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Understanding Online Film Supply Chain and Effects of
Online Platforms and Film Quality Attributes on Audiences'
Experience, Satisfaction, and Loyalty

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Abstract

Internet-based digital platforms have become a popular cultural e-goods. The online film is emerging and significant industry in China. However, there is little academic inquiry about the production and consumption of China's online films. Drawing on the theories of supply chain management theory and attribution theory, this thesis explores the supply chain management of China's online films and investigates the impacts of digital platform and film quality attributes on audiences' experience, satisfaction, and loyalty. The thesis utilised a mixed-methods research approach, using 23 interviews (Study 1) and 327 survey responses (Study 2). Findings from Study 1 by interviewing experts provided insights of the supply chain for China's online films which includes production, distribution, exhibition, and consumption process. In Study 2, a sequential conceptual model was tested using partial least squares structural equation modelling (PLS-SEM). The statistical analysis results show that audiences' experience and satisfaction sequentially mediate the relationship between digital platform quality attributes, online film quality attributes, and audiences' loyalty. The theoretical contributions of this thesis provide a comprehensive picture of the China's online film industry from production to consumption, specifically, advancing the knowledge of cultural consumption by investigating the mechanism of the delivery of quality attributes of online films and platforms leading to audiences' loyalty. Finally, practical implications for China's online film industry are to enhance attributes of platform and online film quality, consider audience-side data in supply chain management evaluation, improving audiences' experience and satisfaction to achieve audiences' loyalty goals.

Keywords: Supply chain; digital platform; platform quality attributes; film quality attributes; audiences' experience; supply chain management theory; attribution theory

Chapter 1. Introduction

In response to the increasing economic and cultural importance of the film (motion picture) industry with ever-increasing digital effects, new types of films combined with digitalisation are changing the existing film industry supply chain and market structure (Eliashberg et al., 2006; Bloore, 2009; George & Bock, 2011; Järvinen & Karjaluoto, 2015). Digital-related products and platforms, such as e-books, e-music, streaming platforms, and other digital products and platforms, have been launched into the market in the last three decades (Brynjolfsson et al., 2003; Bockstedt et al., 2006; Jensen, 2007; George & Bock, 2011; Järvinen & Karjaluoto, 2015). The forms of digital products can be disassembled into digital- (e-) and original product forms. For example, e-music can be disassembled into digital media vehicles + music. The new digital format of music products produced an important shift in retail sales from music labels to artists' online launches of their own music (Bockstedt et al., 2005). Digitalisation has reshaped the market structure and supply chain, which has led the user experience and satisfaction to change. Loyalty to digital-based products is a new area to be investigated, especially in online cultural industry fields (Chaudhuri & Holbrook, 2001; Sahin et al., 2011; Milman et al., 2020).

Digitalisation has influenced the supply chains of the traditional cultural industry and introduced new impact factors. Digital platform quality and film quality have been studied separately (Eliashberg & Shugan, 1997; Basuroy et al., 2003; Eliashberg et al., 2006; Rowley, 2006; Sahin et al., 2011; Milman et al., 2020; Tong et al., 2020; Naini et al., 2022). Research on digital platform quality has mainly involved the evaluation of websites, mobile applications, and related digital device factors such as usability, responsiveness, and other factors (Gao et al., 2018a; Nguyen et al., 2018; Karampela et al., 2020). Research on film quality has mainly been related to film budgets, star power, critical reviews, and other factors (Hadida, 2010; Shafaei et al., 2020; Fan et al., 2021). However, there is a gap in the research on the combination of digital platform quality attributes and traditional film product quality attributes in digital platform film product performance studies. Therefore, this thesis aims to investigate the quality attributes of the digital platforms and online film products using the case of China's online films to investigate the relationship between digital platform quality attributes, online

film quality attributes, and China's online film performance, using audiences' loyalty as the key indicator.

The commercial performance of digital platforms is important in the sharing economy because of the better value distribution of the supply chain, less ecological negative influence, technology updates, and users' social connections (Cheng, 2016). The sharing economy can also be described as a 'peer-to-peer economy', which refers to peer-to-peer sharing of access to goods and services predominating over ownership (Schor & Fitzmaurice, 2015). For example, Airbnb is a popular platform company that operates an online marketplace for accommodation businesses to share accommodation information, user experiences, and travel information (Bloomberg, 2022). The experience of Airbnb proved that a digital platform can play a bridging role between platform users and providers of goods and services, with communications and interactions between providers, users, and platforms helping the business model operation. Airbnb provides a platform for qualified providers to rent out their accommodations online, for users to select and compare destination rental accommodation information online, for users and providers to communicate and share reviews online, and for online reservations, payments, and other online activities related to rental accommodations. The platform derives income from both providers and users by charging service fees and commissions. Accommodation providers benefit by publicising their properties and charging rent using a convenient platform. Users can search destination accommodation information, compare accommodations in terms of quality and price online, and make purchase decisions. Thus, this sharing economy pattern involves profit sharing, information transferring, decision making, and collaborative operating. Airbnb is a popular digital platform that became a social phenomenon that told a success story about how digitalisation is revolutionising, how the current economic system operates, and how social life is changing (Dredge & Gyimóthy, 2015; Schor & Fitzmaurice, 2015). However, digitalisation is also changing practices in regard to intangible goods, and these changing practices need more research and practical attention. Internet-based cultural industries have developed rapidly because internet technology has provided new channels for digital production, distribution, and consumption (Reis et al., 2020). For example, digital content is one of the important services provided by Apple, Inc. According to Apple's 2021 annual report, the company operates various types of digital content platforms, such as the App Store, Apple Arcade, Apple Music, Apple News+, Apple TV+, and Apple

Fitness+, that provide access to books, music, games, podcasts, and other digital content applications (<https://investor.apple.com/investor-relations/default.aspx>).

The cultural industry is one of the most important parts of the intangible goods market that can be investigated to demonstrate the details of digital platforms (Poell et al., 2021). Cultural industries in modern industrial societies are different from traditional industries because cultural industries need complex production and distribution networks among organisations that facilitate communication and innovation processes (Hirsch, 2018). Investigating a specific form of the cultural industry requires an understanding of the supply chain, market structure, and impact factors on the cultural industry because of the complexity of the cultural-related phenomenon. For example, film industry analysis involves the consideration of multi-level impact factors in the production, distribution, and exhibition chain system (Eliashberg et al., 2006). Geographical differences also influence the film industry. For example, the Hollywood film industry's business model, which is the world's leading film industry business model, relies on the studio's central power (Kerrigan, 2009; Bartosiewicz & Orankiewicz, 2020), while the Bollywood film business model emphasises the collaboration of tiny companies (Lorenzen & Täube, 2008; Lorenzen & Mudambi, 2013). These differences also reflect differences in the supply chain since collaboration and operation involve different groups of participants. The common understanding of the film supply chain in academic research is Eliashberg et al.'s (2006) study of the production, distribution, and exhibition chain system in US (the United States) film industry practice. Bloore's (2009) study of independent film projects highlighted some differences in supply chain participants and support services. Supply chain differences also arise from different film product types. With the development of digitalisation, traditional cultural industries are experiencing dramatic changes in their supply chains and market structures, changing the factors influencing cultural products' performance.

The digital cultural industry benefits from digitalisation by adopting digital technologies (Parviainen et al., 2017). The benefits of digitalisation can be analysed on four levels: the process level (using digital tools to reduce steps), the organisation level (offering new services), the business domain level (changing the supply chain), and the society level (changing decision making) (Parviainen et al., 2017). Taking digital music as an example, research on the new supply chain and market structure has shown that online music distribution has shifted to being

artist-led (the process level), with the power of record labels being reduced and manufacturing and inventory being replaced reduced in importance compared to intellectual property (IP) enforcement and digital distribution (the organisation, business domain, and the society levels) (Bockstedt et al., 2006). Digital platforms such as Apple iTunes have enabled artists to shorten the recording process (the process level) and provide digital music purchase and subscription services (the organisation, business domain, and the society levels) (Bockstedt et al., 2006). From the consumer perspective, the new digital music model makes it convenient to download music or listen to it online. This eliminates costs to maintain physical inventory and saves time but also raises issues of illegal downloading and reproduction of digital music. The current thesis considers all four levels mentioned above using a mixed-methods research design to analyse data from the perspectives of platform owners, goods/services providers, and platform audiences.

Digitalisation changes digital-related industries' supply chains. Approaches to evaluating the quality attributes of digital platforms have emerged in both academic research and industry practice. There has been considerable research on the evaluation of websites as the basis for the evaluation of new digital platforms. E-service quality has been studied by evaluating the roles of consumers' experiences and satisfaction in developing customer loyalty (Collier & Bienstock, 2006). The traditional service quality assessment approach adopted in the SERVQUAL/SERVPERF model has five dimensions: tangibles, responsiveness, reliability, assurance, and empathy (Parasuraman et al., 1985; Cronin & Taylor, 1992). With advances in digitalisation, more models for measuring e-service quality have been proposed, such as WebQUAL (Lociacono, 2000), SITEQUAL (Yoo & Donthu, 2001), e-SERVQUAL (Zeithaml, Parasuraman & Malhotra, 2000; Zeithaml, Parasuraman & Malhotra, 2002); E-S-QUAL, and E-RecS-QUAL (Parasuraman, Zeithaml, & Malhotra, 2005). These models are all based on the traditional SERVQUAL/SERVPERF model and use measurement scales. The measurement scales for e-service have been expanded to the mobile market because of the increasing use of mobile devices and the importance of consumer personalisation as another dimension to be considered (Zeithaml et al., 2000; Yang et al., 2003; Kim & Fesenmaier, 2005; Rowley, 2006; Tong et al., 2020). The most recent research on digitalisation has tended to focus on artificial intelligence (AI), web intelligence, big data, virtual or augmented reality, and collaborative robots, which demonstrate higher levels of digitalisation adoption changes (Hoosain et al., 2020; Alavi et al., 2021; Bag et al., 2021; Modgil et al., 2021). Thus, new measurement scales related

to AI, virtual reality, and online communication services should be addressed in this thesis. Therefore, the measurement scales for the quality attributes of digital goods and services are mainly adapted from traditional service quality evaluation models, e-service quality evaluation models, mobile-related quality aspects, and other digital-based and digitally-driven quality scales.

Investigation of the complex supply chain of China's online film platforms is essential to understanding the film product properties, digitalisation attributes, and consumer behaviour and attitudes towards these quality attributes of the online platforms. Supply chain management theory, which is frequently used in supply chain studies (Eliashberg et al., 2006; Modgil et al., 2021), is a multidisciplinary theory that explains the coordination of upstream and downstream raw materials, goods, and information to provide value to businesses and deliver products to consumers (Park & Hartley, 2002; Sohal et al., 2002; Warburton & Stratton, 2002; Peterson, 2002; Castañer & Oliveira, 2020; Bolton et al., 2021; Boyson et al., 2022). In recent decades, globalisation and digitalisation have changed supply chain management dramatically by combining groups of independent companies in the same or different markets to achieve the same business goals online and offline (Modgil et al., 2021; Boyson et al., 2022). Practical changes in supply chains pose ongoing challenges to supply chain management theory development. There are two main gaps between traditional supply chain management theory and digitalisation practice. Firstly, supply chain management theory basically focuses on manufacturing with physical distribution. The main indicator used in supply chain management is firm performance (Mentzer et al., 2001). However, the development of digitalisation has changed supply chain partnerships and distribution channels. Digitalisation allows independent partners to enter the market more easily since physical barriers can be overcome using digital technologies. Digitalisation provides new opportunities for independent companies to enter the supply chain system, which poses challenges to operation management process control in supply chain management. This practical phenomenon requires the updating of supply chain management theory in the digital era. Digitalisation and globalisation also challenge current supply chain management theory because different regional and censorship policies make supply chain operations more complicated. Secondly, the existing supply chain management theory focuses heavily on the improvement of the supply chain's internal quality (e.g. Poell et al., 2021). Although the supply chain management process ends with the consumer side, the evaluation standard depends on supplier-side performance. Thus, empirical studies using

consumer-side data are needed to reconsider the evaluation standards from the consumer perspective. A clear supply chain map and consumer-side data collection are essential to exploring these two main gaps in supply chain management theory in a digitalisation context. Furthermore, supply chain management theory cannot explain consumer-side data well, so a theory that can explain how consumer data reflect quality-related factors should be considered in a rigorous approach to research design.

Therefore, attribution theory was selected to test consumers' reflections on quality-based attributes in the China's online film supply chain. Attribution theory is one of the most widely used theories in consumer behaviour and psychology to explain how consumers perceive the causes of experience (Weiner, 2000; Muschetto & Siegel, 2021). Attribution theory can deal with the supply chain quality attributes from the consumer side, which helps in the evaluation of standards of supply chain outcome products and services. Reflections of consumer experience, satisfaction, and loyalty can serve as measures of supply chain performance from a consumer perspective and can be used for comparison with supply chain management outcomes. The contrast between supplier-side and consumer-side data analysis can provide a deep understanding of supply chain management theory and attribution theory in the digital era. However, current attribution theory assumes that participants are rational thinkers in exploring the causes of attributes, whereas digital online platform users and online situations may raise validity uncertainty compared to real-world scenarios (Yüksel & Yüksel, 2008; Abuhassna et al., 2020; Deng, 2020; Kim et al., 2022). Digital platform-based cultural products do not get much attention in attribution theory studies (Su, 2014; Yang et al., 2023). Cultural differences reflect regional and censorship policies, and these differences pose challenges in supply chain management theory studies and practice. Thus, empirical research using online consumer data in China to test attribution theory is needed to fill the theoretical gap and provide new insight into attribution theory application. Therefore, attribution theory was selected in this thesis to analyse consumer-side data, which was anticipated to help in the investigation of supply chain management theory. Contrast analysis testing of these two theories can potentially make a considerable theoretical contribution to reconsidering and developing supply chain management theory and attribution theory applications in the digital era in the context of an Eastern cultural background.

According to the existing consumer behaviour and psychology literature, consumer experience, satisfaction, and loyalty are key indicators of consumer behaviour (Sahin et al., 2011; Milman et al., 2020). Quality attributes are key outcomes from existing supply chain management studies in a consumer behaviour context (Macdonald et al., 2018; Ivanov, 2020a). Supply chain management is a system process that describes coordination and tactics across business functions to achieve the long-term performance of the whole chain. One primary problem with supply chain management is that previous scholars tended to use process management conceptual models to indicate the efficiency of supply chain outcomes, such as integration processes, operational capabilities, and transparency processes (Smith, 2004; Park et al., 2016; Ivanov, 2020a). The focus on different research disciplines also raises the issue of the coherence of defining supply chain management as a unifying theory or just developing knowledge in supply chain management fields. This thesis used a mixed-methods research design that applied attribution theory and supply chain management theory to consumer behaviour research. This design introduced the concept of quality attributes as the outcome of the operation of the supply chain for digital platform film products. The focus on quality management scales provides a conceptual framework that describes the relationship between quality attributes and supply chain management. This design also provides a coherent research approach to quality attributes and consumer behaviour in defining the theoretical influence of supply chain management. A quality attribute-based focus in assessing supply chain performance is well suited to digital platform-based film products because the digital platform-based cultural industry involves a more complicated supply chain and market structure than traditional cultural industries that allows different players to collaborate on projects and allows individual players along the supply chain to have different aims but achieve the same goal of good financial performance (Bican & Brem, 2020; Reis et al., 2020; Novytska et al., 2021). Attribution theory provides fundamental theoretical support and quantitative scales for examining relationships while also reflecting the logical flow of the mixed-methods experiment design. Previous empirical studies on attribution theory showed both direct and indirect relationships between quality attributes and consumer satisfaction that were helpful in conceptual model-building (Casado & Mas, 2002; Hess et al., 2003). Thus, the combination of attribution theory and supply chain management theory emphasises how the digital-platform film product supply chain can focus on quality improvement to achieve consumer loyalty by enhancing the customer experience and customer satisfaction. In this thesis, the term ‘audience’ is used rather than ‘consumer’, ‘customer’, or ‘user’ to refer collectively to online film consumers, customers, and users. Hereby, this thesis used the term of ‘audience’.

The complexity of digital-based cultural products is the result of not only the impact of digitalisation on the supply chain and market structure but also the combination of traditional cultural products with digital convenience (Im et al., 2020). For example, the supply chain changes in digital music products make it a typical phenomenon of the combination of digitalisation and traditional cultural products. Despite the digital influence factors, music quality attribution factors also play an important role in practice. Kozbelt (2005) showed that genre, composition, duration, and membership influence aesthetic success in the music industry. The film industry is another important cultural industry that has been studied extensively because of the rich data available and differences among specific geographical film industry business models (Eliashberg et al., 2006; Vogel, 2020). The Hollywood film industry's business model, which is the most commercially successful film industry business model worldwide, relies on large budgets and central studios' power (Kerrigan, 2009). The supply chain of the Hollywood film industry mainly involves production, distribution, and exhibition (Eliashberg et al., 2006). The clear supply chain is a reflection of the central power of Hollywood's major studios. The participants in the Hollywood film industry supply chain are usually stable. In contrast, the Bollywood film industry business model emphasises collaboration among tiny companies, which makes the Bollywood film industry supply chain more complex than that of Hollywood (Lorenzen & Täube, 2008; Lorenzen & Mudambi, 2013). In addition, different types of films also lead to differences in supply chains. Financial support plays an important role in different types of films. For example, independent films are usually made using multiple sources of funding (Bloore, 2009). Although the film industry supply chain is influenced by many factors, the production, distribution, and exhibition chain is the most recognised chain in the film industry.

The factors that influence film quality attributes have been researched using rich data on box office revenues, audience numbers, and other available data. However, different research methods and databases can yield different results when testing the same relationship between specific factors and film box office performance (e.g. Eliashberg et al., 2000). For example, there have been many studies on the relationship between film genre and film performance, with some identifying significant positive effects (e.g. Eliashberg et al., 2000), others identifying significant negative effects (e.g. Lee, 2006), and others arriving at no clear

conclusions (e.g. Vany & Walls, 1996). The different types of results obtained are related to the complexity of the film products (e.g. star power, director power, release time). Thus, a systematic analysis approach that considers factors of influence adequately needs to be adopted to test the relationships between various film quality-related factors and film performance. In this thesis, a combination of qualitative data analysis (Study 1) and quantitative data analysis (Study 2) was adopted to conduct the complex film-related factor analysis. The final results of the data analysis revealed detailed effects from the digital platform and online film perspectives, which provide new insights into the measurement of China's online film performance.

In 2014, a leading digital video company in China, iQIYI, proposed the concept of 'China's online film' in relation to the 'Internet Plus' concept proposed at the 5th Mobile Internet Expo in 2012 (China Online Film Summit, 2014; 5th Mobile Internet Expo, 2012). In March 2015, the Chinese government proposed 'Internet Plus' as a digital-based plan to promote the Chinese economy in the digital era (Wang et al., 2016). The 'Internet Plus' plan aimed to combine traditional industries with digitalisation such as mobile technology, big data, cloud service, and other digital technologies through restructuring traditional industries and improving people's livelihoods (Wang et al., 2016). China's online film product, which has both digitally and culturally based characteristics, is a new type of cultural product that relies on digital platforms and is thus a suitable subject for research on new models adapted from the combination of supply chain theory and attribution theory. The investigation of this new supply chain provides new insights into the digital supply chain system and new scales of online platform cultural product quality attribute measurements. The contrast between supplier-side and consumer-side data reveals practical differences in the supply chain management process and attribution impacts on consumer behaviour and psychology. The investigation of this new type of product in China offers new insights into current supply chain management theory and attribution theory by means of a mixed-methods research design which considers both supplier-side and consumer-side data from China to show the adoption and application of supply chain management theory and attribution theory in an Eastern cultural context.

One of the important characteristics of 'Internet Plus' is the establishment of an open and shared digital platform to improve entrepreneurs' innovations (Wang et al., 2016). This characteristic suits China's online film development by letting digital companies such as iQIYI

build the platform and give access to rich bodies that have the ability to produce film products. Thus, the 'Internet' plus 'film' makes it the epitome of China's online film. The new online film product combines digitalisation and film products, which is different from the traditional online release of film projects after the theatre release window (Eliashberg et al., 2006). China's online film uses pure online film projects, and users can watch online films from platform websites, mobile applications (APP), and other devices supporting the online film forms (Zhu, 2001; Wind & Mahajan, 2002). The audiences can purchase platform memberships to have access to online films or pay for online films individually. Audiences can pause online films whenever they like, whereas traditional theatre film projects occupy audiences for fixed periods of time in fixed venues. Audiences' patterns of consuming online films change their film-watching experience. However, there is a literature gap concerning the supply chain and factors affecting the quality attributes of online films under China's online film context. Moreover, the digital platform quality attributes research also needs future investigation rather than just applying existing e-service quality scales. Consumer perspective indicators such as consumer experience, satisfaction, and loyalty are wise choices to measure the new digital film products since industrial-level indicators are unclear at that time. Based on this context, the key focus of the thesis is as follows.

1.1 Research gap

1.1.1 Practical knowledge gap

There is a practical knowledge gap in the prior research. China's online film has been developing since 2014 but has not received much academic attention. The new supply chain and market structure of China's online film are not established in academic research. Digitalisation and the film industry have been studied separately (e.g. For digitalisation, Tariq et al.'s (2022) study focused on the effect of digital technologies reshaping the value chain; Im et al., (2020) focused on the digital information-based goods; Parc & Kim (2020) focused on consumer aspects to investigate digitalisation; For film studies, Eliashberg et al. (2006) focused on value chain study based on Hollywood data; Parc (2021) focused on the South Korean films; Fan et al. (2021) focused on star power; Ahmad et al. (2020) focused on budgets), but limited research has been done on the combination of digitalisation and the film industry since digital-based cultural industries have only recently developed rapidly in practice (Reis et al., 2020;

Subramanian et al., 2021). However, there are very few practical studies in the field of China's online film. This is an important and worthy of academic research of online film in the context of digitalisation. Thus, China's online film was chosen for this thesis and would bring deep and practical insights into digital cultural industries. The first practical contribution of this thesis is to introduce China's online film in depth analysis of interviews with industry experts. The complex supply chain of China's online film was explored with investigations on quality attributes that can influence audiences' experience, satisfaction, and loyalty. The second practical contribution is that this thesis brought new insights to current digital platform-based cultural product management and marketing strategies by testing the relationships between digital platform-based product quality attributes and audience experience, satisfaction, and loyalty. Thirdly, recommendations to China's online filmmakers and platform managers were proposed according to the data analysis results.

1.1.2 Theoretical gap

This thesis identified a theoretical gap in the supply chain management and attribution theory literature concerning the platform body and various types of digital- and film-related components that have occurred with the development of digitalisation. There has been debate on whether supply chain management theory should be treated as a theory or a concept to help different disciplines of supply chain studies (Cousins et al., 2006; Kanda & Deshmukh, 2008; Castañer & Oliveira, 2020). For example, scholars have used transaction cost theory in supply chain studies rather than relying on supply chain management theory (Nitschke & O'Keefe, 1997; Ellram, 2000; Kanet & Cannon, 2000; Heriot & Kulkarni, 2001; Keskinocak & Tayur, 2001; Sohal et al., 2002; Warburton & Stratton, 2002). Similarly, strategic management theory is commonly used in supply chain studies (Young, 2000; McAdam & Brown, 2001; Billington et al., 2002; Park & Hartley, 2002; Peterson, 2002). Recently, coordination theory has been employed in supply chain management studies (Holweg & Pil, 2008; Castañer & Oliveira, 2020; Bolton et al., 2021) that used consumer satisfaction and supply chain performance as the main indicators. Attribution theory has been widely applied in consumer studies, with consumer satisfaction used as the main indicator (e.g. Jackson, 2019; Zhao et al., 2019; Shams et al., 2021). This thesis added audience experience as a primary indicator, along with audience satisfaction and loyalty, to explore mediation effects in consumer studies by applying attribution theory from a quality attributes perspective. However, the previous studies

mentioned have tended to focus primarily on manufacturing fields. This thesis encompasses new paradigms in digital platform-based product supply chain management by applying coordination theory to yield new insights into supply chain management theory from a theoretical perspective. This thesis also utilised attribution theory using Chinese netizens' data to test the application of attribution theory in the digital platform-based cultural product area in China.

This thesis employed supply chain management theory and attribution theory to establish a conceptual model that addresses quality-based attributes from both platform supply chain operation and online film supply chain perspectives. The use of supply chain management theory and attribution theory also suited the mixed-methods research design. In detail, supply chain management theory provides a theoretical basis from which to explore the new supply chain of China's online film industry. Similarly, attribution theory provides a theoretical background for testing the relationships between quality-based attributes of digital platforms for online films and audience experience, satisfaction, and loyalty. Supply chain management theory ends with consumption, which is the start of attribution theory-based testing of quality attributes. The combination of the two theories reflects the coherence of the mixed-methods research design, which called for conducting interviews about China's online film supply chain (Study 1) and a survey of China's online film audiences (Study 2).

Although supply chain management theory and attribution theory provide strong theoretical support for this thesis, there are several theoretical gaps in the literature concerning related theoretical arguments and data analysis results. With respect to supply chain theory, the first gap is that the supply chain participants in digital platform-based cultural products are different from the supply chain participants for traditional manufacturing products (e.g. Modgil et al., 2021; Boyson et al., 2022). This gap is also a reflection of the rapid development of digitalisation that made the supply chain more complex than traditional manufacturing supply chains (Reis et al., 2020). For example, according to the data analysis results, the financing practice of China's online film projects is dynamic, and the investment bodies can be everyone who has investing abilities. However, censorship plays a consistent role in China's online film supply chain operation, including the financing stage, which results in strict supervision of financing issues. A detailed exploration of China's online film supply chain was needed to

address the lack of clarity considering participants in the chain system. Secondly, cultural differences have been highlighted in film studies in China (e.g. Su, 2014; Kelly, 2019). The most important difference is censorship. For example, Hollywood films have a rating system based on film content (e.g. Cattani & Ferriani, 2008). In China, censorship is strictly applied to all online visual media products, according to the rules of the National Radio and Television Administration (NATA) related to the administration of domestic online drama and film distribution licensing services (NATA, 2022). There are 14 rules related to oversight of all online visual media products in China. This is also a reflection of Chinese collective culture and policy issues. Thirdly, the literature on supply chain management has focused on supplier-side data (e.g. Bolton et al., 2021; Ivanov & Dolgui, 2021). However, the end stage of the supply chain is consumption, and consumer-focused approaches to evaluating the supply chain management are needed to investigate the attributes' effects on the supply chain and consumers. With respect to the attribution theory gaps, the application of attribution theory in consumer behaviour and psychology research has mainly focused on consumer satisfaction (e.g. Yüksel & Yüksel, 2008; Iglesias, 2009). In recent years, scholars have begun to use consumer experience as the outcome variable in consumer behaviour and psychology research in the context of attribution theory (e.g. Jackson, 2019; Abuhassna et al., 2020). Therefore, expanding the outcome variables in consumer behaviour and psychology research within attribution theory is necessary for attribution theory testing. Cultural differences also influence consumer reactions to attributes (e.g. Kelly, 2019). This gap also relates to the third theoretical gap of supply chain management theory in this thesis, which reflects the initial connections between supply chain management theory and attribution theory in the research design for this thesis. Thus, this thesis addressed theoretical gaps in supply chain management theory and attribution theory practice as it applies to digital platform-based cultural products. This thesis sought to combine the results of Study 1 and Study 2 data analyses to arrive at new insights into exploring supply chain management theory and attribution theory applications in the case of China's online film industry.

1.1.3 Empirical gap

There appears to be an empirical gap in prior research. Previous empirical studies on the film industry have focused on theatre data analysis (e.g. Eliashberg et al., 2006; Bloore, 2009; Vogel, 2020; Parc, 2021; Yang et al., 2023), whereas online film products are better characterised by

Internet-based data that challenge the recognised indicators of film performance (George & Bock, 2011; Järvinen & Karjaluoto, 2015; Reis et al., 2020). The relationship between China's online film quality attributes, digital platform quality attributes, and audience loyalty has also changed as the film-watching experience has changed (China Online Film Summit, 2014; 5th Mobile Internet Expo, 2012; Im et al., 2020; Tariq et al., 2022). Thus, an empirical investigation research of China's online film supply chain and the relationship between digital platform quality attributes, online film quality attributes, and audience loyalty is needed. No study to date has empirically evaluated the relationship between China's online film quality attributes and audience loyalty. Thus, a survey (Study 2) has been done to fill the empirical gap in China's online film study.

1.2 Contributions of the thesis

The main contributions of the thesis can be divided into theoretical and practical aspects. Firstly, this thesis contributes to supply chain management theory and attribution theory within consumer behaviour and psychology studies by identifying China's online film platform companies as the main body cooperating with different components. The platforms play a leading role in establishing rating standards and reviewing censorship with the aim of improving the performance of China's online film products. This type of management strategy differs from horizontal and vertical management by encouraging all cooperative bodies to provide high-quality goods and services. The quality attributes improvement of digital platforms and online film products can have different effects on audiences' experience, satisfaction, and loyalty. Secondly, with regard to practice, this thesis produced a detailed explanation of China's online film supply chain and an exploration of the related players and elements. A sequential mediation process was used to investigate the relationships between digital platform quality attributes, online film quality attributes, and audience loyalty through an assessment of the effects of audience experience and satisfaction. The results provide platform managers and supply chain participating bodies with deep insights into implications for both supply chain management and consumer loyalty improvement. Thirdly, with regard to the literature, this thesis addresses a gap in the research on digital platform-based cultural products, especially of the online film product type. Finally, the empirical data from 19 interviews with professional China's online film participants and 327 pieces of valid questionnaires analysis from Chinese netizens collected online yielded detailed findings on the

quality attributes that influence China's online film audiences' experience, satisfaction, and loyalty.

1.3 Research aims and objectives

This thesis aims at understanding the architecture of supply chain of online film industry in China and modelling the audience's behaviours toward quality of film and digital platforms attributes. The first step is to organise, analyse, and discuss China's online film supply chain, and quality attributes factors using a qualitative method to acquire primary professional information. The second step is to critically review key literature in film industry, digitalisation, digital platform quality, film quality, supply chain management theory, and attribution theory. The third step is to use the existing literature and interview analysis results to design a quantitative survey to identify factors that influence digital platform quality attributes and online film quality attributes. The fourth step is to discuss the relationships between digital platform quality attributes, online film quality attributes, audience experience, satisfaction, and loyalty by applying the PLS-SEM.

The research questions are as follows.

1. What is the architecture of supply chain for China's online film?
2. To what extent do digital platform quality attributes and online film quality attributes influence audience experience, satisfaction, and loyalty?

The research objectives include understanding the architecture of supply chain for China's online film, and investigating the impacts of digital platform quality attributes, online film quality attributes on audiences' experience, satisfaction, loyalty establishing relationships between the quality attributes and China's online film audience experience, satisfaction, and loyalty.

There are six sections (chapters) of this thesis. The introduction section presents the logical flow of the thesis and background information. The literature review section summarises

existing literature on supply chain management theory studies, attribution theory studies, consumer behaviour studies, film industry research, digitalisation, digital platform quality measurements, film quality measurements, user experience, customer satisfaction, and loyalty. The methodology section describes the philosophy, research design, and data analysis strategies. The results section presents both qualitative and quantitative results. The data analysis section shows all the data analysis results. The discussion section describes the discussion on findings and implications of the thesis results. The conclusion and limitation section summarises the whole thesis's achievements and reflects on the limitations of the current thesis and offers suggestions for future research direction. The reference list and appendix are shown at the end of the thesis.

Chapter 2. Literature review

2.1 Theory background

This section summarises the literature on supply chain management theory and attribution theory definitions, developments, and overviews in the supply chain management and marketing fields. This section provides critical summaries of connections, arguments, and directions for both supply chain management theory and attribution theory. This section also presents the establishment of the conceptual framework and model-building guidelines for attribution processes. Attribution factor scales, measurements, and indicators are discussed after the newest studies in the consumer behaviour field in the context of supply chain management theory and attribution theory. Finally, a guideline for the theoretical adoption of the results of this thesis research is proposed.

2.1.1 The definition and development of the supply chain

Supply chains can be defined as complex systems that involve suppliers, customers, and service providers (Kanda & Deshmukh, 2008; Gao et al., 2018b). In the 1990s, a supply chain was defined as a system for producing and delivering products from the supply side to the customer side (Kranz, 1996) and as a systematic effort to provide materials to customers to meet their needs by manufacturing (Stein & Voehl, 1998). Lambert et al. (1998) described supply chains as alliances of enterprises. These early definitions of supply chains focused on the chain participants and institutions by dividing the chain into the supply side and the customer side. Other definitions of supply chains emphasised the activities involved. Delivery activities were described as creating financial value from products of raw materials and information provided for consumption (Quinn, 1997). The sequence of business processes from suppliers to adding value for customers through products, services, and information, which involves information integration, coordination, and control, constitute the supply chain activities (Cooper et al., 1997). Cooper et al. (1997) also mentioned that the close coordination between supply chain managers and product producers was the key reason for new product development. Tompkins and Jernigan (1997) stated that end-user satisfaction was the key indicator in supply chain management and also argued that the concept of a 'supply chain' should be replaced with 'demand flow' from a philosophical perspective. Sherman (1998) claimed that 'demand' was

the start of a market and that the 'supply chain' fulfilled the demand through the dynamic process of material and information flow that ended with satisfying the market. Thus, according to the early definitions proposed in the 1990s for supply chains, a supply chain is a coordinated set of activities among a group of allied firms with the aim of satisfying customer needs (Larson & Rogers, 1998). The early-stage supply chain definitions emphasised supply-side, customer-side, and coordination processes that served as a foundation idea for academic research.

