclose to its supply chain members will be collected from them.

This may take between 30 to 45 min no longer than one hour.

There are no other commitments or lifestyle restrictions associated with participating.

7. What are the possible disadvantages and risks of taking part?

Participating in the research is not anticipated to cause you any disadvantages or discomfort. The potential physical and/or psychological harm or distress will be the same as any experienced in everyday life.

8. What are the possible benefits of taking part?

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will have a beneficial impact on how OBA affect Saudi companies. Results will be shared with participants in order to inform their professional work.

9. Will my taking part in this project be kept confidential?

All the information that we collect about you during the course of the research will be kept strictly confidential and will only be accessible to members of the research team. You will not be able to be identified in any reports or publications unless you have given your explicit consent for this. If you agree to us sharing the information you provide with other researchers (e.g. by making it available in a data archive) then your personal details will not be included unless you explicitly request this.

10. What is the legal basis for processing my personal data?

According to General Data Protection Regulation (GDPR), in order to collect and use your personal information as part of this research project, we must have a basis in law to do so. The basis that we are using is that the research is ‘a task in the public interest’. Personal data (i.e. name and address) are collected for the purpose of contacting individuals to arrange for an interview to take place, and sharing findings with them, once the study is complete. You can find more in General Data Protection Regulation (GDPR) in this link:

<https://www.sheffield.ac.uk/scharr/sections/hsr/mcru/deuce/gdpr>

11. What will happen to the data collected, and the results of the research project?

According to General Data Protection Regulation (GDPR), data will be processed by staff employed by the University of Sheffield. Personal data provided by research participants, consented to the study, will be retained to enable the research team to share findings with participants at the end of the study. Personal data will be destroyed after this point. Any data shared during a research interview will be anonymised during the transcribing of the interview. Anonymised data will be stored for 10 years after the study is complete.

12. Who is organising and funding the research?

The University of Sheffield will be organising the research

13. Who is the Data Controller?

The University of Sheffield will act as the Data Controller for this study. This means that the University is responsible for looking after your information and using it properly.

14. Who has ethically reviewed the project?

This project has been ethically approved via the University of Sheffield’s Ethics Review Procedure, as administered by Business school department’ (every academic department either administers the University’s Ethics Review Procedure itself, internally within the department, or accesses the University’s Ethics Review Procedure via a cognate, partner department.

15. What if something goes wrong and I wish to complain about the research?

If you have any complaints about the project in the first instance you can contact any member

of the research team. If you feel your complaint has not been handled to your satisfaction you can contact the University of Sheffield's Registrar and Secretary to take your complaint further (see below) <https://www.sheffield.ac.uk/govern/data-protection/privacy/general>.

16. Will I be recorded, and how will the recorded media be used?

You will be audio recorded in order for the researcher to transcript the conversation then the audio will be destroyed. This will be after a separate permission being gained from you.

17. Contact for further information

1/ My first supervisor:

Dr Juliana Meira

Phone: +44 (0) 114 222 3466

Email: [j.m.meira@sheffield.ac.uk](mailto:j.m.meira@sheffield.ac.uk)

2/ My second supervisor:

Professor Bill Lee

Email: [w.j.lee@sheffield.ac.uk](mailto:w.j.lee@sheffield.ac.uk)

3/ Mandy Robertson

Postgraduate Researchers (PGR) Administrator

Phone: +44 (0)114 222 3380

Email: [M.Robertson@sheffield.ac.uk](mailto:M.Robertson@sheffield.ac.uk)

Thank you for taking part in this research.

#### **Appendix 4: Interview schedule**

1. What is your position in the organisation and what does it include on daily basis?
2. How do you receive information from others, and convey information to others, and what form does that information take?
3. How the company manufactures its products and how much of the raw material is bought from unrelated companies or other group companies?
4. What type of customers the company usually serves and what products are sold/ supplied to them?
5. Is the information sharing unilateral/ bilateral or multilateral and what kind of information is shared between the company and its suppliers and customers to what degree (please answer separately for suppliers and customers both)?
6. What is the age stage at which the OBA system is adopted in the life cycle of the company?
7. In your opinion, what are the positive impacts of open book accounting activities upon the company?
8. What do you think were the keys to successfully implementing Open Book Accounting in your organisation?
9. What do you hope to achieve by implementing Open Book Accounting?
10. What motivated you to adopt Open Book Accounting in Saudi Arabia?
11. Was there a belief among the company at the level of different sectors that the use of OBA would enhance their performance?
12. 9What are concerns of potential negative impacts of open book accounting in your opinion?
13. Can you provide an example of how cultural norms have affected the application of Open Book Accounting in your organisation?



14. In your opinion, do the benefits of open book accounting over-weigh the cost of implementation?
15. Does the company have a high degree of willingness to adopt OBA as the company grows?
16. What hurdles the company have faced so far by sharing its critical information with suppliers and customers and what trust issues arise in the whole process?
17. Did the implementation of the OBA system require time for all participating employees?
18. Is the qualification factor considered when using OBA? Does the company's adoption of the OBA system require that employees qualify scientifically and practically?
19. Is there anything else that you would like to say about OBA or Is there anything on the topic that you think I should have asked, but I have not asked?
20. In what way are you involved in OBA - i.e., what do you do to help the realisation of OBA?
21. Who is exactly involved in the information sharing process with suppliers and customers and what are their respective responsibilities?
22. For what purpose, the disclosed information is being used?
23. What are the procedures/ documents used to share the information under OBA ?
24. Was there any difficulty in implementing the OBA system and developing the company's accounting systems?
25. How the different type of data received from suppliers and customers for OBA purpose is stored, used, and analysed to make effective conclusions from it?
26. What generally happens after identification of cost reduction opportunities? How are these discussed and communicated to the whole supply chain network?
27. What measures company have been taking to ensure that disclosed information is only used for the intended purpose?

28. What are the reasons for the company's adoption of the OBA?
29. How do you seek to maximise the benefits and limit the impact of the negative dimensions of OBA, or any alternative to OBA that is used in the organisation?
30. Has the state encouraged the trend of adopting OBA, especially in the tendency to benefit from the economic reform, such as vision2030?
31. Was the company's competitive position evaluated compared to its competitors in the market before making the decision to adopt OBA?
32. Has the company adopted the OBA system in order to achieve a set of benefits and advantages that put it in a better competitive position compared to its competitors?
33. Did the company obtain support from its network in increasing the level of data security, appropriate compensation in case of violation of this agreement, referral to data upon request, and the availability of appropriate training for company employees?