The definition of the supply chain and supply chain management were conceptualised with the development of business functions (Burgess et al., 2006). Compared with the definitions proposed in the 1990s, definitions of supply chain and supply chain management proposed more recently have been more detailed. For instance, Mentzer et al. (2001) stated that a supply chain (SC) could be a systematic coordination of business functions to achieve the long-term performance of companies. The main focus of SC management has changed from the supply side and customer side to coordination and performance. Research in the area of supply chains has also had various focuses. For example, Lummus et al. (2001) used three types of firms (manufacturer, retailer, and third-party logistics) to define a supply chain as a system including all activities from the production to the customer and covering raw material production, manufacturing, inventory tracking, ordering, distributing, delivering, and information sharing. Mentzer et al. (2001) also focused on the definition of a supply chain and stated that three or more organisations or individuals covering both the upstream and downstream flows to provide products, services, and information for ultimate customers could be defined as a supply chain. Mentzer et al. (2001) also found that financing was one of the efforts in the chain flow that occupied the same position as products, services, and information. The definition of the supply chain has expanded since the early 1990s because the chain participants have expanded, and the focus has expanded from physical goods to information-based products.

In today's digital era, digital platforms have reshaped ecosystems through the adoption of new technology-leading disruptive crossovers (Heeks, 2008; De Reuver et al., 2018; Mann, 2018). Digital technology-based disruptive crossovers revolve around finance, mobility, health care, energy, transportation, and other digital platforms' scope and diversity of discourse (Agrawal & Narain, 2018; De Reuver et al., 2018). Thus, the definition of the digital supply chain has changed because of its distributed nature. Farhani et al. (2017) defined the digital supply chain

as consisting of various components, from raw materials through digital suppliers, digital manufacturing systems, and digital inventory to, ultimately, customers. Ivanov and Dolgui (2021) theorised a computerised model to demonstrate the ability to use real-time data to predict the performance of a digital supply chain. Ivanov and Dolgui (2021) thought that information should be treated not as material in the supply chain but as a tool for simulating and predicting supply chain performance, especially for real-time data. Hoberg et al. (2015) explained that a digital supply chain should be a process for generating value in its products, interacting with participants, and competing in the global market. Boyson et al. (2022) defined a digital supply chain as a global Internet community of suppliers, producers, distributors, and customers that serves as a platform for the Internet of Things (IoT), resulting in an effective match between demand and supply activities.

The evolution of the definition of supply chains from the 1990s to the present can be summarised as follows. The basic participants were initially considered to be suppliers and customers (Cooper et al., 1997; Larson & Rogers, 1998), but the definition of 'participants' expanded to encompass alliances of goods or services providers, producers, distributors, and data analytic bodies (Burgess et al., 2006; De Reuver et al., 2018; Boyson et al., 2022) when digitalisation reshaped the supply chain system. In the meantime, the physical goods and services as the main attributes were expanded to encompass material and information goods, services, finance, information, data, and other digital attributes in the chain (Stein & Voehl, 1998; Mentzer et al., 2001; Ivanov & Dolgui, 2021). The flow from the supply side to the customer side also changed into a dynamic information flow since real-time data are involved in today's digital supply chain (Ivanov & Dolgui, 2021; Boyson et al., 2022). Based on these definitions, in this thesis, a supply chain is defined as a set of entities (more than three organisations or individuals) that operate directly in a dynamic flow of digital products, services, finances, information, and added value to meet customer needs and provide customer satisfaction.

2.1.2 The definition and development of supply chain management theory

The definitions of supply chain development show that supply chains become increasingly complex with increasing numbers of participants and activities, especially in the digital era

(Kanda & Deshmukh, 2008; Boyson et al., 2022). Therefore, continuous dynamic supply chain changes have gained increasing academic interest. In the late 1990s, with some of the most acceptable supply chain definitions proposed, the adoption of supply chain management (SCM) emerged from a theoretical perspective (Kanda & Deshmukh, 2008). In the late 1980s, Hewlett-Packard (HP) recruited an internal team of engineers and scientists to establish an academic supply chain model by improving order fulfilment to reduce customer dissatisfaction, which made an important contribution to the supply chain management methodology (Lee & Billington, 1995). David (1993) worked on the HP-established model and identified three dimensions – ‘supplier performance’, ‘manufacturing’, and ‘customer demand’ – as the main action areas to improve supply chain performance. David’s (1993) study provided a benchmark of scope for supply chain management research and stated that product and process were two main sub-areas for supply chain management study. For example, the product volume under ‘supplier performance’ could be determined using common components for many products (reducing stockout risk), following industry standards (availability), and sharing information with partners. Similarly, Cox (1999) laid out an analytically robust approach to supply chain management thinking consisting of eight characteristics: chasing perfection of value to customers, producing value to meet customer needs, reducing unnecessary processing waste, adding value for every participant in the supply chain, creating trust with suppliers, creating demand-driven processes, chasing long-term relationships with suppliers, and creating a supplier network. In the late 1990s, supply chain management received increasing interest in academic research, albeit in some narrow functional silos such as logistics, decision-marketing, purchasing, and marketing (Burgess et al., 2006). Thus, there were three main research gaps and uncertainties in supply chain management in the late 1990s: doubtfully coherent theories from a conceptualisation perspective, unclear research method employment from a methodology perspective, and narrow disciplines from a philosophical perspective (Burgess et al., 2006). In the 1990s, the definitions of supply chain management were not clear from a theoretical perspective, but the supply chain management field gained increasing interest in various research disciplines.

To address the three main gaps that existed in the late 1990s, more systematic studies of supply chain management were conducted from the 2000s to the present. Firstly, to address the conceptualisation issues, Lummus et al. (2001) used three types of firms to define supply chain management as a group of consistent review processes and information to monitor the whole

chain's nodes, including the logistical flows. Mentzer et al. (2001) also focused on the supply chain management definition and stated that supply chain management should have more than three components cooperating with each other to share information, risk, and rewards to achieve the same aim through integrated processes, long-term relationships, and coordination. Supply chain management should achieve lower costs, increased customer satisfaction, and competitive advantages (Mentzer et al., 2001). Those conceptualisations of supply chain management all mentioned the nature of positive assumptions of the scopes. However, Ponomarov and Holcomb (2009) proposed the concept of supply chain resilience based on the disciplines of psychology and ecosystems to reduce risk by providing effective responses to disruptive events. Ponomarov and Holcomb (2009) discussed seven aspects of the concept of supply chain management, especially with respect to resilience: agility and responsiveness (Christopher & Lee, 2004); visibility (Sodhi & Chopra, 2004); flexibility and redundancy (Rice & Caniato, 2003; Christopher, 2005); structure and knowledge (Choi & Hong, 2002); reduction of uncertainty, complexity, and reengineering (Van Der Vorst & Beulens, 2002); collaboration (Raj Sinha et al., 2004; Lee, 2004); and integration, operational capabilities, and transparency (Smith, 2004). Those conceptualisation perspective studies conducted prior to 2010 showed that researchers sought to expand supply chain management into multidisciplinary fields by examining different participants and value transportation in the supply chain. They also found that supply chain management was a dynamic resilience system and identified some basic measures for evaluating supply chain management performance. However, as the previous discussion of the supply chain definition mentioned, the traditional definition changed with the advent of digitalisation, and the new concept of the digital supply chain began to receive research attention.

Digital supply chains are highly integrated globally and serve as effective platforms for Internet communities involving customers, producers, distributors, and suppliers (Boyson et al., 2022). Boyson et al. (2022) described the digital supply chain from the supplier exchange portal to the customer order self-service portal through different enterprise resource planning systems, collaborative planning, and forecasting, which cover a series of order fulfilment activities, and a real-time distributed asset pool. Ivanov and Dolgui (2021) focused on digital supply chain disruption risk management and resilience and presented the concepts of data structure in supply chain and supply chain risk analytics systems, showing that digital supply chain management conceptualisation has changed a lot compared to traditional chain systems.

Similarly, under the conceptualisation of digital supply chain management, scholars have focused on various narrow fields in the digital supply chain discipline. For instance, scholars have developed analytical methods to analyse the impact of disruption on supply chain performance by improving strategic decision-making, considering dynamic inventory control (Torabi et al., 2015; Ivanov et al., 2016; Ivanov et al., 2018; Sawik, 2019). Other scholars have focused on supply chain resilience and the impact of disruption on performance using real-time data and financial, customer, and operation indicators to consider time-dependent parameters and measurements in solving complex problems through situational behaviour changes (Schmitt & Singh, 2012; Macdonald et al., 2018, Ivanov, 2020b). Other scholars have taken data-driven approaches to testing risk management performance using various indicators, such as output visualisation tools (Gusikhin & Klampfl, 2012; Simchi-Levi et al., 2015; Park et al., 2016), coordinated recovery planning and financial performance (Bearzotti et al., 2012; Sheffi, 2015; Basole & Nowak, 2018; Dolgui et al., 2020), and platform performance (measured using key performance indicators such as revenues, sales, and delivery) (Choi, 2018; Ivanov, 2020b). Therefore, the conceptualisation of supply chain management has changed with the development of new components such as new technology, information systems, financial developments, and other supply chain-related developments. Research on supply chain management objectives has focused on effective product delivery (David, 1993; Ponomarov & Holcomb, 2009); collaborative long-term relationships between suppliers and customers (Cox, 1999; Raj Sinha et al., 2004; Lee, 2004); agility and responsiveness (Christopher & Lee, 2004); visibility (Sodhi & Chopra, 2004); flexibility and redundancy (Rice & Caniato, 2003; Christopher, 2005); reduction of uncertainty, complexity, and reengineering (Van Der Vorst & Beulens, 2002); collaboration (Raj Sinha et al., 2004; Lee, 2004); integration, operational capabilities, and transparency (Smith, 2004); resilience and reduction of disruptive risks (Ivanov & Dolgu, 2021); and analytical system management (Schmitt & Singh, 2012; Macdonald et al., 2018, Ivanov, 2020b).

Secondly, to address the research methodology and philosophical issues, a large number of scholars have discussed various dimensions of supply chain management theory. It is widely accepted that theory development is important for any developing field (Kuhn, 1970; Wacker, 1998). Burgess et al. (2006) conducted a structured review of the literature published between 1985 and mid-2003 and concluded that supply chain management as a theory had changed slightly but remained poorly defined. This conclusion was based on most of the literature

reviewed having focused on manufacturing with stable suppliers and supply chain management not having been fully examined in a theoretical context but rather based on concepts of academic research. A commonly accepted definition of supply chain management theory was that supply chain management is systemic coordination and tactics across business functions to improve the long-term performance of individual companies or the supply chain as a whole (Lummus et al., 2001; Mentzer et al., 2001; Burgess et al., 2006). However, Burgess et al. (2006) found that almost all of the selected articles did not use supply chain management theory directly but rather adopted the transaction cost economics theory of supply chain management (Nitschke & O’Keefe, 1997; Ellram, 2000; Kanet & Cannon, 2000; Heriot & Kulkarni, 2001; Keskinocak & Tayur, 2001; Sohal et al., 2002; Warburton & Stratton, 2002) and strategic management theory (Young, 2000; McAdam & Brown, 2001; Billington et al., 2002; Park & Hartley, 2002; Peterson, 2002). The previous literature showed that scholars tended to use existing theories in the supply chain management area, although there was a debate on whether a unifying theory of supply chain management should be defined rather than just a rich body of knowledge being developed in the supply chain management field (Cousins et al., 2006).

In other words, supply chain management is developing continuously, which makes supply chain management a field to which many theories and disciplines can be applied to study the relationship between suppliers and customers (Cousins et al., 2006; Kanda & Deshmukh, 2008). Kanda and Deshmukh (2008) focused on the coordination theory to cast light on the theory perspective, empirical studies, and research directions. The consequences of coordinated entities have been identified as accurate forecasts, high capacity utilisation, effective customer service, low costs, fulfilment response, high-quality goods and services, and customer satisfaction (Ramdas & Spekman, 2000; Ponomarov & Holcomb, 2009). There have also been various difficulties in supply chain coordination in practice, involving various cultural backgrounds, collaborative decision-making, mismatches in the production cycle, lack of coherent distribution contracts, lack of technical assistance, lack of information sharing, and other conflicting objectives in the supply chain (Kanda & Deshmukh, 2008). Similarly, Holweg and Pil (2008) found the key informants across the supply chain coordination to be managers, distributors, directors, system analysts, producers, CEOs, project leaders, and other dealership representatives. Holweg and Pil’s (2008) study recognised detailed informants and key staff positions which inspired the qualitative interview recruitment level for future research. Castañer and Oliveira (2020) also mentioned that coordination of joint or individual activities

across the supply chain has the goal of improving customer satisfaction and supply chain performance. Bolton et al. (2021) identified the three main components of relational coordination theory as organisational structures, relational coordination, and performance outcomes.

The main theoretical argument in supply chain management theory is whether it should be a coherent theory or just a general theory with detailed sub-theories in the supply chain area (Wacker, 1998; Smith, 2004; Cousins et al., 2006; Bolton et al., 2021). Digitalisation has been challenging supply chain management theory since the manufacturing processes involved are influenced dramatically and are more dynamic than traditional manufacturing processes (Boclstedt et al., 2006; Novytska et al., 2021). Digitalisation allows more independent participants to join the supply chain at lower costs (Wind & Mahajan, 2002; Tariq et al., 2022). However, these changes have raised risks in process management, efficiency management, and global policy issues, especially for cultural products (O'Connor, 2000; Poell et al., 2021). The cultural product supply chain process also makes the supply chain system more complex, with various independent components with different cultural backgrounds (Kerrigan, 2009; Vogel, 2020). Current supply chain management theory emphasises quality improvement in the supply chain system, but consumer-side empirical evidence for theory testing is limited (Bolton et al., 2021; Ivanov & Dolgui, 2021). Three main future research directions in digital platform-based cultural products within supply chain management theory have been identified. Firstly, complex supply chain operation processes should be explained in terms of details such as key components, participating bodies, components' responsibilities, and other issues that could influence the chain's operation. Secondly, cultural differences should be highlighted because of the inherent attributes of cultural products. Thirdly, end-stage consumption should be investigated deeply because consumer purchase activities are direct indicators of product quality attributes in the supply chain.

In conclusion, scholars' debate whether supply chain management theory should be treated as a specific theory (Wacker, 1998; Smith, 2004; Cousins et al., 2006; Bolton et al., 2021). The main reason for this is that complex supply chain management practices have resulted in a lack of coherent literature on supply chain management, with many different theories and disciplines being adopted to address research questions in supply chain management (Cousins

et al., 2006; Kanda & Deshmukh, 2008; Castañer & Oliveira, 2020). Additionally, digitalisation has changed almost every supply chain system and has made possible real-time studies in the supply chain research field from both theoretical and empirical perspectives (Bolton et al., 2021; Ivanov & Dolgui, 2021). To address the challenge of reducing theoretical uncertainty in supply chain management, this thesis applied coordination theory in the supply chain management context to the qualitative phase of the thesis by investigating the structure of the supply chain and explaining the relational coordination, resulting in the performance attribution for the quantitative phase of the thesis.

2.1.3 The development of attribution theory

Attribution theory has developed consistently and provided useful conceptual frameworks for social psychology that were originally applied to education motivation research (Kelley, 1967; Kelley, 1973; Folkes, 1988; Graham, 1991). Kelley (1973) stated that attribution theory relied on Heiders' 1958 book, 'The Psychology of Interpersonal Relations', as a keystone and major origin source. The early stage of attribution theory development focused mainly on two aspects of social psychology: social perception and self-perception (Kelley, 1973). Those two types of perception seek to answer causal questions, especially the causal explanations of the effects of an entity, which are also viewed as causal attributions (Kelley, 1973; Graham, 1991). Kelley (1973) defined attribution theory as the causal conclusion of evidence and reasoning from a joint contribution of multiple factors to an effect. Folkes (1988) emphasised the causal inferences of attribution theory but focused on consumer behaviour studies in marketing research by examining causal inferences about product satisfaction. Considerable research has examined consumer inferences on purchasing or selecting products by measuring the liking of products and purchase situations (Zaltman & Wallendorf, 1979; Scott & Yalch, 1980; Tybout & Scott, 1983). Other research shifted the focus from the consumer causal agent to the causal agent for product performance to examine the success and failure of a product or service (Richins, 1983; Folkes, 1984; Mazursky et al., 1987). Lichtenstein and Bearden (1986) suggested that the mixed results of both general attributions and dependent measures could provide a better understanding of social phenomena from a research methodology perspective because mixed results provide more general categories of causes. Three typical antecedents for causal attributions have been identified: motivation, information, and beliefs (Kelley & Michela, 1980). Specifically, consumers are motivated by hedonic and esteem antecedents,

information is the basis for consumers' judgments, and beliefs are the causes of relationships among causal inferences (Folkes, 1988). Thus, there are three general ways to influence consumer behaviours: raising consumers' motivations, controlling available information, and creating beliefs. However, consumer attribution is focused on external and temporary attributions which might cause undesirable behaviour in the short term. In other words, attributions from motivation, information, and beliefs could partially escape some consequences effects in long-term behaviour research. Therefore, researchers began to change the definitions of attributions by changing the antecedents of consequences of causal inferences (Weiner, 2012).

Scholars who focused on attributional consequences emphasised the mediation effects of multiple antecedents and various resulting behaviours (Weiner, 2012). The differences between consumer attributions and consequence attribution can be characterised in terms of the internal categories related to consumers themselves and the external categories related to multiple causal agents, such as producers, distributors, sellers, and other causal agents (Folkes, 1988). Consumer satisfaction has also been identified as one of the important indicators of consumer behaviours as the consequences of consumers' attribution (Hunt et al., 1983; Folkes, 1988). Folkes (1988) identified three causal dimensions of product performance: the locus, stability, and controllability (Folkes, 1988). The locus mainly influences beliefs about problem-solving decisions (Belk & Painter, 1983). Product satisfaction has been identified as the main indicator of the antecedent of consequence related to the locus dimension (Richins, 1985; Oliver & DeSarbo, 1988). Unlike the locus, consequences linked to controllability mainly influence consumers' evaluations, willingness to communicate, and attitudes towards products (Folkes, 1984; Curren & Folkes, 1987; Weiner, 2012). Consequences linked to controllability played a mediation role in the relationship between attributions and consumers' responses (Weiner, 2012). The third dimension of consequence causality, stability, represents stable and permanent causes that mainly influence expectancies (Folkes, 1988; Weiner, 2012). However, stability issues usually arise in product failure scenarios. Stability results in refunds rather than exchanges related to expectancies, and stability can help companies solve problems with consumers' stable failure reactions compared with uncontrollable and temporary causes (Folkes, 1984). In summary, the causal dimensions of product and service performance can be identified as locus, controllability, and stability. Those dimensions emphasise the firm-related factors that influence consumers' satisfaction. The consequences of attributions can relate to a

single causal dimension and multiple causal dimensions, which provide frameworks for solving complex marketing problems (Curren & Folkes, 1987; Folkes, 1988). The consequences of attributions can play a mediation role between product performance and consumer behaviours through complex inferences about product attributes (Weiner, 2012). After the consequences of attributes related to product performance were defined, the consequences of attributions for sales performance were examined in research related to evaluations and expectancies (Folkes, 1988). Consistent with previous studies, researchers began to use attributions to investigate salesperson motivation and organisational behaviours (Porac et al., 1981; Teas & McElroy, 1986; Weitz et al., 1986).

In conclusion, in attribution theory studies before the 1990s, the most accepted definition of attribution theory encompassed an understanding of consumers' explanations of causal inferences, the categories of causes, and the nature of the inferential process related to consumers' actions (Folkes, 1988). Early applications of attribution theory examined consumer causal ascriptions with evidence from consumer-related data, using motivation, information, and beliefs as indicators. However, mainstream attribution theory research increasingly examined the consequences of causal ascriptions as consumer behaviour research developed from consumer-related data to more complicated firm-related data to answer more complex research questions (Weiner, 2012). Multiple causal dimensions were identified for use in describing the relationship between product performance and consumer behaviours, and consumer satisfaction became the main outcome variable used to measure product performance (Curren & Folkes, 1987; Folkes, 1988; Weiner, 2012).

Weiner (2000) discussed attribution theory directions in consumer behaviour research and identified two relevant principles of attribution theory: the causality stability dimension, with the outcome of product satisfaction, and the causality controllability dimension, with the outcome of responsibility. Those two principles also catered to the previous attribution theory and consumer behaviour research in the late 1980s. Weiner (2000) also identified two key processes: starting from product and service outcomes with the end of future consumer behaviour through attributional search, attribution, attributional properties, and the likelihood of future satisfaction, and a two-trail process starting from negative outcomes to general negative affect or starting from the negative outcomes with the end of consumer behaviour

through attributional search, attribution, attributional properties, companies' (individuals') responsibility, and anger. These two processes reflect the fundamental influences from stability to expectancy of success and controllability to personal responsibility. Weiner's contribution to attribution theory can be seen as the keystone of the consequences of attributions through a causal classification system and the link between cognition and expectancy (Muschetto & Siegel, 2021).

Another three clusters for present attribution theories are antecedents of attributions, applications to industrial organisational psychology, and applications to general social psychology (Muschetto & Siegel, 2021). The antecedents of attributions in attribution theory are based on Heider's (1958) work that provided the foundational idea of the process of people's perception and response to others. The consequences of attributions in attribution theory are based on Weiner's (1986) work on the foundational idea of a general theory of motivation and emotion. Green and Mitchell (1979) introduced the attribution of leader-member interactions, and Martinko et al. (2011) investigated the value of attribution in organisational sciences as the basis for applications to industrial organisational psychology. The fourth cluster of applications to general social conduct mainly relied on Weiner's work from 1980 to 2006 on motivation outcome research (Weiner, 1980; Weiner, 1985; Weiner, 1995; Weiner, 2006). The consequences of the attributions did not focus on people-determined causal factors but rather on the outcomes of causal evaluation related to product performance and consumer expectations (Muschetto & Siegel, 2021). Weiner's attribution theory advanced attribution research by employing quantitative measures to determine consumer behaviours, predict social conduct, and identify different motivation domains (Muschetto & Siegel, 2021). In summary, attribution theory has developed over the past seven decades and has contributed to multiple disciplines of academic research. Four major topics in attribution research are the antecedents of attributions, consequences of attributions, industrial organisational psychology, and general social conduct (Muschetto & Siegel, 2021). Weiner's attribution theory provides basic insight into consumer behaviour studies by examining the relationship between product performance and consumer satisfaction, which provides fundamental theoretical support for this thesis.

2.1.4 Attribution theory and consumer behaviour

Attribution theory provides the theoretical foundation and quantitative scope for consumer behaviour research (Weiner, 2000; Muschetto & Siegel, 2021). Marketing research has shown that satisfaction is one of the main factors influencing consumer loyalty to companies (Iglesias, 2009). Examination of the relationship between causal attributions and consumer satisfaction has shown that attributions can influence satisfaction in many ways (Iglesias, 2009). The effects of attributions on consumer satisfaction can be categorised as direct effects and indirect effects (Tom & Lucey, 1995; Smith et al., 1999; Casado & Mas, 2002; Hess et al., 2003). Iglesias (2009) used the SERVQUAL and SERVPERF quality perception measurement scales to test the effects of attribution variables on consumer satisfaction. Iglesias's (2009) study also sought to explain the effects of the different stages of the cognitive process on satisfaction, which reflects the consequences of attribution effects. This research design also reflects the process of the supply chain of a product or service as an important dimension for complex marketing research with consumer behaviour outcome variables. Yüksel and Yüksel (2008) conducted a critical review of the marketing and consumer behaviour literature and found that while attribution theory has been used in developing satisfaction models, more research has focused on dissatisfaction or complaining behaviours that occur when services or products do not meet consumers' expectations. This phenomenon is mainly related to the three dimensions of causal attributions: locus, stability, and controllability. However, Yüksel and Yüksel (2008) suggested that attribution theory could be expanded and examined in a context more oriented towards consumer satisfaction since both internal and external factors related to a product or service are considered in the cognitive process analysis.

Researchers have increasingly applied attribution theory in consumer behaviour research and have expanded the outcome variables to satisfaction, experience, and loyalty in the marketing field (Jackson, 2019; Zhao et al., 2019; Shams et al., 2021). Jackson (2019) used mixed-methods research to investigate the relationship between tourist attributions and tourist experiences. The combined quantitative and qualitative results showed an inconsistency in attributions for tourist experiences and cultural differences between individualistic and collectivist cultures. This finding suggested that the mixed-methods research approach is an effective way to conduct attribution theory-based empirical studies because both company-side and consumer-side data can be used to show different stages of effect for a process. Zhao et al. (2019) used two studies of a scenario-based experiment and a survey to test the relationship between work-versus-family conflict and job satisfaction and found that both mediation and

moderation effects by the source attribution were significant. Similarly, the mixed-methods research design used by Zhao et al. (2009) demonstrated that a mixed-methods research approach works well for attribution theory-based research. Process analysis by testing the mediation effect has also been shown to be useful in casual attribution theory studies in which the outcome variable is satisfaction. Shams et al. (2021) used a survey of 346 consumers and applied structural equation modelling to test the relationship between service recovery and customers' behavioural intention and found a positive relationship between service recovery and favourability and between satisfaction with service recovery and consumer loyalty in hospitality-based service. Shams et al. (2021) also contributed to attribution theory development by testing the relationship between attributions and consumers' reactions to service and establishing a framework for behavioural intentions and loyalty with a model for four latent constructs with multiple-item measurement scales. Abuhassna et al. (2020) developed a model to investigate the factors influencing students' satisfaction with online learning platforms and identified eleven factors that could impact students' academic achievement and satisfaction. Product or service quality (course design) and platform quality (software) were the two main attributes used to measure online platform performance, and consumer satisfaction (student satisfaction) was the main outcome variable influencing other variables such as experience, loyalty, and other consumer behaviour indicators (students' academic achievement). Wong, Rasoolimanesh, and Pahlevan Sharif (2020) investigated the relationships between service quality, perceived value, and consumer satisfaction in the context of an online travel agent platform and found a mediation effect from service quality to consumer satisfaction through perceived value. Partial least squares structural equation modelling revealed a positive relationship between service quality and consumer satisfaction. The researchers also analysed direct and indirect effects and hotel attributes of reviews and ratings on the relationship between service quality and satisfaction, resulting in practical suggestions for hotel managers (Wong et al., 2020).

The existing argument within attribution theory is the causal impact of attributions on consumer behaviour and psychology. There are two limitations of current attribution theory. Firstly, the measurements of attributions have almost all related to tangible products or services. There have been few studies on cultural industries, and academic research in cultural industries has been almost exclusively related to hospitality and tourism (e.g. Wong et al., 2020; Shams et al., 2021). The application of attribution theory to cultural products is a gap in current attribution

theory development studies. Secondly, consumer satisfaction is the most used indicator in attribution research in literature (e.g. Abuhassna et al., 2020; Wong et al., 2020). However, the definition of attribution theory emphasises people's experience as an important indicator. The scale of measurements from the consumer side is thus another gap, especially in empirical tests of theories. Existing attribution theory simplifies complex processes of consequences from attributions to consumer satisfaction, ignoring dynamic logistical flows in the real world (e.g. Wong et al., 2020). Therefore, new models are needed to test attribution theory application within cultural products in a digital era.

In summary, attribution theory has developed over time and has been useful in marketing research. The main outcome variable is consumer satisfaction, but researchers who have focused on consumer behaviour studies emphasise experience and loyalty as two other important indicators of consumer behaviour intentions (Jackson, 2019; Shams et al., 2021). An important attribute of the product and service performance aspect is the quality attribute, and there is a large body of literature related to the quality dimension that can be used in item scale development (Iglesias, 2009; Wong, Rasoolimanesh & Pahlevan Sharif, 2020). A consequence of attributions would result in a process analysis to determine effects at different stages of delivery or along a whole supply chain, which also reflects the fundamental idea of attribution theory (Weiner, 2000; Yüksel & Yüksel, 2008; Abuhassna et al., 2020). A model for dividing an online platform into two parts based on product- and service-based quality attributes and platform-based attributes provides a logical factor analysis framework for measuring platform performance (Abuhassna et al., 2020). Thus, a model with two sets of attributes (online film quality-based attributes and platform quality-based attributes) to examine audience experience, satisfaction, and loyalty was conceptualised in this thesis.

2.1.5 Conceptual framework linking supply chain management theory and attribution theory in consumer behaviour research

The existing approach to combined analysis of supply chain management performance and consumer behaviour research highlights the integration of marketing and supply chain management (Mollenkopf et al., 2000; Esper et al., 2010; Frankel & Mollenkopf, 2015; Esper & Peinkofer, 2017). The reason for integrating supply chain management and marketing is that

both supply chain management and marketing research are aimed at logistics decisions, demand information, and supply chain operations (Frankel & Mollenkopf, 2015; Esper & Peinkofer, 2017). Both supply chain management and marketing disciplines could investigate value creation in the provision of consumer studies directly, indirectly, and conceptually (Piercy, 2007). Esper et al. (2010) proposed a concept of demand and supply integration which defined supply chain management and marketing integration as the process of sharing market information and business intelligence with strategic marketing management activities to bring customer value. This definition made the combination of supply chain management and marketing a suitable conceptualisation with the idea of the theoretical tradition of knowledge management and also expanded more theoretical discussions to the integration dialogue of supply chain management and marketing (Nonaka & Takeuchi, 2007; Esper et al., 2010; Stolze et al., 2015). Traditionally, one of the limitations of academic supply chain management was that scholars usually focused on the retail stage to improve end-consumer satisfaction, but the effectiveness of the whole supply chain did not receive much attention (Williams & Waller 2010; Mahar et al., 2014). In summary, supply chain research should be expanded to effectively investigate all of a supply chain's components from an internal process orientation perspective. Consumer perspective outcome variables have been shown to be important and relevant indicators for measuring supply chain performance from a perspective external to the whole supply chain operation (Esper & Peinkofer, 2017).

To address the theoretical and conceptual issues in the supply chain management and marketing fields, combining the two theories discussed in the literature review, some initial connections have been made between attribution theory and supply chain studies (Kainuma & Tawara, 2006; Thomas et al., 2014; Gligor et al., 2019). Gligor et al. (2019) conducted a systematic literature review by analysing twelve of the top supply chain management and marketing and management journals to glean theoretical insights into marketing research within the supply chain management field. Gligor et al. (2019) found that attribution theory was frequently used in marketing and management research but seldom used in supply chain management research. They also stated that one of the future directions should be exploring more domains, such as psychology, sociology, and other domains. Thomas et al. (2014) used a mixed method to test the relationship between time pressure and retail supply chain performance by applying attribution theory and found that retailers preferred to modify suppliers' schedules rather than disappoint consumers' needs. Kainuma and Tawara (2006) proposed the use of multiple-

attribute utility theory to evaluate supply chain performance from both managerial and environmental perspectives and proposed a conceptual framework for green supply chain evaluation. The multiple-attribute structure was constructed from three attributes: life cycle assessment from an environmental perspective and return on assets and customer satisfaction from a managerial perspective (Kainuma & Tawara, 2006). Timmer and Kaufmann (2019) applied attribution theory in their marketing research to investigate the relationship between dark personality traits and firm coping success, combined with supplier responsibility attribution, managerial processes, and firm coping actions. Timmer and Kaufmann's (2019) study is a typical example of the combination of supply chain management theory and attribution theory, a conceptual process model, mixed-methods research, and new thinking into the integration of supply chain management and marketing in cross-discipline research. Similarly, Szabo and Webster (2021) conducted multiple-methods research in applying attribution theory to assessing ethical attribution effects on consumer behaviours. Szabo and Webster (2021) also proposed a conceptual framework for a greenwashing model to examine the relationship between greenwashing and consumers' product and environmental perceptions and the relationship between consumers' attitudes and website interactions. Green attributes of products play an important role in both conceptual model establishment and relationship testing (Szabo & Webster, 2021). Belanche et al. (2021) explored customers' attributions about frontline robots' service in tourism and hospitality based on attribution theory. They examined two attributes, service enhancement and cost reduction, and two outcome variables of customers' decisions, intention to use and intention to recommend. Structural equation modelling was used in the data analysis, and the results showed that two designed attributes had a mediation effect between affinity towards the robot and consumer behavioural intentions (Belanche et al., 2021). Safeer et al. (2021) conducted research on the influence of multidimensional audience experiences on brand authenticity and brand love from the consumer perspective in 13 countries. In Safeer et al. (2021)'s research, consumer behaviours were expanded in broader senses, such as behavioural experience, intellectual experience, affective experience, and sensory experience. Following attribution theory, Safeer et al. (2021) defined authenticity with quality commitment, heritage, and sincerity as the causes of the positive outcomes of audience experience and consequent brand love. Safeer et al. (2021) employed partial least squares structural equation modelling (PLS-SEM) in the data analysis because PLS-SEM allowed the researchers to control a process model with many concepts and has been commonly used in the causal predictive method (Hair et al., 2019; Sarstedt et al.,

2021). Safeer et al. (2021) detected a mediation role of brand authenticity between audience experience and brand love.

In sum of the newest research in the supply chain management and marketing field, the attribution theory was adopted in many academic research papers especially when it involved casual prediction articles. A conceptual framework has commonly been established in supply chain management and marketing research because it shows the processes clearly and the process map consequently reflects the supply chain management variables and marketing attribution variables in detail. Mixed-methods research designs have been broadly applied to the supply chain and marketing cross-discipline field. Interviews and content analysis have been the main approaches to the qualitative phase of such research, while SEM has been popular for the quantitative phase. A clear conceptual framework can show the flows or loops in marketing research within the supply chain management field, and mixed research methods can answer complex research questions through two-phase study designs and multiple model constructs. Thus, an effective way to combine supply chain management and marketing research by adopting supply chain management theory and attribution theory, designing a conceptual framework, applying mixed research methods, and examining consumer perspective outcome variables to provides fundamental ideas for the structure of this thesis.

2.2 Cultural industry background

The term ‘cultural industry’ is difficult to define if ‘culture’ is defined in the broadest anthropological way as the ‘whole way of life’ (Williams, 1981; Hesmondhalgh, 2008). It is meaningless to define ‘cultural industry’ in such a way because, by the broadest definition of ‘culture’, all industries are cultural industries in that they are all involved in the production, distribution, and consumption of culture (Hesmondhalgh, 2008). Therefore, the term ‘culture’ in this thesis is defined as specific types of cultural attributions such as music, books, and film.

However, such a broad and abstract definition fails to capture the differences between cultural industries and other industries. Thus, a meaningful definition of ‘cultural industries’ would be institutions (both profit-making companies and non-profit organisations) that are directly

involved in the production of social meaning (Hesmondhalgh, 2008). To make the definition more detailed, a cultural industry is an economic field that provides cultural goods and services on industry terms but also engages in cultural development. The film industry is a typical cultural industry that has been studied in academic research.

Nearly all commentators accept that cultural industries have undergone a remarkable transformation since the early 1980s. The term 'cultural industries' was first used by the Greater London Council (GLC) in the 1980s. The GLC emphasised two important points: 1) cultural industries can create wealth and employment by existing outside of public funding areas, and 2) the consumption of cultural products is not related to public funding systems (O'Connor, 2000).

Cultural industries thus have both economic and cultural characteristics, and the difficulty in defining the term reflects the strong link between their economic and cultural properties (O'Connor, 2000). Hesmondhalgh (2008) defined core cultural industries as those that deal primarily with the industrial production and circulation of texts that are notable more for their significance than their functionality and are created mainly with a communicative goal in mind (Hesmondhalgh, 2008). The core cultural industries identified are the following:

- Broadcasting
- Film industries
- The content aspects of the internet industry
- Music industries
- Print and electronic publishing
- Video and computer games or digital games
- Advertising and marketing

All of these core cultural industries have their unique dynamics, but the interaction and interconnection between these cultural industries are also among their important characteristics because the competition for resources is a shared characteristic of cultural industries from a primary artefact symbol perspective (Hesmondhalgh, 2008; Fan & Xue, 2018). However, interaction and interconnection are two important functions that help industries to upgrade, and

the potential for upgrading is one of the latent characteristics of cultural industries. Hence, the definition of the term 'cultural industries' is changing because their cultural and economic properties are constantly developing.

The cultural industries were the activities relating to symbolic goods and creating commercial value from their original cultural value (O'Connor, 2000). O'Connor (2000) stated the 'classical' definition of cultural industries emphasised the 'value' of culture which made the 'value' and 'benefit' of culture has been defined as the major theme constantly creating commercial 'value'. However, O'Connor (2000) argued the 'classical' definition of cultural industries should be changed because the form of products was changing from symbolic goods to symbolic meaning; advertising and marketing were involved in the cultural economy; new media was cutting the edge of cultural sections; and a large scale of manufacture or other forms of industries were connecting to cultural sectors to create linkages with cultural industries. Lawrence and Phillips (2002) also stated that the cultural industries were the cultural products and services which could create value from their 'meaning'. Consequently, managing cultural industries was not only focusing on the efficiency of producing products or services that could sell meaning but also creating value that could satisfy consumers in the long term from a symbolic aspect (Lawrence & Phillips, 2002). Peltoniemi (2015) did a review of 314 cultural industries studies during the year 2005 to the year 2015 and stated that the cultural industries were producing creative element experience goods to consumers through mass distribution. The creative elements aimed to provide entertainment, build identity, and serve social display; and mass distribution was related to economies of scale (Peltoniemi, 2015). In detail, Hesmondhalgh and Baker (2011) provided three academic disciplines which were the political economy of culture, business and management studies on cultural products, and cultural-social phenomenon. Peltoniemi (2015) analysed 324 empirical cultural industries studies and found it was extremely difficult to predict the cultural industries' performance from a consumer demand perspective because the consumer tastes might be unknown, the information about the cultural product might not reach consumers, and the complex supply chain might influence the outcomes.

Nowadays, another important academic area has been stated was the digitalisation implications in cultural industries (Bourreau et al, 2012). The power of the internet and digital distributions

created a new corporation style among participants and offered new channels to reach the consumer directly (Chaney, 2012). However, previous empirical studies found that digital distribution brought a beneficial impact on specialised styles but in a slight way (e.g. Karniouchain, 2011; Weeds, 2012; Peltoniemi, 2015). It was no doubt that digital distribution expanded market access but digital cultural products still needed to solve problems such as consumer fulfilment, ownership, sensation marketing, cost of products, and other digital-related issues (Chaney, 2010; Sørensen, 2012). Consequently, the quality of digital cultural products became a problematic concept (Peltoniemi, 2015). However, early studies focused on the relationship between popularity and quality (Hamlen, 1994; Holbrook & Addis 2008), quality and sales (Basuroy et al., 2006; Elberse & Anand, 2007), symbol project quality and management (Wei, 2012). There was limited academic research exploring the relationships between digital cultural product quality, content quality, the complexity of production processes, and the uncertainty in consumer satisfaction (Peltoniemi, 2015). The newest cultural industry studies began to focus on digital platform practices (Duffy et al., 2019; Landoni et al., 2020; Nieborg et al., 2020; Poell et al., 2021). The study of platforms within the cultural product context remained an uncertain academic field particularly the under-explored relationship between consumer and cultural products (Poell et al., 2021). Poell et al. (2019) defined the platform as a data exchange infrastructure that allows data interaction, fusion, transmission, and monetisation between end-users and content providers. Duffy et al. (2019) highlighted the importance of exploring the platform practices of the cultural industries that were platforms enabled new business modes, shifted the creative labour markets, and created a platform economy. Thus, academic research on digital platforms within cultural products needed a deeper investigation since platforms tended to become central nodes in cultural industries based on mutual dependency (Duffy et al., 2019; Nieborg et al., 2020). Therefore, the cultural products and services that could create value from their ‘meaning’ and could sell meaning but create value that could satisfy consumers in the long term from a symbolic aspect was a chosen definition of cultural industries in this thesis.

2.3 Film industry background

The film industry is one of the important foundational forms of the cultural industries (Hesmondhalgh, 2008). In terms of cultural properties, the film industry encompasses a complete industrial chain of production, distribution, exhibition, and derivative marketing

(Eliashberg et al., 2006; Weinberg, 2006). The film industry is one of the core and typical cultural industries, according to David Hesmondhalgh (2008)'s definition. The film industry also illustrates the concept of a cultural industry having both a cultural character and an economic purpose. The US film industry is the most symbolic worldwide. According to a Motion Picture Association (MPA) report, the American film and television industry paid out \$188 billion (approximately 153 billion GBP) in total wages, supported 2.5 million jobs, and released 835 films in the US and Canada and 711 non-MPA affiliated independent films in 2019 (MPA, 2019). The example of the US film industry data for 2019 can be considered a prism through which to view the film industry's cultural and economic aspects. The 2019 MPA report also showed that the main focus of the US film industry is the economic contribution of the industry, including the film box office revenue, film products, job support, and cooperation with other industries (Larson & Gobeli 1988; Hertenstein & Platt 2000; Young et al., 2009).

2.3.1 Film industry development and supply chain

The film industry has developed over more than one hundred years and has been dominated by major Hollywood studios (Kerrigan, 2009; Bartosiewicz & Orankiewicz, 2020). Motion pictures, like products of the plastic arts, are visual composition projects (Deren, 1946). As Deren (1946) explained, a motion picture is a project with a two-dimensional surface that can be combined with dance, theatre, music, poetry, literature, and other elements, and the combination can be concrete or abstract. Cinema has been defined as the art of moving images—a visual medium that tells stories and exposes reality (Bazin, 1967). This definition of films could be considered outmoded because the industry has changed considerably over the past hundred years. However, the traditional description of film reflects its cultural character as an artistic product that can transfer value to the audience in exchange for not only the ticket price but also the consumers' time. Traditional theatre films occupy audiences for the time required to watch film projects completely in specific venues.

A traditional film industry project develops in four decision stages (Young et al. 2009). The first stage is script development. This stage begins with an idea, piece of literature, or event that can be the basis for a complete screenplay draft (Squire, 2004; Vogel, 2020). Studios or producers then either use the original version or write a new script based on the basic idea for

use in the filmmaking process. Once the script is accepted and the copyright is negotiated through a studio contract, the project enters the studio's production process (Eliashberg et al., 2006), which may last two years or more, although typically only approximately 10 per cent of the script is eventually used in the final film (Amram, 2003). The negotiation process differs depending on the film type; independent film projects need less studio power in the script-writing stage than Hollywood-produced films (Bloore, 2009). The second decision stage is film production. This phase takes approximately one and a half years to complete (Gong et al., 2011). This decision stage includes film production and post-production processes that encompass producing activities and the entire film editing process. This stage is time-consuming because it sets the foundation for the next two stages and is the final opportunity to control the film's quality. The third decision stage is the release of the film in theatres or to home video. This stage is important for marketers because the release time and channels are important to the film's financial performance. The final decision stage is the comparison of opening box office receipts and tracking information (Gong et al., 2011). The main reason for checking the opening box office receipts is that the opening box office revenue directly reflects the number of people who came to the theatres to watch the film, since all future downstream financial deals, such as video, internet copyrights, and television rights, are hysteretic in nature, and the final box office performance can be influenced by the downstream sales (Amram 2003; Epstein 2005). Various factors influence the film's final box office performance to different degrees in the four different decision stages. Thus, a chain concept is naturally reflected in the film industry.

The sequence of decision stages for a film project can be represented by a 'supply chain' for the film industry—a concept that is well-accepted in academic research (Litman, 1983; Porter, 1985; Eliashberg & Shugan, 1997; Eliashberg et al., 2006; Bloore, 2009; Gong et al., 2011; Porter, 2011). The film industry supply chain has been studied in different marketing, management, creative, and cultural industries and other disciplines because of its substantial ROI (return on investment) and abundance of data. Thus, the film industry supply chain has been a model requiring a standard definition to be used in both academic research and practice. Eliashberg et al. (2006) discussed film industry research and practice and identified future directions toward a more mature film industry supply chain that can be used in film industry studies based on American studio films. The traditional film supply chain system consists of three components: production, distribution, and exhibition (Eliashberg et al., 2006; Weinberg,

2006). The film industry combines creative management, economic implications, and human resource management. The involvement of many players in different stages of the supply chain makes management of the chain difficult (Eliashberg et al., 2006). The traditional theatrical motion picture supply chain system was accepted globally, and there has been considerable academic research on every stage of the industry's supply chain system over the last three decades (Litman, 1983; Porter, 1985; Eliashberg & Shugan, 1997; Eliashberg et al., 2006; Bloore, 2009; Porter, 2011). The consumption stage can also provide feedback that can influence the production, distribution, and exhibition stages.

In contrast, the term 'supply chain' is suitable for the whole film industry rather than a single film project decision-making stage. American studios, especially the Hollywood majors, define the film supply chain system in terms of four functions: financing, producing, distributing, and advertising (Squire, 2004; Kerrigan, 2009; Vogel, 2020). However, Eliashberg et al. (2006) divided the film industry supply chain into three components—production, distribution, and exhibition. The production–distribution–exhibition supply chain description is a widely accepted framework in theatrical film industry supply chain studies. However, this framework is based on the American film industry. Some scholars have noted that changes to this supply chain framework are needed to reflect differences by film type (e.g. independent films versus major studio films) and geographic location (e.g. film industries in other countries versus Hollywood). These differences are mentioned in this thesis to show how the supply chain system can be influenced by different factors at different stages (Bloore, 2009; Kerrigan, 2009; Gong et al., 2011; Porter, 2011). Based on the literature, a proposed supply chain for the film industry is from production to consumption through distribution and exhibition sequentially.

2.3.2 Production

Based on the three-component description of the film industry supply chain Eliashberg et al. (2006), the first stage is the production stage, which begins with an idea, piece of literature, or event that can be used as the basis for a complete screenplay draft (Squire, 2004; Vogel, 2020). Studios or producers then either use the original or write a new script based on the basic idea for use in the filmmaking process. At this point, substantial financing begins to support the early steps in filmmaking by paying writers' fees and paying for copyright. Once the script is

accepted and the copyright is negotiated through a studio contract (usually addressing a wide range of related rights), the project enters the studio's production process, during which negotiations begin concerning distribution and exhibition agreements (Eliashberg et al., 2006). However, producers who do not have an agreement with a studio must find funding by themselves, and it might be difficult to find proper distributors without a studio guarantee, although the producers might eventually receive more profit in this situation (Vogel, 2020). Using independent film production as an example, the stage can be divided into substages of development, financing & pre-sales, production: shoot & post, and international sales and licensing (Bloore, 2009). The main players involved in the production stage are the *screenplay writer, producer, talent agent, talent manager, director, script editor, development financier, production company, national broadcasters, national distributor, national finance, equity financiers, cameraman, crew, editor and staff, financiers in general, studio, support services, and facilities* (Bloore, 2009). The traditional theatre film industry production chain stage emphasises studio power by controlling the financial support and crew management, which is also true of the Hollywood blockbuster business model. However, the independent film production stage is more complicated because the participants are often associated with multiple studios rather than a single studio (Eliashberg et al., 2006; Bloore, 2009). The major Hollywood film companies control the whole chain system from the production stage through investment and management. The traditional Hollywood majors focus on financing and producing at the production stage, but in the past few decades, the Hollywood majors have begun to expand their profits in television programming, home video, multimedia, theme parks, and merchandising (Litman, 2001; Scott, 2002). Hence, technology upgrades and multi-platform combinations have played important roles in the evolution of the film industry.

The production system has changed somewhat in Hollywood in that two distinct functional groups have emerged: the Hollywood majors and the mass of independent production companies (Scott, 2002). The Hollywood majors are not pure production companies but rather cross-national and entertainment conglomerates (Litman, 2001). The majors now have a diversity of entertainment-relevant subsidiaries that operate with the same ownership and oversee different segments of media and entertainment projects (Scott, 2002). For example,

'The Walt Disney Company, together with its subsidiaries and affiliates, is a leading diversified international family entertainment and media enterprise that includes Disney Parks,

Experiences and Products; Disney Media & Entertainment Distribution; and three content groups—Studios, General Entertainment and Sports—focused on developing and producing content for DTC, theatrical and linear platforms’. (Source: The Walt Disney Company Official Website: <https://thewaltdisneycompany.com/about/#our-businesses>)

This statement on The Walt Disney Company’s website is an example of the Hollywood majors’ corporate ownership relations. However, the US’s Hollywood film production pattern does not represent the production stage for all film industries because of differences in geography, financial resources, policies, and other factors among film industries around the world.

Another successful film industry example known around the world is the Bollywood film industry, which has also received both academic and practice attention. The Indian film industry is known as ‘Bollywood’ because it was originally based in Bombay. According to MPA *Theatrical Market Statistics 2016*, India ranked third among international box office markets in 2016, reaching \$1.9 billion (approximately 1.45 billion GBP). India has the largest film industry in the world, making nearly one thousand feature films and nearly fifteen hundred short films every year (CBFC, 2016). Bollywood film production has commercially successful high-budget films produced according to the same strategies as those of the Hollywood film industry. However, Bollywood films are typically produced by a different system of complex collaboration of independent producers, whereas the Hollywood film industry is controlled by a limited number of major players, such as *News Corp, Walt Disney, Viacom, Time Warner, NBC Universal, and Sony* (Lorenzen & Täube, 2008). Except for its big-budget productions, Bollywood’s film production pattern is totally different from that of Hollywood because small and specialised film-producing companies form alliances that can achieve new modes of finance, better planning, and lower costs (Lorenzen & Täube, 2008). These alliances among companies weaken the control of the main studios and permit those companies to do their jobs independently and effectively. Empirical evidence suggests that social networks, clusters, and connectivity have been important factors in the evolution of the Bollywood film industry (Lorenzen & Täube, 2008; Lorenzen & Mudambi, 2013). Social networks are important in the Bollywood film industry because alliances exist among the whole supply chain, and short-path social networks can produce clusters of film producers, directors, and actors (Lorenzen & Täube, 2008; Lorenzen & Mudambi, 2013). The moderating effect of political regulation was

an external precondition for the Bollywood film industry's evolution because it allowed new types of private investments in producers, distributors, and social networks (Lorenzen & Täube, 2008). Bollywood film industry productions also reflect the local culture, highlighting India's national identity, light-hearted humour, and tourism destinations, making the Bollywood film industry a national symbol (Hudson & Ritchie, 2006; Matusitz & Payano, 2011). Matusitz and Payano (2011) stated that the Bollywood film industry had a positive impact on India's national identity and Hindi traditional lifestyle through 'music-oriented' films and popular music-and-dance sequences that successfully portray 'Indianness'. Hudson and Ritchie (2006) concluded that films can increase tourism awareness and shape destination images better than traditional marketing efforts. Thus, Bollywood films contribute to Indian tourism through various film genres, contents, locations, and icons that in turn contribute to the cross-cultural and socio-economic Bollywood phenomenon.

Another country in the Pacific region whose film industry has played an important role in the globalisation process is South Korea. The trend of worldwide consumption of entertainment products from South Korea is referred to as the *Korean Wave* (Ryoo, 2008; Kerrigan, 2009). The development of high-speed internet and information technology has provided a worldwide channel for the spread of cultural products and services, which benefits the South Korean cultural market because South Korean entertainment products (e.g. drama serials, movies, pop music, and online video games) are consumed worldwide (Ryoo, 2008). In the late 1980s, with Hollywood films dominating the film industry worldwide, the South Korean government began to support the South Korean film industry and other production industries by opening film schools, training filmmakers, and using next-generation media technologies (Shim, 2002; Ryoo, 2005; Ryoo, 2008). Thus, integration and government intervention were highlighted by scholars studying the South Korean film industry (Nooteboom, 2007; Parc, 2017; Parc, 2018; Parc, 2021). Government intervention in the South Korean film industry can be divided into three periods: the 1960s to 1970s, the 1980s to 1990s, and the 2000s to the present (Parc, 2021). During the first period, strict requirements for film production made filmmaking less attractive and hindered the film industry. After the failure of the first period of intervention, the role of the government in film-producing patterns began to decrease in the second period, and the film industry developed a business-driven structure, with more investments in domestic South Korean film productions. In the third period, the major South Korean film studios effectively utilised vertical integration in the film industry to form strong relationships among film

producers, distributors, and cinema chains and expanded the South Korean film industry internationally. The three distinct periods clearly demonstrate the freedom of film production and the important role of participants' relationships in promoting the South Korean film industry as an international *Korean Wave*.

2.3.3 Distribution

The distribution stage has two main components: the physical distribution of film prints to theatres and related marketing activities (Eliashberg et al., 2006). A key performance metric for distributors is the gross box office receipts during all of the release windows, including theatre, home video, and pay television. According to Eliashberg (2006), the blockbuster film business model plays an important role in box office performance, especially in Hollywood film distribution practice. Eliashberg (2006) also found that high advertising budgets for film releases are popular with film distributors and that media vehicles are the main choice for film distribution. Another important factor in film release is timing, which has become an important strategic decision for marketers, as the gap between theatrical and nontheatrical windows can influence the film's total profit. Digital technology is a continuous impact factor in film distribution (Eliashberg et al., 2006; Bloore, 2009). In the distribution stage, the main players are *distributors* (in the US studio system, local and national distributors are often owned by the studio, and marketing control is retained), *rights holders*, and *merchandisers of 'spin-off' secondary products* (Bloore, 2009). In the production stage, US studios pay to acquire copyrights from screenplay writers, so the studios' power almost encompasses the distribution stage and the related profit. However, Eliashberg (2006) only considered digital technology to play a support role in helping distributors to lower costs using digital formats and promotion methods. Both the Hollywood majors and the mass of independent production companies have continued to extend their global market share through more distribution divisions (Scott, 2002).

Hollywood distributors can also be divided into two groups: the majors and the independents (Scott, 2002). As in the Hollywood major production stage, the majors traditionally concentrate on the theatrical distribution of film projects, and the majors have their own distribution corporations (Adams & Brock, 2001). For example, the Walt Disney Company (USA) has Buena Vista Pictures Distribution, the Sony Corporation (Japan) has Columbia Tristar Film

Distribution, and Metro-Goldwyn-Mayer, Inc., has MGM Distribution Co. (Sources: Various directories, reports, and websites). However, over the last few decades, the majors have begun to expand their revenue through television programming, home video, multimedia, theme parks, merchandising, and other specialised divisions with larger multinational media and entertainment conglomerates (Adams & Brock, 2001; Scott, 2002). Thus, for Hollywood majors, vertical control over the distribution of film projects is the same as in the production stage. However, although the power of the Hollywood majors has had a continuous impact on the distribution stage, the independent segment of the Hollywood film industry has flourished (Scott, 2002; Bloore, 2009). Since the production stage involves independent filmmakers and financial support, independent distributors have begun to influence the distribution stage of the Hollywood film industry (Prince, 2002). Independent films cater to different types of demands from the audience, so independent film products include consumer-demand-driven products such as art films, documentaries, commercial television films, and all types of film genres (Scott, 2002). Therefore, independent film productions are distributed by independent distribution companies with specialised market niches (Scott, 2002).

The reasons for the changes in Hollywood film industry distribution in response to the increasing role of independent distributors include risk-sharing, diversification of market offerings, market opportunities, and changes in film production technologies (Scott, 2002; Hirsch, 2018).

The shift in distribution influence from the Hollywood majors to independents has a parallel in Bollywood film distribution patterns, which emphasise horizontal integration in distribution and finance firms and alliances between incumbent production firms and the aforementioned firms (Lorenzen & Täube, 2008). However, the particular social network within Bollywood and the cluster's external environment are two main factors driving the industry's evolution (Lorenzen & Täube, 2008; Bloore, 2009). The changes in horizontal integration downstream of the supply chain have positive impacts on film revenues and exports, especially when some firms enter the Bollywood market by distributing film projects and financially supporting the industry to achieve economies of scale by accessing new distribution channels such as video platforms and social media (Lorenzen & Täube, 2008). Thus, specialised companies have entered the Bollywood film industry distribution stage and have taken advantage of alliances

to decrease the costs of distributing and promoting films and sharing the risks of distribution and finance.

The distribution of Chinese films differs in some respects from Hollywood and Bollywood distribution practices. As of the end of 2010, China was the world's third-largest film producer, behind India and the United States (Su, 2014). In 1953, based on the government-planned economy and state ownership model, all film distribution in China was controlled by 16 state-owned film studios established as non-profit institutions, which made film distribution a vertical management system from the central government to local administrations (Su, 2014). This situation continued until the economic reforms of the 1980s, when China's film industry began to undergo huge changes as film studios began to make their own profits and government subsidies were limited government (Su, 2014; Kelly, 2019). By the mid-1980s, the dominance of state-run enterprises was waning as non-state enterprises developed and policymakers tended increasingly to encourage economic development (Zhu, 2002). The period between 1984 and 1988 was a turning point for China's overall economic reform. Under the planned economic system, the state-controlled China Film Corporation (CFC) had been the central distributor of films, had controlled all of the studios in China, and had paid for film printing and promotion. Studios were required to turn over box office revenues to the CFC and share the profits (Zhu, 2002). The distribution–exhibition reform in the first half of the 1980s allowed local distributors to pay extra money to have more film prints, share more profits, and have more financial responsibilities. This reform was the policy basis for the future development of the Chinese film market. A department called the Film Bureau began to manage state-level film issues with the Ministry of Culture and the Ministry of Radio, Film, & Television (RFT). In 1994, the Film Administrative Bureau, under the Ministry of RFT, began planning to import foreign blockbusters. This was an important turning point for China's film industry, especially the film distribution stage (Su, 2014). However, the reforms in the early 1990s did not make a huge change to China's film market because the overall box office revenue remained slim, and the audience numbers decreased. The main reasons for the low revenues and attendance were ineffective production, financial problems, and the lack of innovation in advancing from the previous planned economic system. Overall, the time before the early 1990s was a dark time for the Chinese film industry. The industry began to recover in the mid-1990s for two reasons: the external influence of the Hollywood film business model and internal policy change. First, Hollywood's blockbuster practice provided a model of a more profitable and attractive film

industry practice worldwide, at the same time that financial problems were among the core problems for China's film market. In 1995, four Chinese films developed on the high-cost Hollywood model were released in the Chinese film market— *In the Heat of the Sun* (Jiang Wen), *The King of Lanling* (Hu Xuehua), *Red Cherry* (Ye Daying), and *Shanghai Triad* (Zhang Yimou)—with a budget of more than 10 million yuan (approximately 0.95 million GBP) (Zhu, 2002). Also in 1995, the Ministry of RFT changed its licensing policy to encourage investors outside the film industry to coproduce film products. This policy change made China a dynamic market for film imports. Finally, the Chinese film market began to make changes to cater to various demands from audiences, compete with film imports, and take advantage of policy changes.

Another important time point for China's film industry was 2001, when China's accession to the WTO formally allowed foreign investment in China's video distribution market, with strict supervision by the Chinese government (Su, 2014; Yang et al., 2023). In 2005, Hollywood's seven major studios established offices in China, and the China Film Group began to work with foreign institutions to expand funding and investment in China's film market, although only Chinese state-owned companies could enter into joint ventures (Su, 2014). In 2010, the WTO completed three years of hearings and appeals and finally ruled that the Chinese government should end the strict supervision of foreign film imports according to international trade rules (Su, 2014; Kelly, 2019). At that point, Hollywood was allowed to participate in both film production linkage and distribution linkage. Thus, foreign financial support became a part of the distribution stage of the film industry in China (Su, 2014; Kelly, 2019).

With the development of cyber technologies, licensed internet content providers began to supply on-demand films as another form of distribution of film products (Feng, 2017). However, copyright, privacy, and censorship regulations and other internet-related issues remain points of conflict between filmmakers and online distributors because of changes in the terms of control over film content and dissemination as online distribution channels have entered the film market (Feng, 2017). In the internet era, China's new media industry has developed rapidly by promoting mobile films and online films, which has influenced the traditional Chinese film industry by affecting the production process, diversifying distribution channels, and expanding the industrial supply chain (Mengyang, 2019). Therefore, the

distribution patterns of China's film industry have evolved with changes in internet-based digital technology, audience demands, and film-watching behaviour.

2.3.4 Exhibition

Theatrical exhibition of films is intended to deliver value to the audience with everything provided in a theatre and to recruit new audiences who have never come into a theatre (Daniels et al., 1998). Theatrical exhibition is a combination of theatre facilities management, advertising, media attention, marketing communication, and advanced technology support (Eliashberg et al., 2006). Although studios experienced growth with multiplexes (facilities with 8 to 15 screens) and megaplexes (those with more than 16 screens), the future trends of large-screen digital home theatres, cell phones, streaming services, and other digital channels pose great challenges for theatrical film exhibitions (Usai, 2019).

In summary, the traditional theatrical film industry supply chain accepted worldwide is based on the experience of the American studio industry in production, distribution, and exhibition to consumers (Eliashberg et al., 2006).

However, the different types of film projects and geographical differences can change the details of the supply chain. For example, Bloore (2009)'s research on independent films proposed an independent film supply chain of development, financing & pre-sales, production (shoot & post), international sales and licensing, international distribution, exhibition & exploitation, and consumption. Bloore (2009) divided the supply chain into seven stages and identified the players and their activities in each stage. The main players in the development stage are screenplay writers, producers, talent agents, talent managers, directors, script editors, and financiers. Producers, directors, broadcasters, distributors, and financiers are the main players in the financing & pre-sales stage. These two main groups of people are different in independent film projects. Compared with the film supply chain based on the Hollywood film industry, the independent film industry supply chain map reflects both American and Western European filmmaking approaches. Some of the players have roles at multiple positions in the supply chain. For example, producers have roles in four stages, from *Development* to

International Sales and Licensing, rather than only in the production stage in Eliashberg's study. The main reason for these two different supply chains is the difference in financial support resources between American studio films and independent films (Bloore, 2009; Feng, 2017; Mengyang, 2019). An independent film can have more than one source of production financing, and producers share the investment risk (Davies & Wistreich, 2007). As a result, different types of films may have different supply chains, and a specific supply chain may be just a snapshot of one time point in history because of film industry development, film product evolution, and other market changes.

Although Bloore (2009)'s research mentioned that future changes to the film supply chain would include the expected growth of internet downloads and video-on-demand as a result of digital technology and convergence, there is a literature gap concerning the supply chain models for online films. The niche market accessible via web sales and internet-based retail aggregators calls into question the supply chain models described in the existing film market literature. An emerging digital platform within cultural industry supply chain and marketing impact attributes should be added to today's film industry map.

2.4 Digitalisation of film industry

The literature on the film market shows that digital technology plays an important role in film production, distribution, and exhibition. Other digital technology-driven industries, such as the digital music and e-book markets, demonstrate that the digital economy and digital market are evolving. This section summarises the literature on the digital market, digital economy, changing market structure, changing supply chain, and digital-related attributes in the film industry.

Digital production and distribution are changing people's daily lives and the market structures in various industries, especially those of information goods based on digital technology upgrades (Reis et al., 2020). In recent years, the online music industry and bookselling industry have experienced substantial transformations that have attracted the attention of many academic researchers (Brynjolfsson et al., 2003; Bockstedt et al., 2006; Jensen, 2007; George

& Bock, 2011; Järvinen & Karjaluoto, 2015; Reis et al., 2020). Their research efforts have focused on industrial structure transformation, digital business models, the digital economy, digital marketing performance measurement, and other aspects of the new digital era. However, many researchers have adopted a qualitative approach because of the lack of sufficient data. In practice, the digital marketplace has been developing and changing for decades, making it difficult to define a digital business model according to individual business model frameworks beyond the e-business sector (George & Bock, 2011; Bican & Brem, 2020). In academic research, the digital market encompasses a huge range of business activities that make it difficult to describe the digital market structure and virtual supply chain (Bockstedt et al., 2006; Novytska et al., 2021).

The definition of marketing has changed several times to account for the transformation of the digital market. The newest definition approved by the American Marketing Association (AMA) Board of Directors is as follows:

‘Marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners, and society at large’ (AMA, 2013).

Compared to the definition proposed by Huff (1964) which emphasised the physical demand centre, this definition of marketing partially encompasses digital marketing activities. However, the role of digital marketing activities in the supply chain differs from the conventional understanding of marketing. The main differences between digital information-based consumption and traditional consumption are related to pricing and information (technology) (Bockstedt et al., 2006; Jensen, 2007; Bissell, 2020). A digital market, unlike a conventional market, covers a demand surface but does not include a distribution centre because of electronic distribution (George & Bock, 2011). For example, digital music retailers provide music products in three main formats for consumers to select: individual songs, full albums, and customisable compilations (Bockstedt et al., 2006). The music products can be produced by the artists themselves, by the record labels, or by online reproducers, which could be distributors. Second, geography is not an issue for a digital market. For example, Netflix is an

internet-based company that provides consumers around the world with digital products and services. According to Netflix's home page:

'Netflix is a streaming service that allows our customers to watch a wide variety of award-winning TV shows, movies, documentaries, and more on thousands of internet-connected devices. With Netflix, you can enjoy unlimited viewing of our content without having to watch a single commercial. There's always something new to discover, and more TV shows and movies are added every month!' (Netflix, 2018).

Streaming services emphasise the usefulness of internet-connected devices, and consumers can use these services anywhere, anytime, on thousands of devices. Streaming services solved the geographical problem, especially the information goods distribution pattern.

Digital technologies and the internet have reshaped some traditional industries' market structures and supply chains (Tariq et al., 2022). This is especially true of the digitalisation of information-based goods and might induce a significant restructuring of information-based markets (Zhu, 2001; Tariq et al., 2022). The digital revolution has also shaken markets by offering greater price transparency (Wind & Mahajan, 2002; Tariq et al., 2022). Digitalisation has thus brought about investment, multiple channels, and other information-based benefits to both the film industry and consumers. Digital technology is not merely a factor that can influence the film production, distribution, and exhibition stages but also a fusion of digitalisation and the film industry. However, the digital film industry or online film industry has geographical differences because of the different characteristics of participants and different policies in different geographic locations. Debates on online film development are still under practice review. Although there is a literature gap in the online film area, parallel studies on information-based markets, such as online bookselling and digital music, illustrate industry changes under the influence of digitalisation (Bockstedt et al., 2006; Im et al., 2020).

The market structure and supply chain of the traditional music industry and digital music industry are different (Bockstedt et al., 2006; Im et al., 2020). The traditional music industry

market structure is based on a triangular relationship between artists, record labels, and producers. Products then move to the manufacturer/distributor and finally to the retailer and consumer (Bockstedt et al, 2006). The traditional music industry supply chain starts with the composition by the artist and proceeds through production and recording, copyright, licensing, marketing and promotion, manufacturing and distribution, inventory and sales, and finally reaches the consumer (Bockstedt et al., 2006; Parc & Kim, 2020). The first three stages of the traditional music industry supply chain and digital music industry supply chain are the same, but the digital music industry supply chain has diminished the contributions of manufacturing and distribution, inventory and sales by increasing the contribution of IP rights enforcement and piracy protection and digital distribution and sales (Clemons et al., 2002; Bockstedt et al., 2006; Parc & Kim, 2020).

The changes in the supply chain and market structure show that digital technology can influence all steps in the supply chain and add some new entities to the market structure. Firstly, the roles of artists and labels in the distribution stage have changed in that the artists themselves can be distributors of their music on digital platforms (Im et al., 2020). Digital technology can change both the product side and consumer side by providing new distribution channels and reshaping online demands (Bockstedt et al., 2006). Artists can be the main producers, without reliance on music labels, by uploading their music on the internet. A new supply link from an intellectual property (IP) rights protection body could be an important tool in protecting IP rights in the digital era. Secondly, IP protection is an issue with digital information-based goods because these goods can be reproduced at nearly zero cost by digital technique support (Im et al., 2020). In addition, digital music can be downloaded by consumers and kept in digital format to make remix versions by users. Thus, a new IP body in the market structure could have an important impact on copyright issues. Thirdly, traditional manufacturing and distribution chains have less power than before, which has also decreased the power of traditional distributors and manufacturers. This phenomenon has produced an emerging competition between music labels and online distributors. There are two main ways for music labels to ease the digital shock: creating service alliances and adding value to music via copyrights and promotions (Clemons et al., 2002). In this ‘newly vulnerable market’, artists are no longer captive ‘customers’ of labels and do not need to pay the labels their copyrights to acquire promotion and services since artists can sell their products online themselves (Clemons et al., 2002). Thus, price transparency might give online distributors a chance to use more marketing

strategies to recruit consumers (Wind & Mahajan, 2002; Parc & Kim, 2020), but low-cost online product piracy creates a problematic situation for distributors without any pricing strengths.

Based on the mentioned digital market literature, digital technology has changed market structures and supply chains in ways that have shaken the core of original business practices and consumer-side market evolution. Potentially positive changes include the following: 1) artists play a more important role in the distribution stage, as the labels, studios, and bookstores lose power; 2) innovation is needed for both artists and agents to suit rapidly-changing markets; 3) consumers can make price comparisons and acquire market information actively; and 4) digital-based markets are trading places with more communication and less information asymmetry than traditional markets. Potentially negative changes include the following: 1) piracy activities have much lower costs than before since internet resources are easier to acquire; 2) artists have more power to distribute their products without agent supervision and help, which could make a market more vulnerable; 3) no product quality guarantees are provided by music labels, studios, or other physical institutions. These potentially positive and negative changes demonstrate that the previous understanding of the motion picture industry in traditional studies (e.g. Eliashberg, 2006; Bloore, 2009) does not reflect the online film era, and this new type of fusion of digital transformation and film industry requires investigation of new formats.

As mentioned previously, the iQIYI company introduced the term ‘China’s online film industry’ in 2014, and this industry has continued to evolve in recent years. According to the iQIYI website (iqiyi.com), four basic standards are recommended for online filmmakers. Firstly, a single online film should be more than 60 minutes. Secondly, the film should be of high production quality. Thirdly, an online film should have a complete film structure and volume. Fourthly, online film products should obey Chinese policy and law. iQIYI also has a policy of encouraging film projects on positive topics and suggests that online films be suitable for different audience age groups. iQIYI has also described a cooperation and turnover rent model which is related to online film rating and film content quality. Traditional film box office revenue has a significant relationship to audiences’ attendance. The indicator for online films is the effective click rate, which plays the same role as audiences’ attendance at screen films.

One effective click means that one paying user pays for one piece of online film and watches this film for a set period of time (usually more than six minutes to avoid mis-clicking and online bot activities). The cooperation models can involve exclusive cooperation or non-exclusive cooperation. Exclusive cooperation means that iQIYI is the only platform to release the film; non-exclusive cooperation means that the film can be seen via other platforms or the whole web. iQIYI has five levels of unit pricing depending on the cooperation model and film content rating (Table 1). However, iQIYI retains the right of final interpretation of rating issues associated with online film content, which makes the platform more powerful than traditional screen film exhibition channels. Another company policy is to encourage exclusive cooperation only for A- and B-rated online films to promote marketing. This cooperation model encourages film producers to promote their film products outside of the iQIYI platform to recruit more audiences through various channels. There are two marketing promotion bonus levels: 0.5 Chinese Yuan (approximately 0.06 GBP) per effective click and 1.0 Chinese Yuan (approximately 0.11 GBP) per effective click. However, the iQIYI company also retains decision power in the case of disputes and retains the right of final interpretation of the promotion level.

Table 1. iQIYI online film rating price (iQIYI, 2018)¹

Cooperation type	Rating	Unit price per effective click ²
Exclusive cooperation	A	2.5 Chinese Yuan (around 0.29 GBP)
	B	2.0 Chinese Yuan (around 0.23 GBP)
	C	2.0 Chinese Yuan (around 0.23 GBP)
Non-exclusive cooperation	D	1.5 Chinese Yuan (around 0.17 GBP)
	E	0.5 Chinese Yuan (around 0.06 GBP)

In summary, the traditional film industry supply chain is widely accepted as consisting of *Production*, *Distribution*, and *Exhibition* components. These three stages of the supply chain have been the basic framework for film supply chain studies, such as studies of the supply

¹ iQIYI, 2018. Rating Price. Available at: <http://www.iqiyi.com/dianying/fgtwqa.html>
This thesis was conducted from the year 2017 to 2023. The updated iQIYI rating price in using was starting from 01/01/2024. Available at:
https://mp.iqiyi.com/role/wangda?from=https%3A%2F%2Fmp.iqiyi.com%2Fwemedia%2Fpublish%2Fvideo%3Fprefer%3Diqiyipcw_homepage_upload_publish_register&showLogin=1&status=-1

² An effective click means the consumer will see the online film for a period of time and pay for the film.

chains of different types of film projects. Analysis of the e-music supply chain offers a clear example of how digital technology's effects on supply chains can be analysed. Digitalisation has reshaped supply chains by introducing new players, some of whom occupy multiple positions in supply chains. Changes in the film industry supply chain have also changed the weights of impact factors and introduced new factors at different stages. Thus, a research gap exists in the digital platform-driven online film industry literature should be filled by combining the findings of the traditional film industry literature and new digital practices.

2.5 Digital platform quality attributes and film quality attributes

This section of the literature review describes the detailed process of model building and the two main categories of attributes: those that influence platform quality and those that influence film quality. The outcome indicators are mainly related to the consumers' experience, satisfaction, and loyalty.

2.5.1 Definition of a digital platform

The term 'platform' in this thesis pertains to a digital business which mainly involves video website-based contexts. Platforms can be defined in various ways by people who have different working backgrounds, but the consensus is that a platform contains a central component and a number of participating components (Tushman & Murmann, 1998). The core centre needs to provide the participants with interfaces to communicate with the core platform and each component (Greenstein, 1998; Boudreau, 2008). The term 'platform' can also be defined as a business ecosystem that involves the support and sharing of products, technologies, and services (Gawer, 2009). In this thesis, the term 'platform' refers to a digital platform. There are three main characteristics of a digital platform that have been identified by scholars (Shapiro & Varian, 1999; Parker & Van Alstyne, 2000; Parker & Van Alstyne, 2005; Eisenman, Parker & Van Alstyne, 2006; Cusumano, 2010; Eisenman, Parker & Van Alstyne, 2011). Firstly, a platform provides a foundation for all firms and can be reused and involved in product innovation. A platform can play a technology system role for all components. Secondly, a pure platform cannot create much value for consumers without the other components. The platform participants are the main value creators, but they cannot transfer value to consumers directly

without the platform. The platform can influence the consumers' willingness to pay (WTP), adoption, and loyalty, which could represent the value of the platform. These two aspects are both related to demand-side economies of scale. Thirdly, with respect to supply-side economies of scale, network effects are important for a platform because they can increase consumers' attention to the platform. Network effects also increase the attractiveness of the platform to developers, and attracting more developers can also increase the number of consumers using the platform, which creates a positive relationship between the platform and the developers. Therefore, a platform in this thesis is one that can be used by a set of components, and its functioning can be changed innovatively by third parties via network effects (Eisenmann, Parker & Van Alstyne, 2006; Boudreau, 2008; Eisenmann, Parker & Van Alstyne, 2011; Subramanian et al., 2021). The ecosystem that a platform creates rarely works alone but rather is contributed to by a set of participants. Thus, in the platform ecosystem, value is exchanged between the platform, participants, and consumers. The platform charges entry fees on both the supplier and demand sides for access rights and provides the connection between participants and consumers.

2.5.2 Platform key themes and roles

In 1964, Huff defined a 'trading area' as 'a geographically delineated region, containing potential customers for whom there exists a probability greater than zero of their purchasing a given class of products or services offered for sale by a particular firm or by a particular agglomeration of firms' (p. 38). Huff's research provided some general ideas about marketing. First, a demand surface and a distribution centre can create a trading area. In the stage of development of the market, marketers need to know the potential customers' needs for products or services. Second, a distribution centre can represent a single firm or an agglomeration of firms, while a demand surface implies a series of demand gradients or zones. Demand gradients' probability values range from zero to one, with a value of one representing a complete monopoly situation. Third, the sum of all individual demands from expected consumers can be considered the distribution centre's total demand surface (Huff, 1964). These three themes constitute a traditional market model. However, differences in both the user demand side and user supply side make the platform business model quite different from the traditional market model (Parker & Van Alstyne, 2012; Rahman & Thelen, 2019). Unlike the traditional market model, the platform business model has a non-linear supply chain and various forms of

products with many cross-dependencies. The three main themes of a platform are 1) market creation, 2) the size and sustainability of the ecosystem, and 3) the ability of the platform to encourage and capture network effects (Parker & Van Alstyne, 2012; Rahman & Thelen, 2019; Subramanian et al., 2021).

In this thesis, the ‘platform’ refers to China’s online film platform, which relies on Chinese network (online) video products. Parallel cultural markets (products) include the music market, video game market, traditional film market, and other culture-related markets. The purpose of using parallel markets to explain the new digital platform is to compare, combine, and conclude the market characteristics of the new platform in a digital era. According to Parker and Van Alstyne (2012), the key themes for a designed platform should address nine aspects: 1) a great platform and product, 2) a working ecosystem, 3) component interaction standards, 4) interaction rules for the various parties, 5) platform governance, 6) a virtuous circle of network effects, 7) open versus closed choice, 8) commoditisation, and 9) creativity and innovation. The players involved in a platform are users on the supply side, users on the demand side, a platform provider, and a platform sponsor (Parker & Van Alstyne, 2012; Subramanian et al., 2021). The fundamental definition of a platform described above can serve as a guideline for platform-related research and as the basis for the **Study 1** interview questions developed in this thesis.

2.5.3 China’s online film platform

China’s film market has developed rapidly in both box office revenue and market size in the Asia Pacific region. In 2013, the box office for all films released in the Asia Pacific region reached \$11.1 billion (approximately 8.47 billion GBP), more than the US/Canada box office of \$10.9 billion (approximately 8.31 billion GBP), and the Asia Pacific region has ranked first in box office revenue since 2013. In 2016, according to data from The State Administration of Press, Publication, Radio, Film, and Television of the People’s Republic of China, China’s film box office revenue reached 45.712 billion Chinese Yuan (approximately 5.143 billion GBP), accounting for more than 45% of the total Asia Pacific box office revenue (approximately 11.341 billion GBP). The same results were stated in the MPAA’s 2016 report as \$6.6 billion (approximately 5.04 billion GBP), mainly because of exchange rate fluctuations. From 2007 to

2014, China's film box office increased by almost 30% per year. The rate of increase from 2014 to 2015 was 48.6%, which drew attention to China's film market as an investment opportunity and a cultural industry development phenomenon. The rate of increase of China's film market box office has slowed since 2015 but has remained positive. Thus, 2014 was a signal year for China's film industry evolution.

Although the digitalisation of developing information products is uncertain in most markets, it has certainly changed industry structures and marketing strategies (Clemons et al., 2002; Subramanian et al., 2021). One of the reasons for the booming market for Chinese films in 2014 is that digital technology and the digital economy played important roles in influencing China's film market structure, supply chain, consumer behaviours, and Web 2.0 provision of advanced digital technology and digital media such as the digital music industry, online streaming services, and online film consumption. Indeed, with the development of digital platforms, some information-based goods such as digital music, e-books, and online videos can be recorded, distributed, and consumed without physical stores (Subramanian et al., 2021). Thus, digitalisation has changed, is changing, and will continue to change the cultural industry market by providing digital-based platforms.

As noted, the year 2014 was an important turning point for China's film market. An important factor in changing China's film distribution has been the decreasing demand for DVD films due to rapid technology upgrades such as streaming services. The same situation exists in the EU, where the number of households with a DVD player was reported in 2016 to have decreased while the number of households with a Blu-ray disc player was reported to have increased, according to the Yearbook 2017/2018 Key Trends (<https://rm.coe.int/yearbook-keytrends-2017-2018-en/16807b567e>). The Web 2.0 generation builds a basic stage of digital transformation. Video websites such as YouTube and streaming service companies such as Netflix are increasingly popular, especially given the time fragmentation of consumers' daily lives.

In 2014, the iQIYI company identified the characteristics of online films as follows: '... the length of an online film is more than 60 minutes, the producing standard reaches a high level,

the online film has [a] complete film structure and volume, the online film complies with laws and regulations, [and the] online film relies on mobile and online distribution...’ (China Online Film Summit, 2014). Before the birth of online films, micro-films were one of the online motion picture resources for both video websites (supply side) and internet users (demand side). However, micro-film has less budget and supervision than online film, which makes it uncompetitive. China’s online film aims to improve public participation and encourage creativity by providing favourable conditions via digital platforms and dramatically increasing demand for visual art products in China. Therefore, China’s online film industry is a combination of film products and digital platforms.

The development of the online film is a process by which a product or service takes root initially in simple applications at the bottom of a market and then moves steadily up the market, eventually displacing established competitors (Christensen et al., 2015). The global film industry pays considerable attention to high budgets, star power, and other marketing strategies to develop ‘blockbusters’ that will achieve high box office performance. However, China’s online film industry seeks to create new types of film products targeted to a large number of video websites’ users and a new type of platform that will expand the value of the film products, in contrast to the traditional film industry’s major players, who only focus on the theatre film development and distribution process.

In summary, the players in China’s online film platforms are the following: 1) users (supply-side): online filmmakers, marketers, and other derivative users; 2) users (demand-side): mainly online film audiences and video platforms’ members; 3) platform providers; and 4) platform sponsors. The key themes for China’s online film platform are similar to those identified by Parker & Van Alstyne (2012), but details concerning the factors affecting platform quality attributes are illustrated based on Web-related quality attributes’ literature.

2.6 Hypotheses development

This section shows the process of model measurements building and hypothesis development. The two attributes in this thesis are platform-related attributes and film-related attributes. Those

two attributes are performance-related attributes measured by quality driven factors from existing literature both theoretically and empirically. The platform-related attributes measurement adopted digital or Web-related evaluation, digital platform quality, and digital market supply chain literature review contents while film-related attributes adopted film studies, film marketing, and film supply chain literature review contents. Finally, the measurement scales and hypothesis development are shown in this section.

2.6.1 Digital platform quality attributes and experience

Platform holders and sponsors invest significant amounts of money in the development of a new digital platform, and the quality of the platform becomes an important aspect of the effectiveness and return on investment in the platform (Park & Gretzel, 2007). Therefore, the attributes that could influence the platform quality were identified based on the existing literature to help design the research model. The existing literature on digital Web-related evaluation has been labelled in many ways, such as Web evaluation, Web quality, e-quality, and other labels. However, the underlying concepts are similar. Therefore, the concept of 'quality' was applied in this thesis to be consistent in the use of the attribution terms. Various studies have investigated e-quality, e-satisfaction, and e-loyalty as outcomes to evaluate Web sites from the consumer's perspective. This part of the literature review focuses primarily on research papers published after 2000.

2.6.1.1 Ease of use

The attribute labelled 'ease of use' can also be described as usability, accessibility, navigability, and logical structure (Rice, 1997; Palmer & Griffith, 1998; Abels et al., 1999; Jeong & Lambert, 1999; Ahuja & Webster, 2001; Donthu, 2001; Jeong & Lambert, 2001; Constantinides, 2004; Hassan & Li, 2005; Yen, 2005; Gao et al., 2018a).

Beginning in the 1990s, some scholars began to use a mixed approach combining questionnaires and focus groups to measure and model latent variables such as emotion, experience, loyalty, and other abstract variables for use in digital Web evaluation (Palmer & Griffith, 1998; Abels et al., 1999; Jeong & Lambert, 1999). In an early example of Web site

evaluation, Rice (1997) used an exploratory questionnaire design with two focus groups to determine the Web-related success attributes that have an impact on design/technical evaluation and the emotional experience of the users. The ease of finding information or content was emphasised as being highly correlated with visitors' emotional connection with a Web site. Ahuja and Webster (2001) used an initial measure of disorientation (conceptually similar to ease of use) based on the literature and input from ten information systems major graduate students to drop and add items to format and layout the measurements. They found that the attribute 'ease of use' was utilised with good reliability in assessing digital Web design from the consumer's perspective. However, the participants in that study were all university students, and thus they did not cover a wide range of ages. Hassan and Li (2005) used a benchmarking approach to develop a framework for evaluating usability and usefulness using content analysis, expert review, objective or subjective measures, and framework tests. The following eight-step Web benchmarking process was used by Ahuja and Webster (2001): 1) identify what to benchmark, 2) determine what to measure, 3) identify whom to benchmark, 4) identify who will benchmark, 5) perform the benchmark, 6) analyse data & determine gaps, 7) redesign, and 8) monitor progress (Chang & Kelly, 1995; Bramham, 1997; Hassan & Li, 2005). This approach combines usability testing, a questionnaire, interviews, and expert reviews to produce better Web evaluation results and assess the strengths and weaknesses of both the Web site and competitors. Hassan and Li (2005) found that usability and content usefulness ranked high in the evaluation of a Web design, and they tested various aspects of usability, including the choice of colour (text, background, and content display area), readability (text and image), and scannability (titles, text, and layout), for use in a model to evaluate a digital platform at the item level. Recently, Eneizan et al. (2020) used a survey with 109 completed questionnaires to investigate the relationship between ease of use and online shopping experience. Ease of use could positively influence consumer attitude towards mobile social software but the relationship between ease of use and experience was not confirmed (Eneizan et al., 2020). Specifically, Li et al. (2020) used three representative Chinese online platforms' (Tianmao Mall, Jingdong Mall, and Suning Easy-to-buy) mobile application data and found that ease of use indicates online shopping efficiency and influences consumer online shopping behaviour patterns. Therefore, ease of use was evaluated as one of the important factors to affect consumer experience in e-commerce retailing and consumer behaviour studies.

In summary, the 'ease of use' factor has been shown to be highly correlated to digital platform quality attribute in both consumer-side studies and expert-side experiments. Subcategories of 'ease of use' include usability, accessibility, and navigability of the digital Web or platforms. Research has shown that ease of use is related to consumers' experience, satisfaction, and loyalty. Various methods have been used for the analysis of this factor. Thus, using mixed methods to take advantage of different approaches for 'ease of use' factor analysis would be an effective way in 'ease of use' factor analysis. Thus, the following hypothesis is proposed:

Hypothesis 1a (H1a): Ease of use has a significant and positive impact on audience experience.

2.6.1.2 Responsiveness

The 'responsiveness' factor has been tested in many research papers and can also be described as the accessibility of service representatives, e-communication service, reply to online reservations, contact information, availability of help functions, and intuitive online help (Weber & Roehl, 1999; Buhalis & Spada, 2000; Lee & Kim, 2002; Yang & Jun, 2002; Law & Wong, 2003; Surjadaja et al., 2003; Kline et al., 2004; Rowley, 2006; Karampela et al., 2020).

Over the past three decades, scholars have tended to use five main dimensions for service quality: reliability, responsibility, assurance, and empathy, collectively referred to as 'SERVQUAL' (Parasuraman et al., 1988). However, SERVQUAL has been criticised by some researchers because it cannot be used for some types of expectations and some types of services (Cronin & Taylor, 1994; Van Dyke, Kappelman & Prybutok, 1997). Cronin and Taylor (1994) observed that perceived service performance (SERVPERF) is a better indicator than SERVQUAL. Johnston (1995) stated that 'responsiveness' ranked high in assessing service quality at an industry level. This finding brought attention to the importance of the 'responsiveness' factor in platform service quality studies related to consumers' expectations.

Yang and Jun (2002) divided users into two groups: internet purchasers and internet non-purchasers. Those two types of consumers can be transformed into each other with the influence of service quality (Yang and Jun, 2002). Responsiveness was selected as one of the

dimensions for internet non-purchasers. The reason for this was that the scholars compared two sets of indicators named SERVQUAL and SERVPERF. Responsiveness was highlighted for the internet non-purchaser group based on consumers' reactions to slow internet speeds, online jams, slow responses from online retailers, slow information retrieval, and delayed responses. However, Yang and Jun (2002) did not find responsiveness to significantly impact service quality. Lee and Kim (2002)'s study of online stock trading sites showed that responsiveness has a positive relationship with consumer satisfaction, which mediates consumer loyalty. Changes in online websites seem to have different degrees of significance to e-quality, which means that the different foundations of the e-service produce different evaluation results.

In an analysis of the e-service literature, Rowley (2006) found that it was difficult to match the dimensions considered in existing studies because of the different approaches used and argued that the 'responsiveness' factor should receive more attention in future research. Yang and Jun (2002) used overall service quality as the dependent variable and used only external negative descriptive factors to measure the overall quality, which made the results weak. Future research should examine the definitions of the dimensions used. A model for digital platform quality should consider both internal and external management factors to shape the evidence and positive influence perspective. Recently, Broekhuizen et al. (2021) stated five dimensions for platform openness which were suppliers, customers, complementary service provider, product categories, and channels. Broekhuizen et al. (2021) emphasised the coordination and cooperation between those five dimensions which also reflected the importance of supply chain management in digital platform area and mentioned that data from user perspective could response to platform changes. Chen et al. (2021) used 425 valid questionnaires to test the relationships between responsiveness, online customer experience, and satisfaction in e-retailing and found that experience played a positive mediation role between responsiveness and customer satisfaction.

In summary, responsiveness has been described similarly in most previous studies as an important factor in e-commerce studies. Although differences in definitions can influence the data analysis results, the basic concept of responsiveness is agreed upon by many scholars. The digital platform quality associated with responsiveness is different from that of a human service agent (Li & Zhao, 2003). Thus, from a conceptual perspective, responsiveness should be

included in a digital platform model related to e-quality measurements (Rowley, 2006). The indicators for measuring responsiveness are usually respondents' expectations and customer experience was a commonly used indicator in online customer behaviour studies. Thus, the following hypothesis is proposed:

Hypothesis 1b (H1b): Responsiveness has a significant and positive impact on audience experience.

2.6.1.3 Privacy

The concept of 'privacy' is often related to the similar concept of 'security' in the literature. 'Privacy' encompasses protecting information, personal information storage, the safety of online purchases, and confidentiality statements (Ranganathan & Ganapathy, 2002; Zeithaml, 2002; Buckley, 2003; Schaffer & Mills, 2004; Collier & Bienstock, 2006; Park & Kim, 2006; Boerman et al., 2021).

The increasing growth in business-to-consumer (B2C) e-commerce is due to the development of digital technology in the 1990s (Ranganathan & Ganapathy, 2002). The digital retail environment brought about changes in consumer behaviour (Peterson et al., 1997). Ranganathan and Ganapathy (2002) surveyed 214 shoppers in an empirical study of B2C e-commerce and found that 'privacy' was one of the four key dimensions of the quality of websites. Their exploratory factor analysis showed that 'security' and 'privacy' ranked first and second as predictors of online purchase intent (Ranganathan & Ganapathy, 2002). The key items related to 'security' were the following: 1) availability of secure modes, 2) provision for financial transactions, 3) individual account ID and password, and 4) security of all internet transactions. The key items related to 'privacy' were the following: 1) personal information, 2) sites' demand for personal information, 3) hesitation in sharing personal information, and 4) personal information usage (Ranganathan & Ganapathy, 2002). Wolfenbarger and Gilly (2003) broadened the scope into eTailQ, which combined 'security' and 'privacy' into one dimension in the scale development process since these two concepts have strong similarities. Collier and Bienstock (2006) used a survey to test e-service quality and found that privacy

factors work influence the process quality of the service. The overall process quality can in turn influence customer satisfaction, behavioural intentions, and outcome quality. Thus, like Field et al. (2004), Collier and Bienstock (2006) showed a clear and significant impact of privacy and also located its influence position on a supply chain map. With the scale development process, scholars have paid attention to the whole supply chain to locate the influence points of factors rather than just using factor analysis to demonstrate the significance of a single factor. Recently, Bright et al. (2022) used US Facebook data to explore the privacy concerns and found that both platforms and users should manage their personal data as an assessment of perceived risks and benefits. A new insight of digital platform privacy was stated to emphasis the users' self-assessments (Bright et al., 2022). Moreover, Wang et al. (2022) explored metaverse which was more complex than today's digital platform and found privacy threats should be concerned with data perception, transmission, processing, governance, and storage. Wang et al. (2022) also mentioned that platform operator-centralised management pattern would increase the risk of users' privacy leakage. However, Wang et al. (2022) did not address the relationships between privacy and user behaviour from an empirical aspect so that statistical analysis should be added to test the significance of the privacy impact on user behaviour. However, Gong et al. (2023) tested the relationship between privacy stress and online purchasing intention in China and found there was no significant impact of privacy stress on purchasing intention. One of the interesting discussions was that socio-cultural background in China related to the culture of collectivism which made privacy an instrumental role rather than a practical action (Yao-Huai, 2020; Gong et al., 2023).

In summary, the subcategories for 'privacy' should cover platform safety, personal information protection, and concern about the sharing of personal information (Collier & Bienstock, 2006; Park & Kim, 2006). Other authors have used the supply chain to investigate the operation process and identify the significant factors at different stages along the chain, with implications for time management for managers. Privacy tended to be one of the important factors in digital platform studies (Ranganathan & Ganapathy, 2002; Zeithaml, 2002; Buckley, 2003; Schaffer & Mills, 2004; Collier & Bienstock, 2006; Park & Kim, 2006; Boerman et al., 2021). However, the impact of privacy in recent academic research was unclear from user-side data analysis especially under Chinese socio-cultural background (Yao-Huai, 2020; Gong et al., 2023). Thus, the following hypothesis is proposed:

Hypothesis 1c (H1c): Privacy has a significant and positive impact on audience experience.

2.6.1.4 Personalisation

‘Personalisation’ has been described as an important attribute in digital service, especially in the mobile market (Tong et al., 2020). ‘Personalisation’ has been defined as ‘personalised attention and customisation of offerings and information’ (Zeithaml et al., 2000; Nysveen et al., 2002; Yang et al., 2003; Kim & Fesenmaier, 2005; Rowley, 2006; Kozyreva et al., 2021).

Yang et al. (2003) conducted a content analysis of consumer reviews and online shopping experiences and found that only 3 per cent of consumers mentioned ‘personalisation’ and ‘individual attention’. Therefore, ‘personalisation’ was not considered as a factor in the analysis. However, this might relate to the research method since content analysis of consumer reviews generally reflects extremes of good and bad online shopping experiences, which can result in attributes such as ‘personalisation’ not being identified neutrally (Johnston, 1995).

The development of mobile services has reshaped the way customers interact with digital products and has created new marketing opportunities, such as mobile devices, mobile applications, virtual assistants, and other mobile technology-related platforms (Investopedia, 2018; Tong et al., 2020). Hyper-context personalised targeting is the most valuable characteristic of mobile channels. Furthermore, the development of mobile devices has made it possible for marketers to have access to consumers’ information and develop personalised marketing strategies (Tong et al., 2020).

Based on McCarthy et al. (1979)’s 4Ps (product, price, promotion, and place), Tong et al. (2020) showed that the mobile marketing mix framework covered 5Ps, with personalisation in the centre position. The 4Ps are distributed around the personalisation centre as follows: product (applications, smart devices, and payment), promotion (temporal, locational, and contextual), prediction (AI and deep learning), price (freemium, dynamic, and competitive), and place

(SMS, in-app, and push). The performance outcomes are attribution, reach, adoption, actions, engagement, branding, conversion, and omnichannel behaviours (Tong et al., 2020). Thus, mobile technology has created a new channel for expanding the industry platform using applications (APP). Machine learning and artificial intelligence (AI) also need to be investigated in future research. With the development of technology, personalisation tends to be more scientific, as AI technology has been added to platform algorithms to give users personal recommendations (Tong et al., 2020). AI-Hawary and Obiadat (2021) used 403 pieces questionnaires from customers and found that personalisation had a significant effect on customers' loyalty which also mentioned the importance of mobile content design, problem-solving, and customers' experience.

Moreover, personalisation was recognised as one important factor in digital platform-related cultural industries (Eklund, 2020; Kushwaha, 2020; Webster, 2023). Cavdar Aksoy et al. (2021) stated that personalisation could create different user experience by collecting and processing personal information in the digital age. A classification for personalisation could include three levels that were individual-level (past digital behaviour, and attitude & preferences); social-level (family; friends; classmate/colleague; and community); and situation-based (time-based; and location-based) (Cavdar Aksoy et al., 2021). These three levels of personalisation classification would inspire the scale of measuring personalisation in academic research. As for the digital platform-related cultural industries, Kushwaha (2020) used 423 respondents to investigate personalised digital marketing tools effects in tourism industry in India and found that social media and online video were effective personalised digital marketing tools for tourism industry. However, Webster (2023) focused on music streaming platforms and used 42 semi-structured interviews with key informants and Spotify users. The interview analysis results showed that personalisation brought negative influence to social distinction by decreasing the time to appreciate music and young male users experienced personalisation as a threat (Webster, 2023). While Eklund (2020) focused on Netflix which is a similar Video-on-Demand platform as iQIYI in this thesis and found that thumbnail personalisation on Netflix improved platform and film product appeals to users. Thus, personalisation reflected the changing user experience in the age of digitalisation. However, different results from different types of cultural industries and different research methods also reflected the complexity of cultural industries within the digital platform context. More empirical studies in digital platform-related cultural industries were needed in the age of digitalisation.

In summary, mobile technology has made personalisation more important to digital platforms than to traditional markets and should be discussed in a broader digital context (Grewal et al., 2016; Kannan, 2017). The subcategories of ‘personalisation’ encompass personal interests, personal needs, freemium offerings, custom information, recommendations, and content appeals. Personalisation emphasises consumer experience since personalised changes are related to consumers’ usage habits, and designed personalisation algorithms are mainly based on information on users’ usage habits. Thus, the following hypothesis is proposed:

Hypothesis 1d (H1d): Personalisation has a significant and positive impact on audience experience.

2.6.1.5 Advertising

The ultimate function of advertising is to increase product sales, according to Lavidge & Steiner (1961), who also identified the three functions of advertising as awareness related to information or ideas, attitudes or feelings toward products, and conviction or purchase. The three advertising functions are connected to three dimensions in a classical psychological model, namely, the cognitive component, affective component, and conative or motivational component. However, the advertising considered in Lavidge & Steiner’s research was limited to some advertisements related to the products themselves.

With the development of digital technologies, research has examined the relationships between social media advertising, e-marketing, and purchasing decisions. Suryani & Margery (2020) used multiple linear regression models and coefficients of determination to examine the relationships between social media advertising, e-marketing, product quality, and consumer purchasing decisions for natural cosmetics. The results showed that the ‘social media advertising’ factor alone did not have a significant effect on purchasing decisions. However, social media advertising, e-marketing, and product quality did have a combined significant positive effect on purchasing decisions (Suryani & Margery, 2020). Therefore, advertising and

other latent variables should be considered together in assessing the relationships between selected factors and outcomes (Lina & Ahluwalia, 2021).

In summary, there has been little research into the effect of advertising on digital platform quality, especially when the content of the advertisements is not directly related to the platform or product content. The advertising psychology effect and content should be considered with more evidence when identifying subcategories of the item. Thus, the following hypothesis is proposed:

Hypothesis 1e (H1e): Advertising has a significant and positive impact on audience experience.

2.6.1.6 Technology Integration

In 2000, Kaynama and Black conducted an exploratory study of the service quality of online travel agencies and found that digital technology could help the agencies capture consumer data to personalise their service. They also observed that digital technology could assist companies in determining consumers' potential needs from the perspectives of convenience and personalised attention and thereby improve the value of their services. Xiang and Fesenmaier (2005) examined the design of destination websites and found that digital technology had a great impact on the information-seeking process, online communication effectiveness, advertising, and other internet-based features. Kim and Fesenmaier (2008) analysed first impressions to test the persuasiveness of destination websites and concluded that the recent evolution in internet technology was indeed one of the important factors influencing the consumers' planning process.

Another technology issue associated with China's websites in the digital and internet era that should be mentioned is the supervision of technology by the government. In 2012, Chinese President Xi established the Cyberspace Administration of China to supervise online content, bolster cybersecurity, and oversee the development of the digital economy (Segal, 2018). All of China's digital giants and Chinese technology companies, including digital platforms, are required to obey the rules of and be supervised by the Cyberspace Administration of Chin

(Segal, 2018). However, fierce discussions around strict digital technology supervision has been consistent since internet security versus internet openness has long been a subject of debate in China. This is also the main reason for the weight of the ‘security’ factor being negligible in comparison to the ‘privacy’ factor in the context of China’s digital economy.

In summary, the ‘technology integration’ attribute, as described in this section only focuses on the digital platform area; there are other aspects of film quality related to the technology issue. The subcategories of the ‘technology integration’ include platform availability, loading speed, operating system, and communication system. Thus, the following hypothesis is proposed:

Hypothesis 1f (H1f): Technology integration has a significant and positive impact on audience experience.

In conclusion, based on the literature in the e-quality area, the main factors to consider in evaluating the quality of a digital platform are ease of use (EU), responsiveness (RS), privacy (PY), personalisation (PL), advertising (AD), and technology integration (TI). Thus, the platform-related attribute was measured by those 6 factors listed above. Scholars often use experience as the parameter of user influence to test the relationship between digital platform quality attributes and buyers’ decisions. The literature shows that the indicators of digital platform quality are normally user experience, satisfaction, and loyalty. As the summary paragraphs for the digital platform quality impact attributes explain, the quality-based attributes have the potential to influence consumers’ experience directly and positively. The selected scale of quality attributes also reflects the theoretical contribution of this thesis, which tries to fill gaps in supply chain management theory and attribution theory application. The digital platform factors considered were chosen from multiple literature sources to encompass various quality attributes of online film and platform; consider attribution theory application in China’s online film product (e.g. personalisation and advertising in marketing communication), and obtain new insights into theoretical and empirical tests.

2.6.2 Film quality attributes and hypotheses development

The film industry has been studied extensively from different marketing perspectives because of the substantial ROI (return on investment) involved and the availability of data. The traditional film industry supply chain can be divided into three parts: *production*, *distribution*, and *exhibition* (Eliashberg et al., 2006; Weinberg, 2006). Thus, the factors that may influence film quality attributes can be divided into three categories: *production quality attributes*, *distribution quality attributes*, and *exhibition quality attributes*. The key indicator used in traditional film quality studies is box office performance, measured by the final box office revenue. However, China's online film did not have an official public statistic database for academic research and the calculation for box office revenue was different. Detailed indicators from the consumer perspective were used in this thesis. The film-related attributes' literature was classical academic research papers that provided mature factors to test film quality attributes and focused on factors that could influence film quality attributes rather than using the newest film studies that focused on cross-disciplines.

2.6.2.1 Production quality attributes

Storyline

Rosen and Hamilton (1990) studied independent films and found that the storyline has a positive impact on film performance. Film performance in film factors studies represents the financial performance and attendance of movies (Hadida, 2009). The storyline is one of the marketing factors that can influence the audience's decision-making process (Eliashberg et al., 2000). Eliashberg et al. (2000) used consumer data from the United States to demonstrate the positive relationship between the storyline and film performance. Groeppel-Klein et al. (2006) used the principles and assumptions of archetypal psychology to show that storytelling has a positive impact on the consumers' commercial decision-making process. Thus, the storyline has been proven to be a significant production quality attribute in evaluating film quality.

Star power

There is a rich body of film research related to star power, and many scholars have examined different aspects of star power. In the 1950s, the Hollywood film business was dominated by

the studio system, and studios would sign long-term contracts with stars whose salaries were related to their market value (Miller & Shamsie, 1996; Ravid, 1999). Hollywood's control of stars could be seen as control of star power in the early stage of the film industry.

Some scholars have focused on the influence of character during the early stage of the film industry (Kindem, 1982; Baimbridge, 1997). Characters have a positive influence on a film's performance. The reason that later research did not pay much attention to characters is that this was accepted as a strong factor, and research attention turned to actors, directors, trailers, and other items.

Leading actors' star power is accepted as another manifest indicator (Baimbridge, 1997; Albert, 1998; De Vany & Walls, 1999; De Vany & Walls, 2002b; Basuroy et al., 2003; Chang & Ki, 2005; Liu, 2006; Peng et al., 2019; Fan et al., 2021). However, the literature review reveals three different attitudes toward leading actors' star power.

Firstly, Baimbridge (1997), Albert (1998), De Vany & Walls (1999), De Vany & Walls (2002b), and Liu (2006) all stated that the leading actors' star power could have a positive impact on film performance. Baimbridge (1997) examined the case of James Bond and found that star power boosted movie admissions and rental income but that the James Bond series of films were quite successful, and the influence of star power might be different for other films. Liu (2006) showed that star power was substantial in the film industry, especially for Hollywood films. Chang and Ki (2005) found that star power had a negative impact on film box office performance. They defined 'actor' as a brand-related variable and showed that neither actors nor directors were strongly correlated to box office performance. However, their study was limited in that they identified just one actor per film as the main star power; they did not consider the situation of more than one superstar working together to make the same film.

Thirdly, De Vany & Walls (1999) and Basuroy et al. (2003) obtained mixed findings concerning star power. De Vany & Walls (1999) focused on ROI and found that star power did not play a significant role in helping ROI but could decrease market uncertainty. However, the

term ‘market uncertainty’ was only applied to the actor hiring stage and was valued by investors in practice. Basuroy et al. (2003) used the same database as Ravid (1999) and found that star power could have a positive effect on box office performance when a film had some negative critical reviews. Although star power might be useless for films that received positive reviews, star power could make significant protection to decrease the harm to box office performance when films receive negative reviews. Thus, star power could have a conditional impact on box office performance, and actor hiring can be treated as an important indicator of the final box office revenue in practice.

Unlike the star power of actors, the star power of directors and producers has consistently been shown to have a positive impact on film performance (De Vany & Walls, 2002b; Hadida, 2004; Hsu, 2006; Sorenson & Waguespack, 2006; Hadida, 2010; Peng et al., 2019; Fan et al., 2021). Producers and directors tend to work with the same team, and this repeated exchange has a positive impact on the movie’s performance (Sorenson & Waguespack, 2006). Producers and directors can receive bonuses calculated as percentages of box office sales, and this may motivate the producing team to play a larger role in monitoring the quality of film projects (Sorenson & Waguespack, 2006). Producers who target the right market can gain more potential revenue, while those producers who target multiple positions can occupy more market share and resources (Hsu, 2006). Hadid (2010) used structural equation modelling (SEM) to evaluate 2,080 feature films released in the North American theatrical market from 1988 to 1997 and found that the producer and director power had a strong positive relationship with the film project’s commercial success. These findings may explain why the Hollywood film industry is a symbolic example of the film industry.

Despite the participants’ reputation in the film industry, scholars have also examined the past commercial success of leading actors, producers, and directors in film box office revenue as indicators of film performance (Eliashberg et al., 2001; Elberse & Eliashberg, 2003; Sorenson & Waguespack, 2006; Hennig-Thureau et al., 2006; Hadida, 2004; Delmestri et al., 2005; Jansen, 2005; Walanaraya et al., 2018). Almost all scholars have confirmed the positive influence of these three past commercial success items, while a small group of studies have reached no clear conclusion on the relationship between the past commercial success of the leading crew and film performance. Well-known producing teams and stars can increase the

number of screens in the opening week, which positively influences box office revenue (Elberse & Eliashberg, 2003). The participation of particular producers, directors, and actors can increase a film's attractiveness and reduce consumer uncertainty (Hennig-Thureau et al., 2006). The power of particular producers, directors, and actors can be treated as a personnel attractiveness dimension in the movie's characteristics which can influence both the short-term box office and long-term box office (Hennig-Thureau et al., 2006). However, Jansen (2005) focused on the return of investment (ROI) and did not detect a significant relationship between the past success of stars and ROI.

In summary, the use of different databases, different approaches, and different outcome variables has produced mixed results concerning the influence of star power. Nonetheless, industry participants insist that star power is an important factor in practice.

Genre

Rating and genre are inherent properties of films. According to the MPAA, film ratings issued by the Classification and Ratings Administration (CARA) were first established in 1968, and the rating system provided parents with a guide for determining whether a film was appropriate for their children. Movies are rated PG, PG-13, R, or NC-17. This rating system is useful to researchers in establishing dummy variables to distinguish among different films and apply independent tests for each rating.

Film genre serves the same function as film rating as a dummy variable for dividing films into different groups. However, whether a film receives a nomination or award can depend on the film genre because the film genre represents the film's content to some degree (Cattani & Ferriani, 2008). For example, action films have fewer chances to win awards because of their formulaic film content (Cattani & Ferriani, 2008). Thus, film genre is an indicator of the influence of film content on box office performance.

Budget

According to supply chain studies of the motion picture industry, budget is a core factor that influences all stages of the supply chain. At the beginning of a film project, a new idea is selected by filmmakers, and producers need to consider copyrights and the screenplay development process. At the same time, substantial financing is required to pay for copyrights and writers' fees (Eliashberg et al., 2006). Weinberg (2006) described the movie industry as a great setting for natural experiments for the following reasons: 1) many films are released domestically and globally; 2) films have a distribution window of less than three months but a marketing budget in the millions of dollars, which make this industry an intriguing environment to develop and test theories of marketing strategies and strategy efficiency (Weinberg, 2006). Consequently, many scholars have investigated the relationship between budget and film performance and have demonstrated a positive relationship (Robins, 1993; De Vany & Walls, 1999; Miller & Shamsie, 2001; Elberse & Eliashberg, 2003; Hadida, 2004; Basuroy et al., 2003; Hsu, 2006; Hadida, 2010; Chen, 2018; Ahmad et al., 2020). However, the interaction of star power and budget poses an endogenous problem because a dramatic increase in star salary increases the budget proportionally (Ravid, 1999; Basuroy et al., 2003).

Adaptation from other media

Like star power, adaptation from other media (a sequel, a remake of an existing film, an adaptation from literature, a TV series, or another existing cultural product) can be a factor in a film's performance (Hennig-Thureau et al., 2006). Intellectual property (IP) was selected to represent adaptation from other media, according to the definition provided by the World Intellectual Property Organization (WIPO) (<https://www.wipo.int/about-ip/en/>).

'Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce.

'IP is protected in law by, for example, patents, copyright and trademarks, which enable people to earn recognition or financial benefit from what they invent or create. By striking the right

balance between the interests of innovators and the wider public interest, the IP system aims to foster an environment in which creativity and innovation can flourish'. (WIPO)

Thus, the following hypothesis is proposed:

Hypothesis 2a (H2a): Online film production quality attributes have a significant and positive impact on audience experience.

2.6.2.2 Distribution quality attributes

Trailers

The film industry has employed marketing techniques to evaluate and track potential audiences' awareness and interest in trailers to predict the performance of soon-to-be-released films (Eliashberg et al., 2000). Trailers are an effective and inexpensive way to raise awareness of a film, and distributors/exhibitors tend to use trailers during different time periods and on different types of media to test a film's potential performance (Eliashberg et al., 2000). Hadida (2010) investigated the relationship between commercial success and artistic recognition and observed that trailers with leading actors can attract audiences' attention and awareness, which has a positive impact on a film's commercial success. Finsterwalder et al. (2012) found that film trailers communicated information on stars, storylines, and other important film-related factors to consumers and could influence the early stage of film content expectations. Thus, trailers can be seen as a prism of film quality, and distributors and exhibitors are willing to use different factor-focused trailers among all the film chain systems to improve film content awareness in practice.

Internet exposure

The internet provides advanced communication technology for people to use to share information, ideas, and opinions (Liu, 2006). The number of net citizens in China increased

from 457 million in December 2010 to 731 million in December 2016, according to the China Internet Network Information Centre (CNNIC, 2017). The number of mobile internet users in China had reached 695 million by the end of 2016, and mobile netizens accounted for 95.1% of the total netizen population. Among companies with experience in e-marketing, 83.3% did e-marketing via mobile internet, and the market is growing rapidly in size. More than half of the e-marketing-using enterprises reported using mobile internet as one of their promotion channels (CNNIC, 2017). Thus, Internet exposure offers film products a channel to enhance a film's attractiveness while also providing a platform for multidirectional forms of exchange of information from the consumers' perspective (Navarro, 2012).

In summary, almost all of the existing literature supports the finding that internet exposure has a positive impact on film performance in the distribution stage and is mainly related to the exposure time and volume for a film project.

Rating

The term 'rating' was mentioned previously, together with the term 'genre'. Scholars tend to use film ratings as dummy variables to design single tests by dividing films into specific rating categories (De Vany & Walls, 2002a; Basuroy et al., 2003; Ravid & Basuroy, 2004; Chang & Ki, 2005; Walls, 2005; Hennig-Thureau et al. 2006; Shafaei et al., 2020). For example, the MPAA ratings PG and R have been empirically shown to have a positive impact on total box office revenue, which in turn can be seen as a significant predictor of final box office performance (Chang & Ki, 2005). Rating and genre are film properties that have significant effects on the potential audience size.

Distribution type (independent/major)

Major distributors significantly increase the number and appeal power of critical film reviews (Hsu, 2006). Major distributors target their familiar genres of films and have a positive effect on the final box office gross (Hsu, 2006). This phenomenon is related to the distributor type and the distributor's ability to promote a specific class of film projects.

However, Bloore (2009) found that the independent distributor's cluster effect also has a positive effect on film performance, as demonstrated by the success of Bollywood films. Bollywood film production usually involves alliances along the whole supply chain, and a short-path geographical social network can create a cluster of film producers, directors, and actors (Lorenzen & Täube, 2008; Lorenzen & Mudambi, 2013). The moderating effect of political regulation has been an external precondition for the Bollywood film industry's evolution by allowing new types of private investments from distributors and restructuring social networks (Lorenzen & Täube, 2008). Thus, the type of distributor is a significant variable influencing the box office gross in the traditional theatre film industry, while the power of the type of distributor needs to be re-tested in digital platforms. Thus, the following hypothesis is proposed:

Hypothesis 2b (H2b): Online film distribution quality attributes have a significant and positive impact on audience experience.

2.6.2.3 Exhibition quality attributes

Release time

A well-scheduled release time has a strong positive effect on box office performance, and the first-week box office performance is a reliable indicator of the final box office performance (Hadida, 2004; Hennig-Thureau et al., 2006; Radas & Shugan, 1998; Basuroy et al., 2003; Elberse & Eliashberg, 2003; Lee, 2006; Baranchuk et al., 2019; Shahid et al., 2022).

The release timing for a film is usually related to the studio's marketing strategy, and the success of the strategy depends on how well the studio understands the market and how well it understands other competitors' film release strengths and weaknesses (Bayus et al., 1997). Although the release timing might be under the control of the government, asymmetries might be addressed in product development and firm development between time management and process efficiency. Researchers have also classified the film release time and tested the critic

review impact using weekly data. Gopinath, Chintagunta, and Venkataraman (2013) found that at the time of the first release, studios covered half of the most responsive advertising markets, suggesting considerable room for improvement. Gopinath et al. (2013) analysed the pre- and post-release-related media and box office performance across instruments and geographic markets and found that release day performance is influenced by pre-release advertising and blog volume, while post-release performance is related to blog valence, user rating valence, and advertising. These time differences could help studios to identify markets that would be receptive to adjustments to release strategies. Thus, release timing is an important factor for studios, but studios can use limited strategies if there is a policy intervention. Another reason for the limitation of the effect of release timing is that holidays produce natural discriminatory comparisons for film box office performance.

Screen coverage

Theatrical exhibition of films is a combination of theatre facilities management, advertising, media attention, marketing communication, and advanced technology support (Eliashberg et al., 2006). Although studios experienced growth in multiplexes (facilities with 8 to 15 screens) and megaplexes (those with more than 16 screens), the future trends of large-screen digital home theatres, cell phones, streaming services, and other digital channels pose considerable challenges for theatrical film exhibitions. Both Eliashberg et al. (2000) and Lampel & Shamsie (2000) found that screen coverage had a positive effect on reviews that could influence box office revenue and the length of the film run compared to film projects with limited coverage.

However, the definition of screen coverage has changed considerably as a result of digital technology development. According to the *Statistical Report on Internet Development in China (January 2017)*, the main internet access devices were desktop computers, laptop computers, mobile phones, tablet PCs, and TVs, and the usage of mobile phones and TVs was growing dramatically (CNNIC, 2017). Thus, the size of screen coverage in the digital era has expanded compared to the traditional theatre-film industry. The screen coverage changes also reflect the new standards of film industry performance measurements, which are related to the frequency of screen usage, which is in turn related to the online click rate. The changes also reflect the

emergence of the new industrial supply chain, market structure developments, and the ways in which China's online film industry has changed audience behaviour and film-watching pattern.

Critics review

Critics and their reviews exist in various industries and are especially important in the entertainment industries and information-based goods market (Rayport & Sviokla, 1995; Eliashberg & Shugan, 1997; Clay et al., 2002; Basuroy et al., 2003; Deng, 2020; Kim et al., 2022). Eliashberg and Shugan (1997) investigated the roles of film critics as influencers, predictors, or both using weekly box office grosses and the number of screens from 1991 to 1992. They found that in some cases, critics could influence the early stage of box office performance as influencers and influence the late stage of box office performance as predictors, whereas in other cases, critics can influence both the early and late stages of box office performance in both roles. They regressed positive reviews and negative reviews separately to avoid multicollinearity by week. The statistical results showed that critics were predictors rather than influencers at the aggregate box office level. It seems that critics have a greater impact on the final stage of box office performance than on the early stage because of information lag and the word-of-mouth transformation time gap. However, their results also showed that there was an argument for the role of critics as influencers or predictors in both academic and industry fields. The influencer perspective suggested that studio managers use critical reviews as advertising strategies because positive comments can persuade audiences to see films soon after a film's release, before they were affected by word of mouth. In contrast, from the predictor perspective, advertising strategies would include other information since critic reviews have limited benefits. Eliashberg and Shugan's (1997) study discussed both influencer-and predictor-side managerial implications. They also noted that other factors, such as theatrical trailers, release timing, and advertising, could influence the critics' effect and that further studies are needed to analyse the critics' effect together with other factors.

Basuroy, Chatterjee, and Ravid (2003) investigated how critical reviews could affect the box office performance of a film and how this effect could be moderated by stars and budgets. They used a random sample of 200 films released from 1991 to 1993, and their results contrasted with Eliashberg and Shugan's (1997) findings. Basuroy et al. (2003) found that critic reviews

play dual roles as both influencers and predictors because critic reviews correlated with weekly box office revenue over an eight-week period. They also found that the critics' effect had a negativity bias that provided a clearer explanation of how critic reviews could affect the box office performance. The negativity bias means that negative reviews affect box office revenue negatively more than positive reviews affect box office revenue positively. However, this bias is evident only during the first week of a film's release. They also found that star power and budget can decrease the harm of negative reviews to a film's box office performance and that this design is better than just testing the relationship between a single critic variable and box office performance (Basuroy et al., 2003; Deng, 2020; Kim et al., 2022).

Thus, critical reviews play dual roles as influencers and predictors since reviews can have both positive and negative impacts on box office performance. Scholars have also stated that a single regression test can produce incorrect results since endogenous problems usually appear in film studies (Basuroy et al., 2003; Razeen et al., 2021). For example, Basuroy et al. (2003) used star power and budget as moderators to test the film review impact, but the use of stars can increase the budget; this is a natural endogenous problem for film studies. Thus, single regression is not a good choice for film quality tests. Although the regression results might be significant, internal cross-effects are ignored, which also reflects the complexity of the film industry.

Word of mouth (WOM)

Consumers' word of mouth (WOM) can critically and dynamically influence the demand for film products (Liu, 2006). The rapid development of internet communities has also made online WOM an opportunity for consumers to exchange product information, especially for film products that carry a storyline with emotional connections (Moe & Trusov, 2011; Godes & Silva, 2012). Advertising and WOM can influence each other because these two concepts interact both directly and indirectly with marketing promotion strategies, but advertising spending can increase the budget and the theatre advertising effectiveness, while WOM mainly influences video products (Bruce et al., 2012). Thus, the following hypothesis is proposed:

Hypothesis 2c (H2c): Online film exhibition quality attributes have a significant and positive impact on audience experience.

In summary, film quality attributes can be divided into three parts according to the film industry supply chain: *production quality attributes*, *distribution quality attributes*, and *exhibition quality attributes*. Unlike the e-quality attributes, the film quality attributes have some initial interactive problems. For example, the hiring of famous actors increases the budget, advertising effectiveness can be seen as one of the marketing strategies related to WOM, financial support influences all the stages of the supply chain, and other dual effects can make one factor have an impact on the whole chain. Thus, the factor items were located at different stages of the chain where the factors were found to have the highest weight. For example, the ‘budget’ influences the whole chain but has the greatest impact on the production stage and so was treated as one of the production quality attribute items. The factors identified in the literature were almost the same as those found to be significant in the traditional theatre film industry and some similar cultural industries, such as e-music, e-books, streaming, and other cultural industries. An exploration of new factors for online films is needed (Eliashberg et al., 2006). Although box revenue performance is used frequently in film studies, online film has a different box office revenue calculation method, which makes the traditional box office performance unsuitable for use as the main indicator. However, the number of users could be a direct indicator of online film box office revenue.

Barnes et al. (2009) stated that film producers should know the customers and provide film products with great value to the customers by creating a client experience. Barnes et al. (2009) also adopted supply chain knowledge to establish inside-out and outside-in models between organisations and customers. The development of digital platforms made customers can access real-time information, especially for information-based services and goods. The value proposition for film products was always related to the delivering ‘message’ that can be re-used and re-produced by audiences as a new ‘message’ for further communications (Barnes et al., 2009). As the box office revenue of China’s online films has been changed which is directly related to the number of users, the customer aspect data was employed in a rich body of digital platform studies. Consumer experience is one of the main indicators in digital platform studies considered by scholars. Rajaobelina et al. (2019) used a questionnaire to assess consumers’

experience with six music festivals and seven film festivals and found that both affective experience and cognitive experience had a positive impact on place attachment. Rajaobelina et al. (2019) focused on festivals, which are a cultural industry form. With the development of digital technologies, the consumer experience changed (Kaba & Özalpman, 2021). Kaba and Özalpman (2021) showed that there were no opposing steps between traditional film collection and consumption but that there were some continuous co-existing steps between those two film-watching patterns and that the new experience of film consumption needed a creative approach to media studies. Tan (2018) illustrated the film experience in a textual psychological background. The traditional film experience involves emotional connections with film characters, emotional extension with film project progress development, and sensory transformation of real people, events, and other situations (Tan, 2018). Tan (2018) also noted that digital technology developments have resulted in new experience measurements that should be considered in future research.

In summary, the film quality attributes factors considered in this thesis were selected mainly based on film supply chain studies and film studies. Previous film studies have tended to test single factors that may influence box office performance (e.g. Ahmad et al., 2020; Fan et al., 2021; Shahid et al., 2022). This thesis sought to test film quality attributes at different stages in the supply chain and use audience experience, satisfaction, and loyalty as indicators to test film performance. In an exploratory research study, the factors that may influence audiences' behaviour and perceptions were divided into production quality attributes, distribution quality attributes, and exhibition quality attributes reflecting the applications of supply chain management theory and attribution theory. A mixed-methods research design using both qualitative content analysis and quantitative survey analysis was employed to investigate the applications of supply chain management theory and attribution theory in the area of digital platform cultural products in China.

2.6.3 Audience experience, satisfaction, and loyalty

The term 'experience' has been defined in multiple ways. Ongoing perceptions, feelings, observations, and past knowledge are distinct meanings used in marketing research (Schmitt & Zarantonello, 2013). In social science studies, 'experience' refers to a cognitive and affective

process of constructing reality, while in anthropology and ethnology, it refers to people's role in the culture (Throop, 2003; Schmitt & Zarantonello, 2013).

In marketing research, Arnould (2002) identified fundamental categories of consumption interactions, namely, anticipated consumption, purchase experience, consumption experience, and remembered consumption. Consumption interactions encompass two types of experiences (affective and cognitive) that occur in traditional tangible product markets. However, with the development of digital technology, the term 'consumer experience' focuses on how consumers perceive product attributes in verbal, visual, and multisensory forms. Helkkula (2011) suggested three perspectives for services experience, which view the intangible product from 1) a phenomenological perspective, 2) a process-based perspective, and 3) an outcome-based service experience perspective.

In today's digital world, new media creates new consumer experiences both before and after the purchase, which refers to the online experience. Darmody and Kedzior (2009) identified four themes for the online experience: 1) brand identity construction; 2) virtual product-based dematerialisation of objects; 3) interactions among consumers, network effects, brands, and information; and 4) online communities, social networking, and relationship management (Slater, 1997; Jensen Schau & Gilly, 2003; Park & MacInnis, 2006; Schmitt & Zarantonello, 2013).

Therefore, the dimension of audience experience could be selected for online visual products' quality research. Audience experiences are dynamic sensations, feelings, cognitions, and behavioural responses that encompass attitudes, involvement, attachments, brand associations, customer delight, and networks (Brakus et al., 2009; Park & MacInnis, 2006; Keller, 2003; Aaker et al., 2010). In addition, the experience with other audiences is related to the relationship management among audiences, platform participants, managers, and brand communication (Darmody & Kedzior, 2009; Schmitt & Zarantonello, 2013).

2.6.3.1 Audience experience

Researchers believe that the audience experience can influence audience buying behaviour through a set of complicated factors. Researchers also define experience into various dimensions, such as Web experience, customer experience, user experience, and other dimensions of experience (Gentile et al., 2007; Meyer & Schwager, 2007; Sahin et al., 2011; Milman et al., 2020). The customer experience is the most important of the experiences that the customer has in response to all aspects of the company's offerings (Meyer & Schwager, 2007). Customer experience is the subjective response to any direct or indirect contact with products or services, usually according to the products/services' quality (Meyer & Schwager, 2007). Direct contact usually results from the purchasing process, while indirect contact usually involves WOM, reviews, advertising, and other forms of branding issues (Meyer & Schwager, 2007). As mentioned in the introduction section, in this thesis, 'audience experience/satisfaction/loyalty' was chosen from the consideration of China's online film audience and has the same meaning as 'user experience/satisfaction/loyalty', 'customer experience/satisfaction/loyalty', and 'consumer experience/satisfaction/loyalty'. However, in literature review section, 'audience experience/satisfaction/loyalty', 'user experience/satisfaction/loyalty', 'customer experience/satisfaction/loyalty', and 'consumer experience/satisfaction/loyalty' were used separately to reflect citations to original references.

A good customer experience can be shaped by a successful brand that can transfer value to meet customers' expectations (Meyer & Schwager, 2007). According to the literature described above, especially the marketing studies, the customer experience is strongly related to the brand. This thesis seeks to investigate China's online film industry performance through a typical digital platform which should be treated as a brand of the online film industry. In this situation, audience experience is a suitable concept for use in this thesis.

Another frequently used concept in academic research is the user experience which mainly involves human-computer interaction research (Hassenzahl & Tractinsky, 2006). The user experience is mainly used in technology-influencing industries related to China's online film industry and Internet Plus thought. There are three main facets of user experience: the instrumental facet (holistic, aesthetic, and hedonic), the emotion and affect facet (subjective, positive, antecedents, and consequences), and the experiential facet (dynamic, complex, unique, situated, temporally-bounded) (Hassenzahl & Tractinsky, 2006). These three perspectives

reflect the user experience at different levels. The user experience is narrowly focused on instrumental values because the early stage of internet technology had an effect on usability testing. However, with the evolution of internet technology, researchers have argued that only instrumental values are required from the user experience. Researchers have begun to focus on intrinsic value to define the user experience (Postrel, 2003). For example, beauty has been defined as one of the important quality aspects of technology and goes far beyond the instrumental (Lavie & Tractinsky, 2004). The visual aesthetics of websites were found to have a significant impact on user experience, satisfaction, and pleasure by improving classical aesthetics through design and expressive aesthetics through creativity (Lavie & Tractinsky, 2004). The second facet of user experience is emotion and affect, with an emphasis on the importance of emotions and antecedents of product use (Hassenzahl, 2003; Norman, 2004). This level of user experience emphasised the relationship between human and technology products. The third facet of user experience is the experiential perspective of technology situatedness and temporality (Hassenzahl & Tractinsky, 2006). This perspective of user experience is a combination of various elements which researchers define as actual experience in particular situations and the final forms of an experience. From a marketing perspective, the user experience is related to the design goals, brand recognition, and context (Hassenzahl & Tractinsky, 2006). As for the audience experience, the definition is based on sensations, cognitions, attitudes, and behavioural responses from brand-related stimuli (Sahin et al., 2011). Audience experience occurs at every point at which consumers have connections with the brand through the advertising brand image, personal touch points, and the receiving quality (Sahin et al., 2011). The audience experience is also strongly related to brand promotion strategies (Sahin et al., 2011).

In summary, there are many terms used in the literature to define ‘experience’. The two terms most often used in the quality management literature and digital/online technology literature are ‘customer experience’ and ‘user experience’. However, both of these terms for experience emphasised consumer-side perspective. Thus, the term ‘audience experience’ was chosen in this thesis to describe the user experience to China’s online film. Another theoretical consideration was to use ‘experience’ as the immediate outcome of the film and platform quality attributes in the model design because the definition of attribution theory emphasised consumer experience but most of the research used ‘satisfaction’ as the main indicator in attribution theory tests (e.g. Abuhassna et al., 2020; Wong et al., 2020). This thesis aims to use

‘experience’ as the fundamental indicator to test attribution theory that brings different insights into the measurement issues in attribution theory application.

2.6.3.2 Audience satisfaction

The term ‘satisfaction’ is frequently used in the literature to measure experience variables sequentially. Many research papers have used overall satisfaction, level of satisfaction, customer satisfaction, and other types of satisfaction as dependent variable(s) to measure loyalty (Heberlein & Vaske, 1977; Machleit et al., 1994; Doorne, 2000; Budruk et al., 2002; Ryan et al., 2010; Line & Hanks, 2020).

Satisfaction has been defined as affective responses, reactions, and attitudes from a purchase situation, the outcome of prior experience, and the long-term combination of relationships that has an impact on subsequent purchases and is a necessary component of loyalty (Ganesan, 1994; Bennet et al., 2005; Algesheimer et al., 2005).

The relationship between experience and satisfaction is discussed extensively in the literature (Ganesan, 1994; Oliver et al., 1997; Brakus et al., 2009; Sahin et al., 2011; Milman et al., 2020). For example, Sahin et al. (2011) used a five-point scale questionnaire and a random sample of data for 258 consumers and found that audience experience is positively related to satisfaction. Milman et al. (2020) focused on the theme park industry and, using a seven-point scale questionnaire and 477 cases, found that retail experiences, internal access, and outdoor entertainment experiences all had significant impacts on satisfaction. Sheng and Teo (2012) used a survey of 262 mobile users in Taiwan and found the mediation role of customer experience between product attributes and mobile brand equity. Therefore, the mediation role of ‘experience’ was tested in many fields of marketing research, especially digital-related areas. Thus, the following hypothesis is proposed:

Hypothesis 3 (H3): Audience experience has a significant and positive impact on audience satisfaction.

2.6.3.3 Audience experience, satisfaction, and loyalty

As the theory-building literature part shows, 'loyalty' is the most frequently used outcome variable in consumer behaviour studies. Previous research on customer loyalty has focused on frequency to differentiate among levels of purchases (Jacoby & Kyner, 1973; Dick & Basu, 1994; Palmer, 1996; O'Malley, 1998; Shoemaker & Lewis, 1999). Researchers have used the frequency of repeat purchasing behaviour to indicate brand loyalty. The problem with this approach is that consumers may be influenced by rewards rather than brand superiority (McMullan & Gilmore, 2003). McMullan & Gilmore (2003) suggested that there are four levels of distinct phases in the development of consumers' loyalty: cognitive, affective, conative, and action. According to the four levels model, the levels and associated characteristics are cognitive (accessibility, confidence, centrality, clarity, cost, benefits, quality); affective (emotions, moods, primary, satisfaction, involvement, affect, liking preference, cognitive consistency); conative (switching costs, sunk costs, commitment, cognitive consistency), and action (inertia, sunk costs, persuasion, trial) (O'Malley, 1998; McMullan & Gilmore, 2003). Heskett et al. (1994) proposed a service profit chain that started with customer satisfaction and ended with profitability through customer loyalty. However, Heskett et al. (1994) could not illustrate the causality problem but only proved that customer satisfaction, customer loyalty, and profitability were related to each other. Hallowell (1996) collected data from 12,000 retail-banking customers and found that customer satisfaction was significantly related to customer loyalty, and customer loyalty was significantly related to the final profit. In 2000, Gronholdt, Martensen, and Kristensen used European Customer Satisfaction Index (ECSI) model with thirty Denmark's major companies to test the relationships between perceived value, customer satisfaction, and customer loyalty, and found a strong significant relationship between customer satisfaction and customer satisfaction within cross-industry differences. Similarly, Homburg and Giering (2001) applied a survey of 943 responses from customers of a German car manufacturer and found that the strong significant relationship between customer satisfaction and customer loyalty could be influenced by the characteristics of the customer. Thus, there is a rich body of empirical studies proving that customer satisfaction is strongly related to customer loyalty, and finally influences profit.

However, consumer loyalty antecedents and consequences change in the e-commerce context. Shankar et al. (2003) used both online and offline surveys of a hotel brand and applied a simultaneous equation model and found that both online and offline responses proved the significant relationship between customer satisfaction and customer loyalty. However, loyalty to the service providers was higher for online-chosen services compared to offline-chosen services (Shankar et al., 2003). Srinivasan et al. (2002) identified eight factors (8Cs) – customisation, contact interactivity, care, community, convenience, cultivation, choice, and character – that influence consumer loyalty and found that e-loyalty was related to WOM promotion and willingness to pay. Furthermore, in the internet era, competition may be only one click away. Yang and Peterson (2004) used satisfaction and perceived-value measures to examine the moderating effects of switching costs on e-loyalty. Their findings supported the premise that customer loyalty is positively influenced by perceived value, satisfaction, and customer satisfaction, while the moderating role of switching costs had no significant effect (Yang & Peterson, 2004). Castañeda (2011) used structural equation modelling with 400 cases and found the strong relationship between customer satisfaction and customer loyalty in the e-commerce field was proved and one of the main contributions of Castañeda's (2011) work was that the study shifted the physical market into the electronic market which focused on a transaction-based website. With the development of digitalisation, a rich body of research focused on the e-commerce field such as online product attributes, mobile applications, digital transactions, digital platforms, and other digital-based industries, and the relationship between customer satisfaction and customer loyalty had been proved in marketing research fields (Goutam et al., 2021; Mofokeng, 2021; Sheu & Chang, 2022).

The previous literature review identified a sequential effect between experience and satisfaction (e.g. Sahin et al., 2011; Milman et al., 2020). Researchers have reported that satisfaction has a positive impact on loyalty (Sahin et al., 2011; Milman et al., 2020). Milman et al.'s (2020) study on the theme park industry established a conceptual model that describes how the perceived crowding and popularity of a theme park influence the theme park experience, how the experience influences satisfaction with the theme park, and finally, how experience and satisfaction influence loyalty, which illustrates the relationships between experience, satisfaction, and loyalty. However, Cetin et al. (2020) used 356 questionnaire responses to examine the effects of service quality and customer experience on satisfaction and loyalty and found that while both quality and experience had significant impacts on satisfaction

and loyalty, experience was a better predictor. This finding showed that quality and experience both had direct impacts on satisfaction and loyalty but to different degrees. Thus, the literature shows that there are direct impacts of experience and satisfaction on consumer loyalty and that there are also indirect impacts of experience on loyalty via satisfaction. Therefore, a mediation process from experience to loyalty through satisfaction is proposed. Thus, the following hypotheses are proposed:

Hypothesis 4a (H4a): Audience satisfaction has a significant and positive impact on audience behavioural loyalty.

Hypothesis 4b (H4b): Audience satisfaction has a significant and positive impact on audience intentional loyalty

Hypothesis 4c (H4c): Audience satisfaction has a significant and positive impact on audience cognitive and action loyalty

In summary, consumer loyalty in the digital era needs to be considered broadly, and the literature shows that behavioural loyalty, intentional loyalty, and cognitive, affective, conative, and action loyalty should be considered in e-commerce studies. The relationships between product quality attributes, experience, satisfaction, loyalty, and profitability were investigated in previous research. Both direct and indirect effects between the relationships of quality attributes, experience, satisfaction, and loyalty were found in existing literature. With the purpose of testing the sequential mediation effects between digital platform quality attributes, online film quality attributes, audience experience, audience satisfaction, and audience loyalty, the following hypotheses are proposed:

Hypothesis 5a1 (H5a1): The relationship between ease of use and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5a2 (H5a2): The relationship between ease of use and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5a3 (H5a3): The relationship between ease of use and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5b1 (H5b1): The relationship between responsiveness and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5b2 (H5b2): The relationship between responsiveness and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5b3 (H5b3): The relationship between responsiveness and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5c1 (H5c1): The relationship between privacy and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5c2 (H5c2): The relationship between privacy and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5c3 (H5c3): The relationship between privacy and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5d1 (H5d1): The relationship between personalisation and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5d2 (H5d2): The relationship between personalisation and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5d3 (H5d3): The relationship between personalisation and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5e1 (H5e1): The relationship between advertising and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5e2 (H5e2): The relationship between advertising and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5e3 (H5e3): The relationship between advertising and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5f1 (H5f1): The relationship between technology integration and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5f2 (H5f2): The relationship between technology integration and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 5f3 (H5f3): The relationship between technology integration and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6a1 (H6a1): The relationship between online film production quality attributes and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6a2 (H6a2): The relationship between online film production quality attributes and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6a3 (H6a3): The relationship between online film production quality attributes and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6b1 (H6b1): The relationship between online film distribution quality attributes and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6b2 (H6b2): The relationship between online film distribution quality attributes and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6b3 (H6b3): The relationship between online film distribution quality attributes and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6c1 (H6c1): The relationship between online film exhibition quality attributes and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6c2 (H6c2): The relationship between online film exhibition quality attributes and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Hypothesis 6c3 (H6c3): The relationship between online film exhibition quality attributes and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Therefore, the conceptual model of this research adapted supply chain management theory and attribution theory was shown in Figure 1.

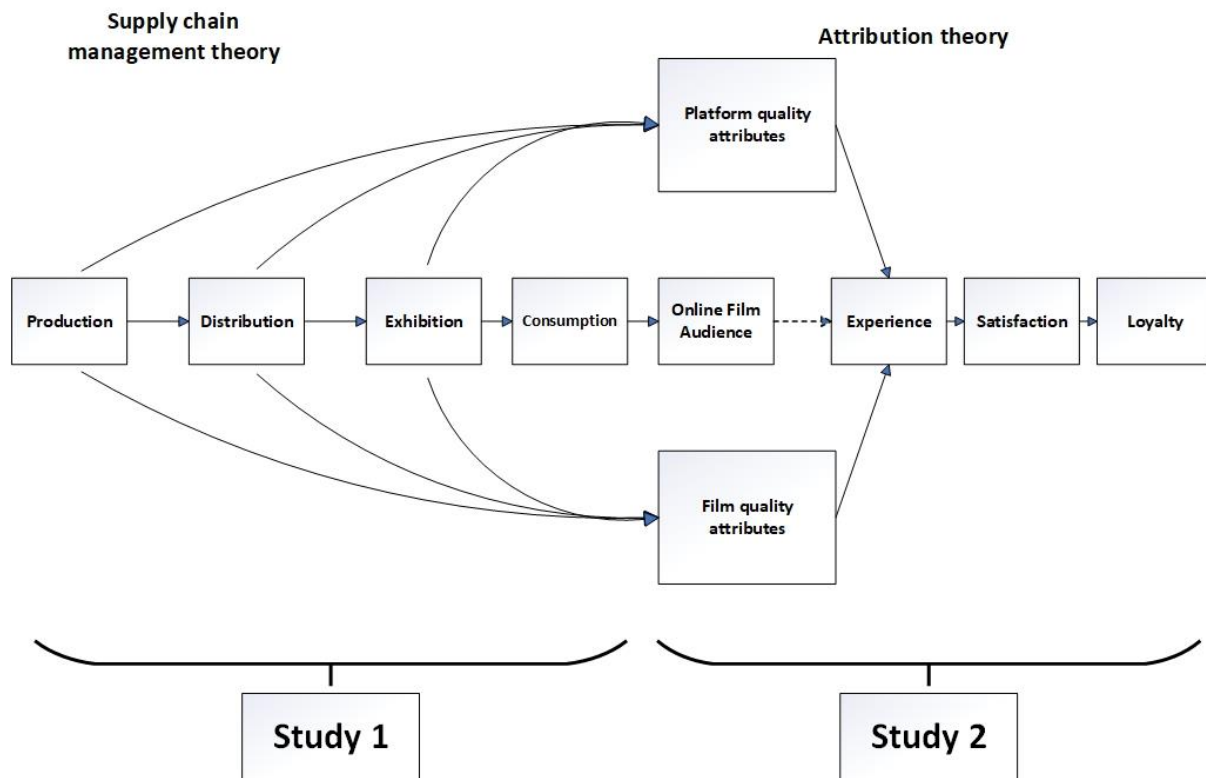


Figure 1. Conceptual model

This chapter focused on the existing literature, including traditional film industry studies, digital industry research, digital platform quality management, film quality management, user experience studies, consumer satisfaction measurements, and consumer loyalty studies. A literature gap was found in the digital platform- and digital product- attributes of online film, new film consumption experience measurements, and sequential processes from quality attribution to consumer loyalty through the mediation effects of experience and satisfaction. Thus, the objectives of this research encompass the identification of attributes that may influence China’s online film performance; the impact of platform quality attributes on China’s online film audience experience, satisfaction, and loyalty; the impact of film quality attributes on China’s online film audience experience, satisfaction, and loyalty; the relationship between China’s online film audience experience, satisfaction, and loyalty and China’s online film performance; and supply chain theory and attribution theory adoption in China’s online film. Current arguments around supply chain management theory pertain to the applicability of supply chain management theory in different disciplines, chain changes related to digital transactions; cooperation uncertainty arising from cultural differences, and supply chain management evaluation standards from the consumer perspective (Wacker, 1998; Smith, 2004;

Cousins et al., 2006; Bolton et al., 2021). The use of China's online film industry as a research object combined film product properties and digital platform characteristics to explore supply chain theory from a cross-discipline perspective, explore the changes in the supply chain resulting from the digital transaction process, investigate the adoption of supply chain management theory in China's online film, and combine supplier-side and consumer-side data analyses. Similarly, the arguments around current attribution theory development are that the cultural impacts on consumer behaviour and psychology are different, and the scale of measurement needs to be reconsidered. This thesis considered quality attributes pertaining to different stages of the supply chain to apply attribution theory to an Eastern (Chinese) cultural background, and use audience experience as a fundamental indicator in the attribution theory test to obtain new insights into the application of attribution theory in digital platform-based cultural product research.

Chapter 3. Methodology

This thesis adopted pragmatic philosophy. Supply chain management theory and attribution theory were the theoretical background and guidelines for the conceptual model building. A mixed-methods approach was adopted in this thesis to acquire timely information on China's online film products and test digital platform- and film- quality attributes. This thesis utilised the mixed-methods design into Study 1 and Study 2. Both Study 1 and Study 2 had a pilot phase and main phase studies. Study 1 was the qualitative research design which conducted 4 pilot semi-structured interviews and 15 semi-structured main phase interviews. Study 2 was the quantitative research design which conducted a pilot survey and a main phase survey. 19 interviews (including 4 pilot interviews) were conducted with management-level participants in China's online film/theatre film industry, and 752 responses to a questionnaire (including 31 pilot responses and 327 validated responses) were collected to assess consumers' perspectives. The interview and questionnaire results were used to (1) describe China's online film supply chain, (2) explore key China's online film performance attributes, and (3) investigate the relationships between China's online film audience experience, consumer satisfaction, consumer loyalty and China's online film quality-related attributes and platform quality-related attributes.

3.1 Research philosophy

This thesis is modelled on the pragmatism advocated by American philosophers, particularly William James (1975) and John Dewey (2004), that lies between internal realism and relativism. Easterby-Smith et al. (2018) explained pragmatism as follows:

'It does not accept that there are predetermined theories or frameworks that shape knowledge and truth; nor does it accept that people can construct their own truths out of nothing'. (p. 82).

The core philosophy is that any meaning must be from individuals' lived experiences and that human language and thought have limitations that cannot reflect the real world but can be tools to solve problems. Dewey (2004) explained 'experience' as a close connection between doing,

suffering, and undergoing. Dewey (2004) also explained that the surroundings influence an organism's acts in accordance with its own structure and that changes in the environment influence an organism and its activities. Pragmatism is a valuable perspective in marketing research and social science study because it focuses on processes that are relevant to studies of knowledge and changing social phenomena. This perspective is relevant to this thesis because China's online film industry is a new industry that combines the film industry and digital platforms. This thesis seeks to determine how the supply chain of the film industry has changed as a result of this combination and identify the impact factors that have been relevant in its development. The interviews reflect the experiences of the newest participants in China's online film industry. These participants have experienced the development of China's online film industry, ongoing industrial changes, and environmental influences. The model test of the survey sampled users of China's online film industry from different age groups, educational backgrounds, and other demographic characteristics to determine the impacts of exploratory and confirmatory factors identified in the literature and a practice survey of China's online film performance.

Johnson and Onwuegbuzie (2004) tended to suspect most researchers of being soft relativists since soft relativism refers to combining the views of different people and different groups in research involving human participants. However, purely qualitative methods cannot provide adequate standards for interpretations of the data and are unavailable for public inspection (Constas, 1992; Onwuegbuzie & Leech, 2007). Mixed-methods research involves combining qualitative and quantitative methods. Traditional pragmatic methods provide ways for researchers to think about dualisms, except for the debates from the purists (James, 1975; Dewey, 2004). Pragmatism also provides a balanced position from which researchers can consider different paradigms and acquire advanced knowledge (Watson, 1990; Maxcy, 2003). The key to pragmatism is not to hold a position in the philosophical area but to offer the best solution for research questions, and this is the bottom line for academic research (Johnson & Onwuegbuzie, 2004).

The ontological pragmatism philosophy stance has been ignored because pragmatism is usually treated as an epistemological stance (Maarouf, 2019). However, researchers' positions should be flexible because it is important to understand both objective and subjective realities by

conducting mixed-methods research (Johnson & Christensen, 2019). Many scholars have argued that pragmatism should be treated only as epistemology and methodology (Morgan, 2007; Frankel Pratt, 2016; Lohse, 2017). Maarouf (2019) stated that the reality cycle could represent the ontological stance for pragmatism, meaning that one reality exists in a certain time slot with a certain context. Moreover, as the context changes over time, reality changes. Based on the thinking outlined above, the reality cycle gives researchers a chance to develop variables to test a theory of reality and switch back to the one realistic position when the context and time change.

The same switch also occurs in the epistemological pragmatism stance when any type of knowledge can be observed or unobserved (Biesta, 2014; Maarouf, 2019). This is especially true of non-experimental quantitative surveys that address latent variables for which data cannot be measured. Thus, researchers have proposed the idea of double-faced knowledge to allow researchers to consider quantitative and qualitative knowledge to represent nature but not researchers' views on knowledge. These switches created a middle continuum for both quantitative and qualitative paradigms.

The general characteristics of pragmatism considered in this thesis are as follows (Johnson & Onwuegbuzie, 2004):

1. This project aims to find a middle ground between philosophical dogmatism and scepticism to answer the research questions from different aspects and find a workable solution by taking advantage of both qualitative and quantitative approaches.
2. This project rejects traditional dualisms and the establishment of philosophical dualism based on efficiency in solving problems.
3. This project recognises the existence and importance of the natural world and social world by capturing language, culture, institutions, and subjective thoughts.
4. This project utilises human experience.
5. Knowledge is viewed as being both constructed and based on the reality of the world we experience.
6. This project relies on strong and practical empiricism to improve working effectiveness.

7. The definitions of truth and knowledge change over time.
8. This project emphasises thinking about action instead of philosophising.
9. Practical theories should be supported.
10. Organisms are constantly adapting to new situations and environments.

Those ten pragmatism characteristics are relevant to this thesis because China's online film industry is quite new, and there has been limited research in this field. Thus, a pragmatic approach was adopted in this thesis by combining qualitative interview content analysis and quantitative model analysis to answer specific research questions about China's online films.

However, pragmatism has some weaknesses. For example, usefulness or workability can be fuzzy; many philosophers reject pragmatism from a micro-logical perspective, pragmatism sometimes fails to arrive at solutions, and some radical pragmatists reject correspondence truth completely. Although there are some limitations to pragmatism, after weighing its advantages and disadvantages from a philosophical perspective, it was judged to be well suited to this thesis effort.

3.2 Methods

The aims of this thesis are to investigate China's online film supply chain by combining both digitalisation and film studies contents and to test the relationships between China's online film quality attributes and audience experience, satisfaction, and loyalty. The research objectives are discussing and analysing China's online film supply chain; using existing literature and interview analysis results to design a survey to identify platform-related attributes and film-related attributes; and describing the relationships between China's online film attributes and audience loyalty through the mediation effects of experience and satisfaction by applying the PLS-SEM (Hair et al., 2019; Sarstedt et al., 2021; Safeer et al., 2021). Consequently, the research questions are: (1) What is the architecture of supply chain for China's online film? and (2) To what extent do digital platform quality attributes and online film quality attributes influence audience experience, satisfaction, and loyalty?

The literature review showed the complexity of combining cross-discipline studies, digital-based platform products, and cultural products into this thesis. However, there were some solutions that scholars frequently used to answer complex research questions in the consumer behaviour field. Firstly, a mixed-methods research design was used to have a better understanding of social phenomena from a research methodology perspective (Lichtenstein & Bearden, 1986; Zhao et al., 2009; Thomas et al., 2014; Jackson, 2019; Timmer & Kaufmann, 2019). Especially in supply chain and digital platform studies, a qualitative design with interviews to understand the supply chain operations followed by a quantitative design with a survey to test the relationships between product quality attributes or performance attributes and consumer practices was used frequently (Thomas et al., 2014; Dubey et al., 2015; Täuscher & Laudien, 2018; Jackson, 2019; Bimha et al., 2020; Tončinić et al., 2020; Alhalafawy & Zaki, 2022; Gebhardt et al., 2022; Fernando et al., 2023). The rich body of literature showed that the main aim of the qualitative part design was to have a better understanding of the supply chain and digital platform operations from professional industry participants and experts. The qualitative data analysis results also provided professional insights into the survey design for the following quantitative phase. The main aim of the quantitative design was to test the relationships between different supply chain and platform perspective factors and consumer perspective factors for further practical and academic implications. Semi-structured interviews, in-depth interviews, and literature content analysis were the three highest used approaches for the qualitative phase studies (Javalgi & Russell, 2018; Radosavac et al., 2019). While structural equation modelling (SEM) was highly applied to the quantitative phase studies in consumer behaviour studies within supply chain management theory and attribution theory background (Hair et al., 2019; Sarstedt et al., 2021; Safeer et al., 2021). As the theoretical gaps and arguments mentioned in the literature review suggest, beginning this thesis with qualitative interviews was expected provide a fundamental supply chain map to use in investigating the changes in China's online film industry supply chain. Interviews with various participants in the chain was also expected to provide detailed supply and demand flow information and thus a deep understanding of the structure of China's online film supply chain. For example, financial support is important for China's online film projects at different stages of the chain, and censorship cuts across almost all areas of the supply chain, including audience experience. Professional knowledge of the supply chain components is important information for filling the theoretical gaps, and such knowledge can seldom be acquired from a consumer perspective.

Details of film characteristics, such as genre, are related to local cultural preferences and censorship, which also aim to fill the supply theory gap from a cultural consideration perspective. Similarly, interviews with various people in the supply chain can help to identify quality attributions of importance to industry participants. Some quality-based attributions cannot be identified from a consumer perspective. For example, technology was identified as an important quality attribute in the literature review and the qualitative interview results, and technology is also an intrinsic property of digital platforms. However, the consumer-side data analysis showed that consumers do not pay much attention to technology upgrades. The supplier side tries to improve products and services' quality through technology upgrades, and consumers benefit from these upgrades, but the consumer does not perceive the upgrades directly. Therefore, the analysis of the qualitative interview results yields important information concerning potential quality attributes for use in testing current attribution theory application within China's online film context.

Besides the theoretical considerations of utilising a mixed-methods research design in this thesis, the logic of the mixed methods also plays an important role in this thesis. The logic of mixed-methods research involves induction, deduction, and abduction that represent the discovery of patterns, testing hypotheses, and relying on the best of a set of explanation results (De Waal, 2001; Johnson & Onwuegbuzie, 2004). This logic fits this thesis better than either a purely quantitative or qualitative approach because the research questions cover a description of the supply chain and test the impact of attributes on China's online film performance. Many researchers have highlighted the strengths and weaknesses of a purely qualitative or quantitative approach versus a mixed-methods approach (Brewer & Hunter, 1989; Tashakkori et al., 1998; Johnson & Turner, 2003; Mertens, 2003; Johnson & Onwuegbuzie, 2004; Johnson & Christensen, 2019). Thus, the following paragraphs were the summary of strengths and weaknesses of quantitative approach, qualitative approach, and mixed method approach from the literature mentioned above.

The weaknesses of a merely quantitative research approach with respect to the subject of this particular research effort are as follows (e.g. Johnson & Turner, 2003; Mertens, 2003; Johnson & Onwuegbuzie, 2004): 1) there are not enough categories to reflect the understanding of China's online film industry because it is a new type of industry, 2) a single theory cannot meet

the understanding of a new type of industry, 3) the research results may fail to reflect phenomena occurring by focusing on hypothesis testing rather than hypothesis generation, and 4) the results obtained may be too abstract for direct application to practice situations. The strengths of quantitative approaches are as follows: 1) direct testing of existing theories about phenomena observed, 2) testing of hypotheses with random samples to generalise the research findings, 3) generalising findings by using different sources of data, 4) establishing models to test cause-and-effect relationships, 5) less time-consuming data collection and analysis, 6) more independent test results, and 7) greater credibility for further studies.

The weaknesses of a merely qualitative research approach are as follows (e.g. Johnson & Turner, 2003; Mertens, 2003; Johnson & Onwuegbuzie, 2004): 1) the produced knowledge may not be suitable for changing situations, 2) it is difficult to make accurate predictions, 3) lower credibility is achieved in theory and practice, 4) data collection and analysis are more time consuming, and 5) it is difficult to avoid researchers' own influences. The strengths of purely qualitative approaches are as follows: 1) data are obtained directly from participants, 2) it is easier to describe complicated social phenomena, 3) information for different cases can be used, 4) the research is supported by people's experiences, 5) dynamic processes can be studied, and 6) participants' understanding of and reflections on specific environments are captured.

The strengths of a mixed-methods research approach are as follows (Mertens, 2003; Johnson & Onwuegbuzie, 2004; Johnson & Christensen, 2019): 1) narrative data can be transformed into numbers, 2) numbers can be transformed into narrative data, 3) the strengths of qualitative and quantitative methods are combined, 4) broader and more complicated research questions can be answered, 5) the strengths of some methods can compensate for the shortcomings of other methods, 6) strong evidence is provided for findings, 7) a better understanding of the problem can be provided, and 8) more complete knowledge for both academic research and practice can be acquired. The weaknesses of a mixed-methods research approach are as follows: 1) it can be difficult for a single researcher to use multiple approaches in one research study, 2) the learning process for mixed methods is more time-consuming, and 3) disagreements exist among methodological purists.

The rationales in favour of mixed methods are triangulation, offset, process, different research questions, explanation, unexpected results, instrument development, sampling, credibility, context, illustration, utility, confirmation and discovery, and diversity of views (Bryman, 2006; Harrison & Reilly, 2011). Types of mixed-method research designs are convergent, exploratory, explanatory, and embedded (Creswell & Clark, 2017). The convergent design type usually uses parallel databases of quantitative and qualitative data with equal weighting. The embedded design type uses one type of data for the main design with the help of another type of data. The explanatory design type is a sequential process involving the use of a quantitative phase first and then a qualitative phase and the connection of the data from both types of sources. The exploratory design type is also a sequential process, but it begins with a qualitative phase that is followed by a quantitative phase and the connection of the two types of data (Creswell & Clark, 2017). However, the sequential process orders listed above are typical processes; some variations occur in research. For example, Rosenbaum and Montoya (2007), Guenzi and Troilo (2007), and Bruhn et al. (2008) all used sequential exploratory design, but Rosenbaum and Montoya (2007) focused on theory development, Guenzi and Troilo (2007) focused on instrument development, and Bruhn et al. (2008) focused on both instrument and theory development. In this thesis research, a sequential exploratory design was adopted to investigate the instrument and theory development in a qualitative phase, followed by a quantitative phase.

This thesis adopted a mixed-methods research approach to take advantage of both qualitative and quantitative methods. Information was collected from interviews, a survey, and a literature review to develop a conceptual model for use in examining China's online film supply chain, finding platform- and film- related attributes, and testing the impacts of attributes on China's online film consumer practice. A mixed-methods research approach also suited addressing the thesis objectives by utilising qualitative interviews with practical professional chain participants and quantitative surveys with Chinese netizens.

3.3 Research design and data collection

The research design process involved a sequential exploratory design in which the first step was a qualitative interview process (**Study 1**), and the second step was a quantitative survey (**Study 2**) based on the qualitative interview results. The rationale for this research design was

that the results of the **Study 1** analysis were used to inform the design of the **Study 2** survey because the limited literature did not provide enough information to fully develop the item scale. As mentioned in the previous section, the exploratory mixed method design aimed to fill the literature gaps by using supply chain management theory and attribution theory and utilising both qualitative interview analysis and quantitative survey analysis from both the supplier-side and consumer-side.

The objectives of **Study 1** were to acquire professional industry practice information to describe China's online film supply chain, to identify all the related supply chain participants and their duties, to identify possible impact attributes on the supply chain, and to inform the **Study 2** survey questionnaire design. In addition, the expansion of the sequential exploratory design sought to use the interview content analysis to address the different parts of the social phenomenon. First of all, the Study 1 interview questions were intended to address the supply chain uncertainty in China's online film industry. A clear supply chain can demonstrate influential factors that influence the performance of China's online film industry, which was the main objective of the Study 2 survey. Secondly, as mentioned in previous chapters in this thesis, the end stage of supply chain management is consumption. Therefore, Study 1 was conducted with the participation of industry experts to explore the operation of China's new online film supply chain, while Study 2 focused on consumption by testing attributes of the supply chain operation from the consumers' perspective. This research design reflected the connections between supply chain management theory and attribution theory in a cogitative way. This research design also reflected the theoretical logistic flow of combining supply chain management theory and attribution theory in consumer behaviour and psychology research. The main reason for placing the qualitative design component before the quantitative design component was that there was a literature gap on online film products and services. Thus, the fundamental design objective was to acquire the newest knowledge available on China's online film supply chain. Conducting interviews with professional participants in the supply chain was the best way to obtain practical information about China's online film products. The qualitative phase (Study 1) was expected to produce useful information for use in the survey design and analysis (Study 2). The combined results of Study 1 and Study 2 were anticipated to provide new practical and theoretical insights into digital platform cultural products and consumer activities. The full research design diagram is shown in Figure 2.

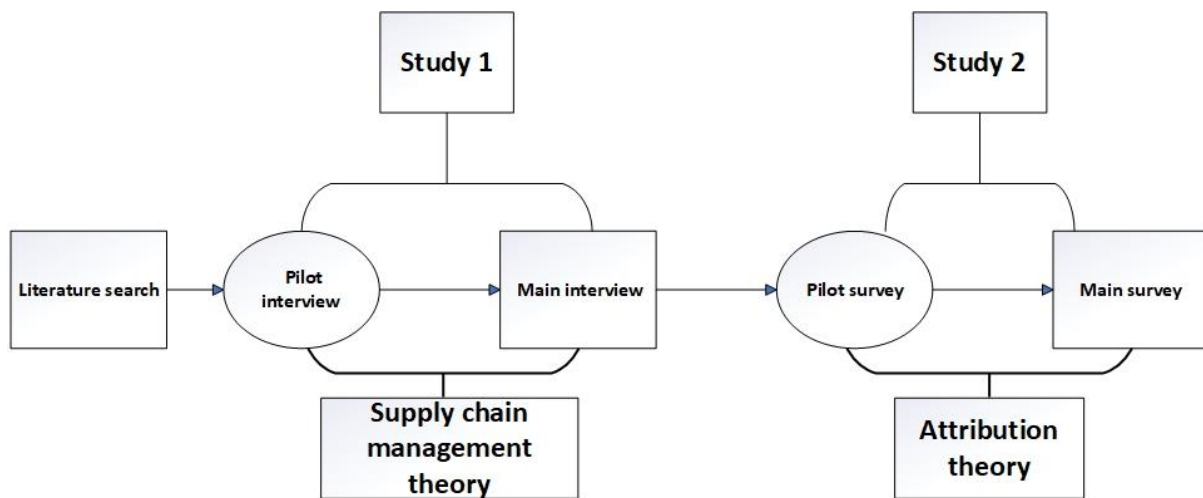


Figure 2. Research design

The mixed-methods research design approach adopted consists of four main steps: *think*, *develop*, *determine*, and *decide* (Bergin, 2018; Mitchell & Education, 2018). The ‘think’ step consists mainly of the sequence of data collection, the types of data that plan to be collected, and the source of the data. The ‘develop’ step depends on the research questions. The ‘determine’ step involves designing the roles for both the qualitative and quantitative parts of the thesis. Finally, the ‘decide’ step involves picking the best choices from all mixed-methods design rationales for all of the qualitative and quantitative components. Mixed methods seek to use both individuals’ experiences and systemic realities that can continually create social values (Hancock, 2007). Thus, this thesis used a mixed-methods approach to investigate China’s online film supply chain, to quantify the significance of China’s online film attributes, and to test the extent to which China’s online film attributes influence China’s online film consumer loyalty. The answers to research questions are the bottom line of research. Therefore, a sequential exploratory mixed-methods approach was adopted to use the qualitative analysis component outcomes to inform the quantitative analysis component (Tashakkori & Teddlie, 2003). China’s online film is a new type of product that combines the traditional film product and digital platforms, and there has been limited empirical research on such new product fields, so the sequential exploratory research approach serves as the ideal approach for this thesis. The details of the design approach are as follows.

3.3.1 Step 1: Literature search

This thesis began with a review of literature on the structure of the film studies (Eliashberg et al., 2006; Bockstedt et al., 2006; Bloore, 2009; Porter, 2011; Vogel, 2020), film marketing (Scott, 2002; Kerrigan, 2009; Parc, 2021), digitalisation (Clemons et al., 2002; Parc & Kim, 2020; Tariq et al., 2022), and the 2014 China Online Film Summit (China Online Film Summit, 2014). The e-book industry and e-music industry are examples of the combination of traditional industries and digital platforms that have received research attention. The online film has changed the traditional film supply chain by providing new digital channels and recruiting different sources of participants. The author's experience in newspaper and film companies provided useful social connections with participants in the initial stages of the development of China's online film, which provided opportunities to interview these professional participants. After a review of the literature and meetings with the supervision team, initial research questions were generated. The interview questions were related to the development of China's online film, market structure, and some instructive impact factors. However, the limited literature support and practice information made it difficult to develop high-quality interview questions, so a pilot interview phase was conducted to collect more detailed information on this topic for use in developing questions for the main phase of the interviews.

3.3.2 Step 2: Study 1 pilot interview

Four pilot interviews were conducted in Study 1 to collect information on the development and potential influencing factors of China's online film. The pilot interviews were needed primarily because of the limited availability of literature and official industrial reports on China's online films. As a result, some preliminary interviews were needed to collect useful information to design the next steps of the research process. The pilot interviews were semi-structured interviews with nine interview questions, and the interviewees answered every question based on their working experience and personal thinking. The interview design was based on a timeline of China's online film development and included a comparison with the theatrical film. The questions about influencing factors were based on the literature review of the film studies and the interviewees' answers about potential new factors influencing China's online film practice. The reasons for a timeline design for China's online film industry were to clarify the development process of the new type of film product, to highlight changes that have occurred

in the development process, to help the interviewees to answer the questions in a timeline logic, and to order the interview questions systematically to address topics from the initial stage of China's online film to the future prediction. The interview questions on impact factors were mainly focused on the scope of the items and factors which may influence online film box office performance. The interviewees were asked to rank the factors to obtain some initial quantitative information. Details of the interviewee recruitment process, interview questions, analysis of interview responses, and other information related to the interviews are provided in the Study 1 pilot interview data analysis part of this thesis and the appendix. The theme codes for the Study 1 pilot phase were focused on China's online film development on a time slot basis, a comparison between the traditional film and the online film, new impact factors, and future research needs. Details concerning the theme codes are found in the Study 1 pilot interview data analysis part of this thesis and the appendix. The data collection period was from 05/02/2018 to 06/03/2018. The interviewees' recruitment was all based on the author's social connections from the author's working experience. The demographics of Study 1 pilot interview participants can be found in chapter 4 data analysis results.

The concepts on which the Study 1 pilot interview was based are a bit different from those underlying the next design steps because China's online film is quite new and had no official foreign name at the time, so concepts such as online film, network film, online big film, network big film, and others were used in Study 1 pilot interview phase. The Chinese name for China's online film was '网络大电影' in its early stage; it then became officially known as '网络电影' when China's online film reached a stable stage. The reason for this change is that industrial participants wanted to emphasise the concept of 'big' in the early stage to differentiate China's online films from short videos, micro-films, and other video products. As discussed in the previous *Introduction* and *Literature Review* sections of this thesis, one of the standard requirements of China's online film projects is that an online film needs to be more than 60 minutes long (this standard might change with further development of China's online film). Thus, the participants, especially the platforms, have used the term 'big' to distinguish between China's online films and other online video products. This is also one of the reasons why the interview results needed to be analysed using the original Chinese transcriptions rather than English translations because some metaphors and nuances may be lost in language translation.

3.3.3 Step 3: Study 1 main interview

The next step of the qualitative part of the Study 1 research design was a total of 19 interviews selected for qualitative interview content analysis. Information about the participants of the main phase of interviews is provided in Study 1 main phase of interview data analysis part. The 19 participants in the main phase of interviews were all participants in China's online film or theatre film industry, with more professional experience than the interviewees in the pilot phase. Study 1 main phase of interviews was conducted in China from June 2019 to August 2019. Study 1 main-phase interviewees were all from China's traditional theatre film industry, China's online film industry, or other related media companies. The interview participants were recruited in three ways. Firstly, interviewees were selected by emailing target online film companies to negotiate with human resources departments. Once the interview requirements were communicated, the target companies' human resources departments arranged the interviews. Secondly, the interviewees recommended some professional industry participants based on their social connections, which led to further interviews. Thirdly, some interviewees who were working as film critics for online media companies were contacted by email and messages to invite them to participate. Study 1 pilot-phase interviewees invited others with practical industry experience to take part in this thesis through their own social connections. These new interviewees also invited other interviewees from different stages of the supply chain to take part in this thesis since they thought professional people should answer the same questions from their own professional perspectives. Therefore, the recruitment process was smooth, and the experience of the participants in Study 1 main interview phase covered almost all of China's online film supply chain, except people at the CEO (chief executive officer) level, because of appointment-scheduling difficulties. The participants in Study 1 main interview step were selected from China's online film platform companies, online film production companies, distributing companies, self-media companies, and theatre film companies. The participants were selected with the criteria of obtaining professional and detailed practical information about all stages of the supply chain. Participants from theatre film companies were selected to obtain information from professionals in China's theatre film and contrast China's online film with the theatre film.

The Study 1 main-phase interview questions were more detailed than Study 1 pilot-phase interview questions and were based on information from the literature review and Study 1 pilot interview analysis results. The pilot phase was conducted to clarify the respective points, while Study 1 main-phase interview questions were divided into two main categories: those concerning China's online film supply chain and those concerning possible impact factors. The questions were designed to address research questions¹ and inform the survey design for the quantitative phase. Details of the results of Study 1 main interview phase and analysis are presented in the Study 1 interview data analysis part of this thesis and the appendix. Study 1 pilot interview analysis result contributed to the development of Study 1 main-phase interview questions in the following ways:

Study 1 pilot interview results provided a rough map of the supply chain of China's online film which helped Study 1 main phase interview question design have a basic supply chain to locate interview questions. For example, Study 1 pilot interview results suggested that China's online film supply chain could be divided into three parts – upstream, midstream, and downstream – by adopting river flow concepts. This finding helped in Study 1 main interview phase to describe China's online film in different parts when talking about the supply chain questions.

Study 1 pilot interview results were used to describe the development of China's online film in different approximate stages of the supply chain system. The different stages of the supply chain played a basic role in the recruitment of Study 1 main-phase interviewees. This result also reflected to supply chain management theory logistic flow that the online film product supply chain was from the upstream to downstream. The participants' bodies were dynamic since different independent companies had different duties in the chain which would be a starting point for application of supply chain management theory in online film products in China.

Study 1 pilot interview results were useful in identifying additional probable impact factors that were discussed in Study 1 main phase and evaluated for further research design use. Though the quality attributes were not clear in the Study 1 pilot phase, the results showed new

attributes such as freemium and reviews could be potential attributes to influence audience film-watching experience which should be investigated in main interview design.

Study 1 main interview phase also addressed the industry name problem since more than one year had passed since Study 1 pilot interviews, and the Chinese term ‘网络电影’ was used at the industrial level when Study 1 main interview phase started. The English version of the name at the industrial level has been ‘China’s online film’ since 2019. Other terms, such as network films, online big films, and network big films, all are taken to have the same meaning as China’s online films.

3.3.4 Step 4: Study 1 main interview data procedure

The software used for the interview analysis was NVivo, with thematic analysis done by coding the interview contents into different themes. The results describe China’s online film supply chain step by step according to possible participants, participants’ duties, and potential impact factors. In addition, a new map of China’s online film supply chain was established. Finally, 6 platform-related factors and 3 film-related factors were collected from the literature and qualitative methods outcomes. Those factors played a fundamental role in the quantitative methods phase. The details of Study 1 main-phase interview data analysis are presented in the Study 1 interview data analysis part of this thesis and the appendix.

3.3.5 Step 5: Study 2 pilot survey

The narratives of the 23 interviewees created the exploratory component and an additional guideline for the questionnaire questions’ design, except for the academic literature support. The aims of the quantitative design were the following: 1) to test the attributes identified in the literature and interview analysis; 2) to assess the extent of the attributes’ influence on China’s online film performance; 3) to locate the attributes among the supply chain steps that could have detailed marketing implications for marketers, and 4) to obtain a deep understanding of China’s online film operation. Those design aims match the research objectives of determining the influences of different quality attributes that impact China’s online film performance,

testing the relationships between platform-related and film-related quality attributes and audience loyalty, and obtaining the answers to research question 2.

A pilot online questionnaire was used conducted with 31 participants who were mainly China's online film industrial participants, Chinese and English teachers, and audiences. The questionnaire delivery platform was Wenjuanxing (<https://www.wjx.cn/>). The purposes of the pilot study were as follows: 1) to let practice participants evaluate the questionnaire questions and give feedback, 2) to let participants check the questionnaire logic and translation issues, and 3) to do some general data analysis and create a better version of the questionnaire for Study 2 main phase. Details of the Study 2 pilot questionnaire design and analysis are provided in the Study 2 pilot questionnaire analysis part of this thesis and the appendix. The participants' comments on the Study 2 pilot questionnaire design were all positive, and they said that the questionnaire covered all the factors that they could imagine in today's China's online film (The year 2022). The feedback from Chinese and English teachers helped to ensure that there were no translation mistakes in the questionnaire. The participants in the Study 2 pilot study provided some initial insights into the questions, and each participant was given a chance to speak with the questionnaire designer to do a Q&A section. The main reason for talking with the Study 2 pilot survey participants about the survey contents was to check its logic, given the different cultural backgrounds of the participants and researchers. For example, discussion of political issues is always sensitive in China, so there were no direct policy questions in the questionnaires; political issues were addressed in the interview content analysis and related document analysis.

The Study 2 pilot survey questionnaire was sent to ten professional participants (audiences), two Chinese and English teachers (audiences), and audiences. Due to the rule of voluntary feedback, seven of the professional participants (audiences) confirmed having completed the survey, as did the two Chinese and English teachers (audiences). Three of the professional participants (audiences) did not reply to the author directly. Thus, the number of voluntary audiences who took part in the Study 2 pilot survey was from 19 to 22, while the professional participants were also among the audiences or users of the China's online film. The reason for recruiting professional participants and Chinese and English teachers was to check the validity of the questionnaire content because industrial experts have good understanding of both

platform and online film quality attributes and they are also the audiences. The pilot study was conducted to clarify specific points because professional participants, translators, and voluntary audiences hold different points of view and could provide different suggestions on how the survey design could be modified, based on their own opinions and experience. Additionally, the preliminary analysis of the Study 2 pilot survey could provide insights into supply chain management theory and attribution theory that could be a starting point for theoretical tests in the main phase of Study 2. Furthermore, the participating translators provided suggestions on the question description to avoid textual ambiguity.

The Study 2 survey sought to collect audience perspective data, so approximately two-thirds of the pilot participants being random audiences and one-third of the pilot participants being selected audiences (experts) could be a better way to do initial content validity and reliability tests. Thus, the results from a group of professional audiences could be used to check the questionnaire questions in detail, check the content validity and accuracy, and provide pilot reliability and validity results for the main phase of the Study 2 survey questionnaire. Study 2 pilot survey analysis included a questionnaire design check as a fundamental aspect of this stage and a statistical analysis to check the item scales. Details of the analysis results are provided in the Study 2 pilot phase data analysis and appendix. Thus, the Study 2 pilot study served to check the content validity of the questionnaire design, conduct initial reliability and validity tests, and finalise the questionnaire questions used in the main phase of Study 2.

3.3.6 Step 6: Study 2 main survey

Study 2 main phase design mainly involved a survey, and the participants were Chinese netizens. The questionnaire delivery platform was Wenjuanxing (<https://www.wjx.cn/>) which is an online survey tool that is popular in China for both academic and practical research. The questionnaire design had three parts. Part 1 consisted of background information on the research, an ethics statement, research team information, and a confirmation of response to the survey. Although there was an ethics statement approved by the University of Sheffield, the first part of the online questionnaire and the first confirmation question gave the participants dual-information protection to avoid ethics issues. The part 2 of the questionnaire was the question set. The questionnaire consisted of 129 questions with a seven-point Likert scale for

responses (from 1 = not important at all to 7 = extremely important). A seven-point Likert scale was selected to provide more response choices for participants, discuss variations in more detail, and increase the level of objectivity of the survey analysis, especially for latent variable measurements (Joshi et al., 2015; Tarka, 2017). The part 3 of the questionnaire was one open question on additional factors that were not covered in the question set and some general questions about the participants, such as their gender, age group, education, marital status, and income level. As the research was a combination of an exploratory study and process analysis, the PLS-SEM was used for data analysis (Hair et al., 2019; Sarstedt et al., 2021; Safeer et al., 2021). The SmartPLS 4 software was selected for the data analysis because SmartPLS 4 can show the path coefficient of both direct and indirect effects, which was considered to be helpful in gaining a detailed understanding of China's online film attributes that influence audience loyalty through audience experience and satisfaction. The SmartPLS 4 provides clear visual graphs which can show the mediation process. The literature on audience experience, satisfaction, and loyalty indicated that a mediation process was needed that could be modelled using the PLS-SEM (Hair et al., 2019; Sarstedt et al., 2021; Safeer et al., 2021). According to the literature review and theory background, a first-order construct model was selected for quality-based constructs and three different types of loyalty (Sarstedt et al., 2019; Abuhassna et al., 2020; Suhartanto et al., 2020). PLS-SEM allows models with sets of first-order constructs and this is also another justification for the use of PLS-SEM within the software SmartPLS 4 (Marin-Garcia & Alfalla-Luque, 2019; Hair et al., 2019; Purwanto, 2021; Sarstedt et al., 2022). Therefore, the PLS-SEM permits a statistical mediation analysis with first-order constructs, which suited the objectives of this thesis well. The designed quality-based attributes covered the potential quality attributes such as technology that was mentioned in previous sections of this thesis to help reconsider the scales of measurements in attribution theory applications.

The participants were given 30 minutes to complete the questionnaire. A total of 723 response questionnaires were collected. This was an online survey with the first question of consent requirement so that the participants could drop the survey anytime they wanted. However, the Wenjuanxing platform would collect all the respondents even though they just answered one question. The platform also coded minus two for the missing values and incomplete questionnaires. So the first step was to drop the respondents with minus two codes and that did not give ethics approval rights. Ultimately, a total of 327 valid questionnaires were selected

from the participants based on the confirmation questions' answers and data selection. All the results are shown in Study 2 main phase (quantitative study) results part.

3.4 Ethics issues

Interviews were conducted in both the Study 1 pilot phase and the main study phase of the qualitative study, and ethical issues are a common problem with interviews. There are five main ethical issues that should be considered in an interview process: privacy and confidentiality, informed consent, harm, dual role and over-involvement, and politics and power (Allmark et al., 2009). However, with the development of society, ethics developed to relate to social lives rather than just business areas (Radosavac et al., 2019). Business ethics refers to all aspects of business operations, from both the internal and external operations of the organisation, which are significant factors, to brand image influence and marketing communication (Radosavac et al., 2019). Social responsibility is one of the important standards for all enterprises to create value at different levels (Javalgi & Russell, 2018; Radosavac et al., 2019). The products/services offered should be of quality, function, and utility that match the price. Enterprises should obey industry rules to avoid vicious competition within the industry. The overall business should respect customs by improving taste, cultural values, and moral principles. Therefore, ethics in marketing play an important role in successful company operation by improving the ethical principles and standards, which also conforms to attribution theory by improving the quality of products/services to improve consumer satisfaction. The sully chain study also produced a clear China's online film operation diagram that can help platforms to locate different ethical strategies at different steps. This research sought to investigate China's online film performance, so business ethics, corporate social responsibility, and brand image were important points of focus (Ferrell et al., 2019).

In addition, this thesis had two ethics-approved letters from the University of Sheffield for the Study 1 pilot interview phase and the Study 1 main interview phase to ensure that the interview design addressed potential ethical issues appropriately. Details of the application contents and approved letters are provided in the appendix.

Chapter 4. Data analysis results

4.1 Data analysis results of Study 1 – qualitative phase

4.1.1 Study 1 pilot interview analysis

The aims of the pilot interview analysis were to assess the development of China’s online film industry, to compare China’s online film industry and traditional theatre film industry, to acquire professional knowledge of the operation of China’s online film industry, to identify potential influencing factors, and to collect some potential predictions for the future of China’s online film industry. Details of the pilot interview analysis and transcriptions are provided in the appendix. The description of the Study 1 pilot interview is shown in Table 2. Table 2 summarises the key points of the pilot interview results.

Table 2. Description of the Study 1 pilot interview participants

Code name	Gender	Education information	Job situation
Interviewee A	F	Master, Filmology	Short video company (Ergeng)
Interviewee B	M	Master, Filmology	Online film director/maker
Interviewee C	M	Bachelor, Public Service Administration	Online film and theatre film director/maker
Interviewee D	F	Master, Cultural Industries Management	Video sites (iQIYI)

The Study 1 pilot interview adopted qualitative study by conducting semi-structured interviews and a thematic analysis of data collected from personal working experience and subjective thinking of the interviewees. Since the author had work experience in a newspaper and an education background in art management, the author has established good relations with China’s online film platform staff, film producers, distributors, and academic staff in universities and other institutions such as video sites, short video companies, and other internet-based companies.

The Study 1 pilot interview analysis adopted a three-step thematic approach designed to generate core issues related to China's online early-stage development, the differences between China's online films and theatre films, and the initial factors that could influence China's online film box office performance. Step 1, a list of initial codes was generated from making notes on the raw interview content. For example, the 'basic production team', 'rating from the platform', 'low production cost', and other codes from the notes and essential memos of analysing the interview content. Step 2, classifying the codes into different themes through a systematic conceptualisation process. For example, 'low cost of producing', 'different genres', 'different marketing strategies', and other similar codes were classified into the theme of 'differences between online films and screen films'. Step 3, using initial themes to extract and summarise core issues and findings to answer the research questions. Table 3 summarises the themes and key points of the pilot interview results. The Table divided the key findings into two periods which were the beginning stage of online films and the developing stage of online films because one of the aims of the Study 1 pilot phase is to acquire basic practical information about online film products and time differences could show the changes.

Table 3. Study 1 pilot interview analysis result form

Themes	Key findings			
	Participant A	Participant B	Participant C	Participant D
		<i>The beginning stage of the online film</i>		
First impression of online big movie	Derivative of existing screen films	Similar to B-movie in America	Development of micro-films	Development of micro-films
Differences between online films and screen films	Cost, genre, production	Target audience, audio, and video language, marketing strategies	Audience from the market aspect, playing channel from the operation aspect	Basic production team structure, budget, investment volume, genre, producing methods, technique
Influence factors for online films at the beginning stage	Film genre, film script, promoting marketing strategies, looser supervision, online promoting strategies via social media or online advertising, lower costs, shorter production time	Rating from the platform, barrage review, the first 6 minutes	N/A	Quality of the film (talents' quality, script quality, and technique quality)

Influence factors for screen films	Film concept, film script, star power, production team, promoting and marketing methods	Team (directors, stars, and budget) power, open window, booking, score	N/A	Quality of the film (talents' quality, script quality, and technique quality)
Strengths of online films	Shorter production time, faster-distributing speed, looser supervision influence, higher creating freedom, promotion strategies (speed)	Convenient transfer, low production cost, low market barrier, high production output, and more genre choices	Flexible room for supervision, opening genre and concept of films	Potential power in the film market, lower risk, lower pressure, lower investment, looser supervision, profitable product, simpler production model, shorter production time, shorter investment payoff period
Opportunities for online films	New director development	Profit model transformation from micro-films to online films via video websites	The future explosion of online film	The rapid development of video websites
Weaknesses of online films	Lower budget, lower quality, promotion strategies (low budget)	The bad ecological economy system, the government did not have the plan to help its health development, and no	Tiny market, fixed classes for online film companies	Budget

		successful online films (explosion film)		
Threats to online films	Online dramas, bad internet environment	No long-term development guide or plan	The vicious circle of a limited group audience	Horizontal competition, online dramas, online variety shows, and other online cultural products, screen films
<i>The developing stage of the online film</i>				
Ways to attract audiences and investment (market share influence factors)	Improving film concept quality, good film script	First 6 minutes (beginning stage), the quality of directors' previous films, the concept of films	Creating different products compared with screen films, genre, shared value	A good story, IP, and a good quality script
Problems with online films	No successful explosion of online film	Online film producers always made a low quality of art products and focused on a high profit	Production could not meet the market demand; major players could not produce a creative product	N/A (a special question could be seen with an "NB" mark)
Possible solutions	Figuring out the target audience group, tastes, and the film genre; precision marketing	Improving the quality of online films, creating own story	Platforms had talented people's development plans	N/A (a special question could be seen with an "NB" mark)

Opinions to existing 3 important factors	For audiences who do not have a film-watching plan	Suitable for the developing stage of online films	Basic factors in this industry	Those three factors would be washed out in the future
New important factors to online films	Film concept, producing quality, and the visual effect	Rating from platform	Marketing strategies (star power, ground-based promotion, resource exchange, and SEO (Search Engine Optimization))	WOM (word of mouth), film concept quality, concept rating, marketing communication, sequel films, high-quality films, big-budget film, and big-deal film
Role of the online film critical reviews	Marketing strategies, “Internet Water Army”, KOL (Key Opinion Leader)	Important role but is unclear for a new art form	Real reflection could be influenced by capital	An important indicator to analyse online films is the negativity bias
Attitude toward future online film	Negative	Negative	Positive	Positive

There were two main findings of the Study 1 pilot phase interview analysis. Firstly, online film products were different from theatre (screen) film products. The main difference between online film products and theatre film products was volume (Participants A, B, C, and D). The volume could be divided into two aspects which were film-inside characteristics and film-outside characteristics. The film-inside characteristics included genre, producing methods, technique, film script, film concept, length of time, star power, the production team, and other film-producing related characters. The film-outside characteristics mainly included cost, budget, channels, supervision, censorship, marketing strategies, and other characters related to film promotion, distribution, and exhibition. Therefore, with the previous literature review part content, the differences between online film products and theatre film products could be located in different steps of the whole supply chain. Moreover, these differences such as supervision and censorship were found to inspire the adoption of supply chain management theory in China's online film product practice. Secondly, the intimal factors that could influence online film performance were found mainly related to quality attributes such as film quality attributes and platform quality attributes (Participants A, B, C, and D). The pilot study considered the basic impact factor/attributes of China's online films and a comparative analysis of online films, screen films, and other online cultural products. The interview results show that neither the industrial participants nor online moviegoers had a very clear awareness of online films at the beginning stage of this film product. However, interview participants also claimed that this is a common phenomenon for a new cultural product, and consumers would have considerably more insight into China's online films in the future. The potential impact factor/attributes were shown as keywords in the pilot analysis results form, and that information was the guideline for the design of the main interview phase of the thesis. Therefore, a deeper analysis of the impacts of China's online film product attributes was needed to test the attribution theory in the context digital platform cultural products in China.

4.1.2 Study 1 main interview data analysis

Participants

Purposive sampling was used to choose the participants (Lincoln, 2007). A total of 19 interviews (4 pilot interviews and 15 main study interviews) were conducted for the qualitative interview content analysis. The participants' details are shown in Table 3 (for the pilot phase) and Table 4 (for the main study phase).

Identifying codes were assigned to the two groups: O for the online film industry and T for the theatre film industry. All the interviewees were working in the online film industry, theatre film industry, or both at the time of their interview. With respect to the sample size for the qualitative analysis, there are no strict rules for the number of interviews (Patton, 2005). The sample size for the qualitative analysis could be driven by data saturation, i.e. ensuring that the interview content provided all the information needed for the research. Therefore, content analysis was conducted for the four pilot interviews and 15 main study interviews. The analysis identified no new supply chains or impact factor/attributes. Thus, data saturation was reached. The interviewees whose survey responses were used in the qualitative analysis worked for online/theatre filmmaking companies, online film platform companies, and independent critic companies to ensure that the information collected from the interviews achieved data saturation. There were 11 male and 4 female participants in the Study 1 main interview phase. The participants covered all the supply chain systems of China's online film products. The description of the Study 1 main phase interview is shown in Table 4.

Table 4. Description of the Study 1 main phase interview participants

Code name	Gender	Working area	Job title
O1	M	Online film platform	Marketing Director
O2	M	Film critics	Manager
O3	F	Online film company	Marketing Director
O4	M	Online film company	Content R&D (Research and Design) Director
O5	M	Online film platform	Business Strategist
O6	M	Online film company	Investment and Financing Director
O7	F	Online film company	Senior Producer
O8	F	Film critics	Manager
O9	F	Online film company	Producer
O10	M	Online film platform	Business Strategist
O11	M	Online film company	Manager Assistant
O12	M	Film critics	Manager
T1	M	Theatre film company	Distribution Executive

T2	M	Theatre film company	Distribution Executive
T3	M	Film critics	Journalist

Note: O stands for online film, T stands for theatre film

Based on previous film supply chain studies (Porter, 1985; Porter & Millar, 1985; Porter, 1997; Porter & Michael, 2001; Eliashberg et al., 2006; Bloore, 2009), impact factor/attribute studies (Litman, 1983; Sochay, 1994; Eliashberg & Shugan, 1997; Krider & Weinberg, 1998; De Vany & Walls, 1999; Eliashberg et al., 2000; Wijnberg & Gemser, 2000; Basuroy et al., 2003; Elberse & Eliashberg, 2003), and the pilot interviews, an interview guideline was prepared to record the process and questions of the interview. After giving the information sheet and consent form to the target companies and organisations to obtain permission for the interview, the interviews were arranged without direct reference to the related companies and organisations. The reasons for this arrangement were (1) to keep the interview content confidential, (2) to protect the privacy and willingness of the interviewees, and (3) to avoid bias and negative reflection between interviewees and companies (Patton, 2005; Flick, 2013). The interviewees were asked to answer the questions based on their professional knowledge, working experience, and own thinking.

Qualitative content analysis is an analytical technique that uses open-ended questions to collect participants' comments and reflections (Flick, 2013). Qualitative content analysis can be used to deal with complex, holistic, and context-dependent meaning (Kracauer, 1952). Although the coding frequency is one of the most important standards in giving a theme its importance, scholars argue that 'non-frequency content analysis' is also an important standard in dealing with qualitative data, which means that the qualitative content can drive the analysis by itself (Kracauer, 1952; George, 1959; Holsti, 1969). Thus, the researchers identified key themes from the literature, empirical studies, and interview content. The aims of the Study 1 main interview were the following: (1) to identify the industrial chain (supply chain) for China's online film industry and (2) to identify the quality attributes that influence China's online film audiences' loyalty. To achieve these research aims, the unit of analysis was any sentence, paragraph, or example mentioning 'supply chain' or 'impact factor/attribute'. For the 'supply chain' theme, the term 'supply chain' could also be expressed as 'value chain', 'industrial chain', 'chain system', or 'chain', depending on the participants' understanding and the way they tried to

explain the 'supply chain'. Similarly, the term 'impact factor/attribute' could be expressed as 'influence factor', 'key factor', or 'factor' since the Chinese translations for these four terms have the same meaning. However, the term 'factor' was more colloquial phrase than 'attribute', especially in the Chinese language. So 'factor' was used in the interview process after explaining all the meanings of terms to the interviewees. Using thematic coding, categories were grouped under similar themes. The results from the qualitative phase (main interview): supply chain and impact factor/attributes are shown as below.

In general, the supply chain involves supply chain management and customer relationship management (Porter & Michael, 2001). This chain system developed from a single company's individual 'supply chain' to separate co-operating companies' 'value system' and has now become more complex with internet participation (Porter, 1985; Porter & Millar, 1985; Porter, 1997; Porter & Michael, 2001). The widely accepted traditional theatre film industry supply chain is that defined by Eliashberg et al. (2006) as consisting of three parts: production, distribution, and exhibition. This supply chain was based on the Hollywood film industry, and some researchers have also explained the supply chain in detail using the independent film genre or other geographical differences-based examples (Davies & Wistreich, 2007; Bloore, 2009). However, although the details may change with different industry participants in different stages and differences in finances, management, and operations, the supply chain structure as a whole does not change.

All the interviewees (n = 15) mentioned that the supply chain for China's online film industry could be divided into three parts, but the terms used were different. For example, interviewees O1, O3, O5, and O8 described the supply chain using the terms 'top line', 'body', and 'bottom line' because they are marketing and business managers, and they tend to use a different set of terms than people who work on real film projects. Other interviewees used the terms 'production', 'distribution', and 'exhibition' to describe the supply chain stages. Thus, China's online film industry supply chain structure could be described as being consistent with that described by Eliashberg et al. (2006), but there are some differences in the details that warrant investigation. The next sections were the findings under different themes.

4.1.2.1 Theme 1. Production

The production stage mainly involves financing and film-producing works based on different types of studios with different funders (Eliashberg et al., 2006; Bloore, 2009). For example, Eliashberg et al.'s (2006) research based on Hollywood evidence showed that Hollywood majors have a stable cash flow to support film projects, so the financing stage is not a significant issue for starting a film project. Therefore, the financing stage can be a part of the production stage. However, Bloore's (2009) research on independent film projects showed that the financing stage could be more complicated for independent films than for Hollywood-made films. Thus, the different sources of financial support could be more important geographically in the production stage. With respect to China's online film industry, most interviewees said the financing stage is more complicated and important since the producing studios can be independent filmmakers, cooperation bodies with online film platforms, professional online film-producing companies, or other legal organisations that produce standard online film projects (O1, 2019; O2, 2019; O4, 2019; O5, 2019; O6, 2019; O7, 2019; O9, 2019; O10, 2019; O11, 2019). The pilot interview content also showed that the producing body could be 'everyone' who can meet the online film platform's requirements.

'The online film project is not like the theatre film project; it does not have an industrialisation standard. It is more like a small workshop model in that the director and producer will build a crew during the film project life cycle. Then, they will work together on the film project till the film project end. Thus, the organization structure is a bit loose because the participants are doing a flexible job other than a permanent working contract'. (O6)

This statement from an investment and financing director could also apply to the previous description of the production stage of China's online film industry. Firstly, the producer and director have the power to build a flexible crew, and the financing experts are also included in the crew members (O1, 2019; O5, 2019; O6, 2019; O10, 2019). This situation gives China's online film industry the opportunity to have various sources of investment. Unlike the theatre film industry, the crew structure, the filmmaking standard, the visual effects, and other production-related qualities of China's online films are far behind those of theatre films (O2, 2019; O4, 2019; O12, 2019). Almost all of the interviewees (n = 13) evaluated China's online

film production quality as one of the problems that limited the development of China's online film industry itself, but they did not see it as possible to change the budget and financing situation in a short period of time. This phenomenon could be the epitome of the development of China's online film industry in that online film projects have a complete supply chain and film product structure with a lower budget, less commercial attention, shorter volume, and therefore lower profit than theatre film projects. The total online film box office income cannot compete with the traditional theatre film box office revenue. However, China's online film industry is characterised by a higher return on investment (ROI) and lower risk, as discussed further with respect to the distribution and exhibition stages.

Theme 1.1 Financing

Various entities can be financing bodies for China's online film industry, such as film and television companies, television drama companies, pure finance and investment companies, personal investment, and other financial entities. The different types of financial bodies also are reflected in the previous statement that China's online film project makers could be 'everyone' who can meet the online platforms' requirements (O1, 2019; O3, 2019). The financial situation for China's online film projects is quite different compared with other film products and internet products. The director- and producer-centred model is similar to that in theatre film projects, and the work on a film project starts with an idea, inspiration, or draft script. China's online film production process has the same artistic preparation cycle as the traditional film production process. However, for financial support, a mature Chinese online film project needs to have some initial funds from the original project operating team, and the initial funds should cover approximately 50% of the budget of the film project (O1, 2019; O3, 2019; O5, 2019; O6, 2019). There are two reasons for the need for initial funds for a Chinese online film project. Firstly, the funds serve as a guarantee for the film-making crew and the targeted distribution platform that there will be enough funds to support the film production. Secondly, the funds can be held in an account to attract more investment. Thus, the initial fund has a dual role in the production stage by supporting the project operation and reducing financing risks. The financing process can be seen as a search for more producers to join the online film project. At the financing expansion stage, the new producers treat the online film project as a financial product to obtain a high final return on their investment (O5, 2019; O6, 2019).

Thus, the interviewees (O1, O3, O5, and O6) stated that China's online film could be defined as a financial product, and the investments in different stages of the supply chain were dynamic and depended on the quality of the online film project and financing strategies. Different investment bodies also made the financial strategies more dynamic in the case of China's online film industry. For example, online film-producing crews can provide the film script at the starting point of the production stage. Meantime, the platform online film project managers, censorship departments, initial investors, distributors, exhibitors, and other chain-related bodies such as data service companies can evaluate the script for future investment decision-making. After the negotiation with film-producing crews and platform managers, the first investment contract would be signed. Usually, the key participants for the first investment contract are film-producing crews, distribution companies, independent investors, and platform managers (O3, 2019; O6, 2019). All the participants in the first contract stage will keep the rights to attract more investment unless all the participants reach a consensus on a fixed investment contract (O3, 2019; O6, 2019). However, China's online film projects always rely on a business model of attracting more investments with initial funds (O3, 2019; O6, 2019). In detail, the initial fund is the first investment contract that mainly relies on the investors' evaluations of the film script. After the starting capital of China's online film project, all the participants will try to attract more investments to develop the film project. For example, future investment can influence the film casting, visual effects, marketing promotion, and other strategies to improve the quality of the online film project. A key time point is the end of the production stage. At that time, a finished online film project will be the footstone to attract more investment. Similarly, when it comes to distribution and exhibition stages, more investment bodies can also join the online film project (O3, 2019; O6, 2019). Therefore, from the time and volume of investment aspect, the financing issues of China's online film are more dynamic compared with theatre film projects.

Theme 1.2 Film Producing

The artistic producing process for a film project starts with an idea, piece of literature, or event that can be used for a completed screenplay draft (Squire, 2004; Vogel, 2020). China's online film project emphasises the central role of the screenplay draft since there will be some completion risks for film projects, especially in a new industry. This situation is also reflected

in the financing stage: the screenplay draft and sufficient initial supporting funds are essential for a Chinese online film project. Almost all of the interviewees remarked that these two foundations could be the determinants in evaluating a draft online film project when investors, producers, and platform operating managers make their decisions about the potential investment, production, and distribution of the online film in the future. The draft script development for an online film differs in some ways from the draft script development for a theatre film. Both online film and theatre film scripts start with an idea, an event, a piece of literature, or some other inspiration. However, online film script development can include the use of other IP (intellectual property), theatre films' topics, or other social hot topics because of the short production time and low cost of shooting online films. For example, interviewee O3 stated,

'...the online film content and copyright issue are evolving while the copyright issue for theatre films had a strict standard... for example, there is a releasing commercial theatre film, the online film project may have a cheap copy of that theatre film. However, we now have some IPs for the online film industry, and we will buy the IP or copyright at first, and then we can have some new online film projects rely on the bought IP or copyright'.

Thus, IP and copyright issues gave previous online film scriptwriters an easy way to obtain a draft version of a script because the same content underwent commercial and artistic checks at the theatre film level and was proven to be a viable film product. However, the scriptwriting process seems to be becoming more professional and more collaborative, although it is still purposeful in some specific genres. All the interviewees (n = 15) stated that the range of genres of China's online film industry is one of its strengths and that box office revenues show that the fantasy film, action hybrid film, and war and military action film genres are three different types of films that achieve good box office performance.

There are three main reasons that these are the top three financially performing online film genres: policy and supervision, the theatre film genre gap, and the high ROI. All the interviewees (n = 15), including online film and theatre film industry participants, stated that policy and supervision issues are critical issues for China's film market because of the vertical

supervision model, under which a policy change can change almost everything related to the supervision of a project. The film censorship system is another important issue in the production stage. Previous research (e.g. Feng, 2017; Mengyang, 2019) has shown that film censorship is quite strict for China's theatre film projects, and it seems that the uncertainty around film censorship for China's new online film industry provides opportunities in terms of film genres, content, and creativity.

Theme 1.3 Censorship

Film censorship for China's online films was loosened when the market started in 2015, and China's online film industry participants call the years that followed a period of wild growth. There were many different types of online films squeezed into this new market without production standards, and the only purpose of China's online films at that time was to recruit audiences at that time. The interviewees said that China's online film could be seen as an imitation of the American B film market, which is a commercially driven, low-budget, and less censored film market (Interviewees A, B, C, D, 2018). The strict film censorship of China's theatre film industry makes films in some genres difficult to produce, especially fantasy films and horror films, which typically incorporate non-scientific concepts such as magic, mythical creatures, ghosts, and supernatural elements. Thus, the genre gap and lack of censorship in China's online film industry create opportunities for online film participants to fill the gap with online fantasy and horror films. However, the uncertain censorship of China's online film industry could also be a threat because many consumers and film experts think that the online film industry is a disordered, low-quality, and uncontrolled film area. Akerlof's theory (1970) of the market for 'lemons' can explain this phenomenon: if the product providers use low-cost bad lemons instead of high-cost good lemons, the market will eventually be filled with bad lemons and become worse and worse. Badly produced online film products are like 'bad lemons', and they became the majority of the online film products in the first years of the industry. Therefore, the platforms and government began to intervene in the online film censorship system.

By the time of the interviews conducted for this thesis, censorship of China's online film industry had already become as strict as the censorship of theatre films, beginning from the online film project application step. For example, interviewee O2 stated,

'... the filing process for China's online films is much more similar to the theatrical films but the filing institutions are different. The China Film Administration supervises theatre films, while the National Radio and Television Administration supervises online films. Both theatre and online films must do the filing twice. The first filing would be the project initiation filing which means what kind of online film I will shoot. Once the project initiation filing has been approved, you can start the shoot. The second filing would be the full project content filing which means you should send your full version of the online films to the National Radio and Television Administration for review. Once the second filing has been approved, the online film project is ready to be released with your chosen platform...'

This statement shows that censorship of China's online film industry has an industrialization standard that has resulted in the related administration departments strengthening the supervision of online visual product releases, including online films. Censorship issues also were one of the findings in consideration of supply chain management theory application in China's online film. Furthermore, the first filing process also involves a target platform record, which can be seen as bundling censorship with platform supervision. Supervision by the platform occurs during the distribution step.

On 29 April 2022, the National Radio and Television Administration (NRTA) addressed matters of Chinese domestic online drama and film licensing notification with 14 rules for censorship issues:

1. The Chinese government implements a licensing system for Chinese domestic online dramas and films.
2. The competent department of radio and television under 'The State Council' shall be responsible for formulating the implementation norms for the distribution of domestic network drama films.
3. The radio and television authorities should continuously improve the whole supply chain supervision of domestic online dramas and films before and after the film production, distribution, and exhibition.

4. The competent departments of radio and television shall implement key supervision of domestic key online drama and film projects. The key online drama and film projects are the projects that have 1) a large amount of investment, 2) platform promotion, 3) platform banner position recommendation, 4) membership priority, and 5) production and distribution bodies' applications.
5. When a key domestic online drama or film product is broadcast, it shall use a unified logo, accurately mark the project distribution license number, and fix it in a prominent position at the beginning of the project.
6. Other domestic online drama or film projects (other than the projects mentioned in rule 4) should strictly obey all the censorship rules before broadcasting.
7. For the production or broadcast of domestic online dramas and films with major themes or special themes related to politics, military affairs, foreign affairs, national security, the united front, ethnicity, religion, judicial matters, public security, etc., written opinions of the relevant competent departments or relevant parties of the people's governments at or above the provincial level shall be issued.
8. The competent departments of radio and television shall support and encourage the production of high-quality domestic online dramas and films.
9. The competent departments of radio and television should earnestly implement the requirements of the ideological work responsibility system and strengthen the risk prediction, dynamic regulation, and supervision of online dramas and films from the perspective of actively preventing and responding to the ever-changing work needs of online ideological risks and hidden dangers.
10. The conditions, standards, measures, practices, and other related issues for the licensing and distribution service management of domestic key online dramas and films shall be extended and applied to other online visual products according to the actual development of the content management of online visual products.
11. Domestic TV dramas broadcast on the internet shall hold the TV drama distribution license issued by the competent department of radio and television and comply with the relevant administrative provisions of the national rules on radio and television programs and online audiovisual programs.

12. The competent department of radio and television under 'The State Council' may, according to the needs of the public interest, make decisions on the online dramas and films broadcast by the online audio-visual program service agencies to order modification, stop broadcasting or not to distribute, and award.

13. The competent department of radio and television of 'The State Council' is responsible for accepting applications for the distribution of domestic online dramas and films put forward by the central unit holding the 'Radio and Television Program Production and Operation License' and its directly affiliated institutions, and the provincial competent department of radio and television is responsible for accepting applications for the distribution of domestic online dramas and films within its jurisdiction.

14. The above requirements shall be implemented from 1 June 2022 (NRTA, 2022).

The financing and censorship issues are the two main differences between China's online film industry and the theatrical film industry. The film shooting process is much the same since they are both producing film products. All the interviewees (n = 15) remarked that there are no obvious differences in the film shooting programs but that there remains a production quality gap between China's online films and theatre films, which is a core factor differentiating these two types of film products.

In summary, the production stage for China's online film project involves raising financing, script development, shooting crew establishment, the censorship filing process, film shooting, the target platform negotiation process, and some initial marketing activities. The participants are scriptwriters, producers, talent agents, directors, script editors, project investors, platform project managers, a production company (if any), copyright holders, the cast and crew, platform staff, financiers, special effects teams (if any), support services (if any), and marketers. Additionally, lawyers, accountants, and consultants work across every stage of the supply chain. All (100%) of the participants in the online film area mentioned that censorship was the most important thing all around the supply chain even across the consumer film-watch experience, and this finding would be the starting point to reconsider the supply chain management theory development in China and platform-based cultural product area. Similarly, financing was

another core issue that could influence the whole supply chain. Financing in China's online film industry can be changeable with the different stages of the film project process. This changeable and dynamic financial support is another new finding which needs to be clarified in supply chain management theory application.

4.1.2.2 Theme 2. Distribution

Once the production stage is completed, a product is transferred to the distribution stage (Eliashberg et al., 2006; Bloore, 2009). For the theatre film industry, there are two main issues in the distribution stage: physical distribution of the prints to the theatres and related marketing activities (Eliashberg et al., 2006). A key performance indicator for the theatrical film industry distribution stage is the box office gross during all the release windows, including the theatre window, home video, and pay television. However, the distribution stage for China's online films works differently mainly because the film consumption venue has changed from physical cinemas to various mobile and digital screens (O1, 2019; O4, 2019; O6, 2019).

Theme 2.1 Platform Ranking System

After an online film project is finished with two censorship approvals, the next important step is to choose and negotiate with the target platform. The negotiations between online film project holders and platforms usually involve the online film ranking issue, the unit price issue, the effective-payable time calculation, the release time, the platform homepage banner position, marketing issues, special allowances, and other distribution issues (O2, 2019; O6, 2019; O8, 2019).

The online film ranking system is a platform-based film quality evaluation system. Four main platforms in China are releasing online films with the same ranking system from top to bottom, although the rank names are different. For example, the iQIYI company ranks online film projects from the top S level to the bottom D level according to the film content quality. The ranks from best to worst are S, A, B, C, and D. Another factor that influences the ranking issue is the form of cooperation form (exclusive cooperation with one platform or collaborative cooperation with different platforms). The cooperation form can be seen as a copyright issue

for theatre films. Thus, exclusive cooperation will have a higher unit price than collaborative cooperation. Therefore, the online film content quality and cooperation type are two main direct factors related to the box office financial performance of online films. Once the target platform is sited, the platform staff check the two censorship approvals, and then a film content quality department or team watches and evaluates the uploaded online film project to give it a final ranking. However, the platforms' ranking processes are trade secrets that the interviewees are not at liberty to discuss. The online film experts' group evaluation will be an industrialization-acceptable method to support the platforms' ranking systems, but the platforms are pursuing new ways to obtain initial audience feedback and scores. For example, the iQIYI company uses audience volunteers in different age groups to watch films with the expert group and let audiences evaluate the online film quality as well. The added step of the audiences' group watching is similar to the preview versions of theatre films that generate some word-of-mouth (WOM) reviews in advance of full release, which is an effective film marketing strategy. All the platform and online film company interviewees (n = 9) thought that these marketing strategies helped the competitive position of online film projects since a single online film project needs more exposure when there is fierce competition among several online film projects released at the same time.

Online exposure is directly related to the platform resources, so the marketing plan is another critical concern in addition to the online film project quality. For example, interviewee O2 stated,

'...unlike the theatre film projects to chase more releasing screens... the online films rely on the ranking, if the platform gives you an A rank, you will have matched platform resources on promotion for an A level online film project. The platform will also cooperate with the online film holders to do some marketing promotions. Thus, you will have a predictable effective click rate with your rank level though you did not do any marketing promotions. However, the effective click rate may increase if you do some marketing promotions...'

The marketing strategies for online films can be divided into online and offline promotions. The offline promotion could be some early release projections, roadshows, university campus

shows, public transportation advertisements, or other forms of offline promotions that are the same as the theatre film promotions (O2, 2019). As for online marketing strategies, there are more flexible and creative choices in today's digital era. Online trailers would be a normal strategy to make some great cuts with hooks to release in advance to attract more potential audiences (O1, 2019; O5, 2019; O11, 2019). The trailers now have different types, such as character trailers, storyline trailers, film-producing trailers, and other types of trailers. Different types of trailers are released according to the film promotion timeline and the promotion strategy for both theatre and online films. However, online film trailers are flexible enough to work with other social media or online platforms. Firstly, the cooperating platform matches the resources to the online film ranking to arrange banner positions, advertisements, and trailer positions on the platform homepage to expose the online film-related previews to attract consumers. Secondly, the promotion could be advertising with social media such as Tik Tok, Weibo, WeChat, and other mobile applications. For example, in-app advertising is one of the social media promotion strategies that online film projects use. The form of the in-app advertising could be some cuts for online films, IP combination advertisements, or other interactive advertising methods, and those designs make in-app advertising a more acceptable promotion strategy compared with traditional direct advertisements (O2, 2019; O10, 2019; O7, 2019). However, the lower budget, smaller film volume, and shorter product lifecycle make promotion strategies more important to online film box office performance because of the fierce competition around quickly-produced digital film products, different aesthetic preferences of online audiences, and the changing digital market (O3, 2019; O11, 2019).

Theme 2.2 Box office revenue

The box office revenue calculation for China's online film projects is quite different from that for the traditional theatre film industry. Traditional theatre film box office earnings were based on the gross domestic box office returns, with foreign revenue being another critical part of the total box office financial performance (Vogel, 2020). Now, the final box office performance includes both domestic and foreign box office earnings, IP share income, copyright selling, and other potential profits along the supply chain (Eliashberg et al., 2006; Bloore, 2009). Despite the traditional commercial income from the supply chain parts, the interviewees also mentioned that theatre films are now expanding their profits from cooperation with online visual product websites by selling copyrights and rights to the online exhibition of films after the theatre release window. However, copyright selling and online exhibition of theatre films are not parts

of the online film industry's model, and therefore these types of profit are not included in China's online film industry financial performance (O1, 2019; O5, 2019).

As described previously, every piece of online film has a unit price according to its platform rank. The highest unit price applies to the S-ranked online films, with the unit price decreasing as the rank decreases. Once the unit price is settled, another important issue in calculating the final box office revenue is the effective click times or effective film-watching time. Different online film platforms have different standards to define effective click times or effective film-watching times. The iQIYI company defines effective click times as follows:

'... one user watching the online film for more than 6 minutes regardless of whether it is continuous or discontinuous'

The Youku company defines effective film-watching time as follows:

'72 minutes of film-watching will be one unit of effective film-watching time no matter how many users watched this piece of online film.'

The effective film-watching time method aims to let the users watch the film content instead of just clicking the play button to add the total number of click times. Thus, there are two different types of definitions of the unit time or click calculation which are total click number-driven units and total film-watching time-driven units. The total click number-driven units emphasise the number of new viewers, while the total film-watching time-driven units emphasise the consumer film-watching behaviour. Interviewee O2 stated that

'...it seems that the Youku's method is more reasonable, and it could promote the industry development, but it could be more difficult for the online film producing bodies to get profit...while the iQIYI's method could be more profitable for online film producing bodies...'

Therefore, in choosing a target platform, online film-producing bodies must weigh artistic achievement and commercial gain.

Once the unit price and the effective click times or film-watching time are defined, the online film box office revenue can be calculated as follows:

$$\begin{aligned} & \textit{The online film box office revenue} \\ & = \textit{unit price} \times \textit{effective click times or film watching time units} \end{aligned}$$

However, as the previous interview analysis of the promotion part of the supply chain, the platforms give the online film-producing bodies some promotion allowance, so the box office revenue calculation equation is as follows:

$$\begin{aligned} & \textit{The online film box office revenue} \\ & = \textit{unit price} \times \textit{effective click times or film watching time units} \\ & + \textit{promotion allowance} \end{aligned}$$

The purchase options for China's online film users are 1) buying a membership for the target platform and getting access to all the online films during the membership period on the same platform and 2) buying a specific piece of China's online film for its unit price. Thus, one of the aims of online film collaboration is to recruit more platform users. All the interviewees stated that the recruitment of new users was the core target for a platform because the net income is directly related to the number of platform users. The platforms provide consumers with a diverse array of online visual products, and the consumption of online visual products increases as the number of users increases. The number of platform users plays a fundamental role in the financial performance of a platform. Therefore, the online film box office revenue is directly positively related to the number of users except for the unit price. The calculation of the final online film box office financial performance can be represented as a comparison of the number of effective clicks if the unit prices are the same for different online film products. In other words, online films need to attract more potential audiences and a larger promotion allowance to achieve better final box office financial performance. Receiving a high rank from

the platform for an online film is therefore the first priority. Increasing the audience size becomes the priority for lower-rated online films.

In addition, all the interviewees emphasised that the film content or film quality rank is the most important factor because almost every standard slot is related to the film content except the filmmaker organizations' self-promotion strategies. However, the interviewees remarked that there is no industry-wide standard for evaluating online film content quality. Interviewee O2 stated that although there is no unified standard for platform review of an online film, the film content needs to meet policy requirements. The creativity of the film's content could be another important factor in differentiating it in the online film market. Interviewee O2 also said that the process of reviewing China's online films involves not only predicting the potential commercial success but also rating the artistic performance. Platforms appreciate high-quality online films in different genres and encourage all online filmmakers to provide more high-quality content film products. Once the platform reviewing staff identifies a high-quality online film project, the platform allocates promotion resources for this piece of online film. Interviewee O11 said that it is difficult to define the evaluation criteria for China's online films because the review process is subjective and involves judges who have different educational backgrounds, focuses, aesthetic skills, and other personal differences. O11 also said that the evaluation criteria issue was frequently raised by those starting in the online film business.

'... it is hard to explain how to evaluate the quality of an online film at an industrial level, but almost experienced industry participants can identify the different ratings of the online films because they watched quite a lot of online film products, and they had the sense of the criteria for online films...'

Therefore, establishing criteria for evaluating the quality of China's online films is an unexplored gap to be addressed in future research. How to 'measure' latent 'quality', 'performance', and other cultural-related terms is a key issue for survey design.

Theme 2.3 Promotion

The promotion strategies for China's online films can be divided into two categories: online and offline promotion activities.

Theme 2.3.1 Online Promotion Activities

The online promoting activities include online advertising activities, cooperating with other online applications, interrupting social media, bundling IP sales, releasing trailers, and others.

Online advertising activities are mainly implant advertising in online films related to the sponsorship issue and platform advertisements. As interviewees O4, O6, and O7's interview responses mentioned, the implant advertising process begins with scriptwriting (O4, 2019; O6, 2019; O7, 2019). The producers' team identifies all of the possible implant advertising opportunities when the script is completed. Then, the producers' team members search for different companies to sell the product placements and look for sponsorship partners or investors (O6, 2019; O7, 2019). Therefore, the implant advertising process has a dual role that covers the financing and promoting stages. Another type of advertising is platform advertisements, which are shown either at the beginning or in the middle of online films. These types of advertising activities are arranged between the platform and the product owners who need the product promotion. The platform's advertisement income is shared with the online filmmakers because online films attract audiences to see the advertisements, and platforms also recognize advertisements income as value to be shared with the film providers (O1, 2019; O2, 2019; O12, 2019). However, the paid members of the online platforms retain the right to avoid platform advertisements since this is one of the privileges of memberships.

Cooperation with other online applications has increased as social media has developed rapidly in recent years (Tong et al., 2020). Various types of cooperation with mobile and online applications are possible. Direct advertisements are one of the most used methods for online film promotion, according to the interviewees. Splash screens, pop-ups, ending advertisements, and other types of advertisements are often used in cooperation with other mobile and online applications (O8, 2019). Making short creative video advertisements is another popular method for increasing online films' exposure, especially working with mobile and online video platforms such as Tik Tok, Weibo, Douyu, Huya, and other online video-related media.

Creative short videos are beneficial for both online filmmakers and the promotion platforms that the filmmakers choose because short videos can attract more audiences for the application companies and attract new customers to watch online films (O9, 2019). The quality of creative short videos can be seen as a reflection of the online film's quality because audiences consider short creative videos to reflect the online film's production quality in the same way that trailers reflect traditional films. Thus, short creative videos play the same role as trailers but in new release channels where they can be seen more often since mobile channels fill people's social lives almost everywhere. Finally, IP-related advertisements are more emotional for IP chasers (O1, 2019). For example, Dee Renjie is an ancient Chinese detective, and this IP has a group of loyal audiences. Some of China's online films used this IP to produce a series of online films, such as 'Detective Dee: The Sly Red-eye', 'Detective Dee: Solitary skies killer', 'Detective Dee: Beauty from the West', and other Detective Dee-related IP online films. This type of advertisement will appear in a series of films, IP-related websites, games, and other social media to inform people about the IP film information, especially the fans. However, this type of advertising has two main limitations: 1) the number of IP online films is limited, and 2) the target group of audiences is limited. There are some other creative ways to work with online institutions, depending on the different types, genres, visual effects, and other unique online advertising promotion strategies of online films.

Theme 2.3.2 Offline Promotion Activities

Offline advertising consists mainly of posters, premieres, school campus events, and other useful offline promotion activities. As interviewees O2, O8, and O12 mentioned, online film production teams and platforms think highly of off-line promotion strategies, and some of the strategies are the same as the traditional theatre film industry's activities (O2, 2019; O8, 2019; O12, 2019). Both online and traditional film industries put posters in cinemas, on school campuses, at event venues, and at other places where potential audiences will notice them. In addition, posters for online films are attractive signals to consumers and can appear in banner positions on platform websites. Thus, the posters' design, colour, and visual effects are important factors in the marketing field (O8, 2019). School campus events are becoming more popular since the young generations are the target group of consumers that the online film industry hopes to recruit. The cost for school campus events is also lower than that cost for events that require renting special venues. School campus events can also be coordinated with student unions and local communities to organize activities such as cosplay, quizzes, raffles,

Q&A (questions and answers), dancing games, and other activities that could increase youth engagement (O2, 2019). However, online film promotion strategies seldom involve fans' meetings because famous actors hardly participate in online film projects in China. The lack of star power could be both a weakness and a strength for China's online film projects. Some scholars believe that star power has a positive relationship with the final box office performance (De Vany & Walls, 2002b; Liu, 2006), while others believe that star power is not significant to box office performance, although star participation can decrease the market uncertainty (Ravid, 1999; Basuroy et al., 2003). Therefore, the lack of stars has a moderate negative impact on the final box office revenue, but China's online film industry is one of the newest cultural industries, with associated market uncertainties. The moderate influence on the box office income is smaller than for the traditional film industry. On the other hand, the use of 'unknown' actors is better suited to online films' brand image as the 'new digital era's film-watching experience' and makes the audiences focus more on the film content than on specific stars (O1, 2019; O10, 2019). Unknown actors also ease the pressure on the budget, which permits greater investment in film production quality. Offline promotion strategies for China's online film projects are tiny in proportion to the traditional film industry's promotion activities, and online film marketers are still trying to find more creative offline promotion events suitable for online films since the investment and market focus increase as the market uncertainties decrease.

4.1.2.3 Theme 3. Exhibition

The exhibition stage for China's online films is easier than the traditional film industry exhibition stage because the platform plays a determining role in this stage. The traditional film exhibition stage involves different releasing windows, such as cinema release, DVD sales, paid TV services, spin-off products, digital copyright selling, and other release issues after the current film opening window (Bayus et al., 1997; Bloore, 2009). However, in the case of China's online films, the exhibition stage is mainly the cooperating platform's website and mobile applications. Spin-off products work mainly with IP products such as video games, website games, sequence film products, and other IP-related products. There are two types of IPs: private IPs and public IPs (O1, 2019; O2, 2019; O4, 2019; O7, 2019). Private IPs belong to the copyright holders, and all IP-related spin-off products need permission from the IP holders. This type of IP includes the newest online fiction, events, cartoons, online games, and

other created IPs. Public IPs are some existing history stories, characters, heroes, and other IPs without copyright holders.

4.1.2.4 Theme 4. China's online film quality attributes (digital platform quality attributes and online film quality attributes)

As China's online film industry supply chain described in pervious parts, the box office performance impact factor/attributes can be divided into platform quality-related factors and film quality-related factors, as described in the literature previously reviewed on digital platforms, e-services, quality management, the film industry, the film industry supply chain, and film impact factor/attributes.

During the interview process, all the interviewees (n = 15) who work in both the online film industry field and the traditional theatre film industry talked about the box office performance attributes in terms of their platform aspects and film aspects. However, the interviewees are not academics but rather industry practice participants, and they used terms such as 'platform power' instead of 'platform-related attributes'. For example, O1, O5, and O10 interviewees work for a platform, and they said, 'the platform could ...would... should...' They view platforms as having a powerful role in China's online film industry by providing the viewing platform for films, making policies, rating films, sharing the profit, and participating in all stages of the supply chain. However, interviewees O3, O4, O6, O7, O9, and O11, who work in online film production companies, view platforms as business partners with huge power. Thus, the term 'platform power' in the supply chain map corresponds to 'platform-related attributes' to be tested in the model to demonstrate the 'platform power' in detail.

Theme 4.1 Platform-related attributes

The interview content did not address the 'platform-related attributes' in detail, mainly because all the interviewees are online film and theatre film industry participants. No platform websites or mobile application engineers participated because the platform companies treat 'platform-related attributes' as business secrets. However, some of the interviewees talked about platform operations and future technology plans.

For example, interviewee O1 mentioned that a platform was trying a new film-watching pattern called ‘interactive films’, which means that at several time points in the film project, audiences choose different nodes at those time points, and each node leads to a different storyline so that audiences see different film endings according to their choices (O1, 2019). This description of ‘interactive technology’ was reflected in the model as an ‘interactivity’ factor.

Interviewee O6 talked about the entertainment role of the platform and the platform providing audiences with a variety of online films and online visual products to meet the audience’s demands every day (O6, 2019). This statement could be seen as a ‘trust’ factor in the platform quality literature which refers to brand recognition and consistency.

Interviewee O3 mentioned that user comfort for mobile apps is an important indicator for mobile apps’ version updating (O3, 2019). This information could be associated with ‘ease of use’, ‘responsiveness’, and ‘visual appearance’ items.

A few of the interviewees also mentioned the download speed, website, mobile app design, advertising, promotion, and other terms related to ‘platform power’. Therefore, the platform-related attributes were tested and adapted to the literature since the information obtained from the interview content was limited.

Theme 4.2 Film-related attributes

Film quality

All the interviewees (n = 15) emphasised that ‘film quality’ ranked first in both online films and theatre films. The terms the interviewees used in the interview to describe film quality were ‘story’, ‘script writing’, ‘film content’, ‘talent or value that the film transferred’, ‘good film’, ‘good content’, ‘IP attractiveness’, ‘good ROI’, ‘content is the basis’, and ‘storytelling’. The interviewees used numerous terms to describe the film content as the most important thing

for an online film project, and this phenomenon also catered to the freemium operation for the online film. However, the term ‘film quality’ was too general for a film product from an item level. Some of the terms the interviewees mentioned would be preparation for film storylines such as script, IP, and transferred value. Thus, the ‘storyline’ would be an applicable item to explain the ‘film content’ in the interview at an academic item level.

Budget

Another term that all the interviewees (n = 15) mentioned was ‘budget’. The smaller budget requirements for online films are an advantage compared to theatre films because they make the online film field a good choice for investment, although the investment volume and ROI (from the volume aspect, not the ratio) are less than for the theatre film industry. However, at the online film project budget level, a larger budget is a good foundation for a successful online film project. In addition, some low-budget online film and theatre film projects have had commercial success, such as ‘*Chenxiangliudianban*’, ‘*Linghunbaidu*’, and ‘*Wumingzhibei*’. Interviewee O1 stated that the success of those low-budget film projects is attributable mainly to their high-quality content and WOM. This is also the reason why film content ranks as more important than the budget.

Star power

Star power (n=12; three theatre film interviewees did not mention star power in online films) was another impact factor/attribute addressed in the interview content. Although star power was mentioned by the online film industry participants, they said that online film star power cannot be compared to the star power of the theatre film industry. The three theatre film industry participants did not mention star power in online film projects, which also reflects the relative insignificance of star power to online films. The interviewees also mentioned that the director and producer power are more important than the actor power for online films. The reasons for this are: 1) online film projects seldom use famous theatre film actors, 2) low budgets limit the actors’ power, and 3) investors believe that producers and directors with previous commercial success in online film projects are more important in terms of ROI. However, some of the interviewees thought that increasing participation by famous actors would improve the brand recognition of the online film industry in the future.

Genre

‘Genre’ was another impact factor/attribute mentioned in the interviews, since during the early stage of industry development, online films benefited from the genre gap compared to theatre films because of different supervision structures, as discussed previously.. Interviewee O7 described an interesting phenomenon related to the genre issue for online films: an online film project named ‘*Bixiandazhanzhenzi*’ was a thriller that combined two horrific characters, but audiences thought it would be a ‘comedy’ in which two ghosts fight each other. Humorous reviews recruited audiences who were not thriller fans to watch the film to figure out whether it was a thriller or a comedy. Interviewee O11 stated that different platforms had different preferences for different genres, and this situation makes the genre a predictable signal for different platform ratings, which could be an important factor for online film project makers.

Adaptation from other media

Adaptation from other media is highlighted when film products rely on digital platform distribution and exhibition (Hennig-Thureau et al., 2006). This is true for the online film industry. Firstly, IP plays an important role in the online film-producing stage, and media platforms can be good IP sources to help online film production. Secondly, an adaptation from another medium can attract existing fans to the online film project. Thirdly, cooperation between the online film industry and other media can help the industry’s development.

Online films sometimes use a freemium strategy to recruit audiences, which means that the audiences can see an online film for free for the trailers or for the first several minutes (usually 5 to 6 minutes) and then make a decision about whether to purchase the film. The pilot interview content also stated that early-stage online film producers used to put all visual effects in the trailers or the freemium part of the online film project. Therefore, this unique promotion strategy made trailers a persuasive factor in the consumers’ purchase decision-making process.

Internet exposure

Internet exposure is one of the inherent properties of online films since the distribution and exhibition all rely on internet-based channels. According to the interview analysis, internet exposure from a platform is an indicator of an online film project's quality. Better internet exposure is related to the potential number of viewers, and the number of viewers is directly related to the final box office revenue.

Internet exposure is a reflection of the platform ratings. The term 'platform rating' has a hugely different meaning from the 'ratings' of traditional theatre films. For example, the MPA has five rating categories: G (general audiences), PG (parental guidance suggested), PG-13 (parents strongly cautioned), R (contains some adult material), and NC-17 (no children 17 and under) (MPA Film Ratings). Online platform ratings reflect film content levels from the top S level to the bottom D level, and each level has a different unit price that is related to the final box office revenue calculation, as described previously. Thus, ratings from online platforms play an indispensable role in online film evaluation.

The distribution type (exclusive or non-exclusive) for online films is another inherent property which is directly related to the unit price, as discussed previously.

Interviewees also mentioned that the release time was a significant factor. For example, interviewee O6 said that all the online film production companies used data to determine the best release times for online films, especially the specific days of the week and specific seasons of the year. Thus, the release time is another impact factor/attribute that has attracted attention in both academic research and practice.

The reviews for online films have dual roles compared to the reviews for theatre films. Firstly, the reviews after film-watching have the same impact as theatre film reviews. Another unique review type for online films is real-time reviews, which means that consumers comment on films online, using words, sentences, or emojis, as they are watching the online films, and all other viewers can see this real-time review information. This type of review is aimed at encouraging the audience's engagement and increasing the interaction level among users.

Despite real-time online communication, WOM is important for both individual online film projects and the whole online film industry. WOM can critically and dynamically impact cultural products and establish emotional connections with films (Liu, 2006; Godes & Silva, 2012; Moe & Trusov, 2011). Therefore, WOM is an important impact factor/attribute for the whole of China's online film industry.

A final impact factor/attribute discussed in the interviews was policy. The interviewees all stated that policy played a fundamental role in the online film industry, but no one wanted to talk about policy in detail. The reasons for this are that 1) policies are always a sensitive subject in practice and 2) the (NRTA) supervises the online film industry now, and policies can be expected to change after a certain period of supervision to address gaps or conform to changes in policies of the central government.

In summary, the platform-related attributes identified in the literature review and discussed in the interviews are those related to digital platforms, Web evaluation, Web quality, e-quality, and other labels. The film-related quality attributes can be divided into three groups: *production quality attributes*, *distribution quality attributes*, and *exhibition quality attributes*. The key theme classifications and findings were shown in Table 5. As the interview guide mentioned at the beginning of the Study 1 interview analysis part, the term 'factor' was used for interview from the consideration of Chinese language colloquial convenience. The term 'attribute' was used in this thesis from the judgement of academic literature review and theory. However, some of the attributes mentioned in the literature had different weights in the interview analysis. Some new attributes also should be added to the model base on the interview content analysis. Thus, the findings of the main-phase interview analysis resulted in the development of a new supply chain map that shows China's online film industry operation process in detail in terms of participants and impact attributes. A detailed analysis of a set of impact attributes would be useful in guiding the model questionnaire design to improve the accuracy of the questionnaire design from the perspectives of both the academic literature and industry practice experience.

China's online film project tended to get a logistic flow from production to consumption which catered to current supply chain management theory. However, this thesis produced a range of new findings that are challenging the development and adoption of the current supply chain management theory in China's online film. Firstly, the information in the supply chain cannot be equally shared with every independent component in the chain. For example, distribution companies seldom participate in online film production stages and distribution companies may not share detailed film-producing information. The platform appears at every stage of the supply chain and plays a guidance role that provides a chance for different components among the chain just focused on their own areas. Secondly, cultural and political differences are strict conditions in online film production, distribution, exhibition, and consumption in China according to the interview analysis. Unlike Western film industries, the Chinese film industry does not have a rating system (O1, 2019; O2, 2019; O4, 2019; O5, 2019; O6, 2019; O7, 2019; O9, 2019; O10, 2019; O11, 2019). So there are strict censorship and supervision for all genres of online film products (NRTA, 2022). Thirdly, new measurements are needed to investigate the quality attributes of China's online film products and test the supply chain management theory and attribution theory applications. For attribution theory, there are also some new findings that bring new considerations in the theory's application in China. Firstly, new attributes such as audience reviews and WOM can influence audiences' behaviour in evaluating the content quality of online film products. So new attributes should be added to the model in testing the attribution theory under the digital platform cultural product context. Secondly, cultural difference is another important factor that can influence the application of attribution theory in China. For example, previous studies mentioned privacy was an important attribute (e.g. Park & Kim, 2006; Boerman et al., 2021), but privacy may not be a dominant attribute in China from the interview content analysis. Therefore, Study 2 data analysis results should provide a complementary view with Study 1 data analysis results to have a better understanding of theory development issues in China's online film product practice.

Table 5. Study 1 main phase interview themes and key findings

Themes	Key findings
1. Production	The production stage for China's online film project involves raising financing, script development, shooting crew establishment, the censorship filing process, film shooting, the

target platform negotiation process, and some initial marketing activities.

The participants are scriptwriters, producers, talent agents, directors, script editors, project investors, platform project managers, a production company (if any), copyright holders, the cast and crew, platform staff, financiers, special effects teams (if any), support services (if any), and marketers.

1.1 Financing Various entities can be financing bodies for China's online film industry.

A mature Chinese online film project needs to have some initial funds from the original project operating team, and the initial funds should cover approximately 50% of the budget of the film project. The initial fund has a dual role in the production stage by supporting the project operation and reducing financing risks.

Dynamic financing strategies are emphasised.

1.2 Film Producing China's online film project emphasises the central role of the screenplay draft.

China's online film script development can include the use of other IP (intellectual property), theatre films' topics, or other social hot topics.

The range of genres of China's online film industry is one of its strengths compared to theatre film products.

1.3 Censorship Film censorship for China's online films was loosened when the market started in 2015.

Now, the censorship of China's online film industry had already become as strict as the censorship of theatre films, beginning from the online film project application step.

The censorship of China's online film industry has an industrialisation standard.

NRTA issued 14 rules for China's online film censorship and supervision.

2. Distribution

2.1 Platform Ranking System	<p>The online film ranking system is a platform-based film quality evaluation system.</p> <p>Four main platforms in China are releasing online films with the same ranking system from top to bottom based on film quality.</p> <p>The cooperation form influences ranking.</p> <p>Marketing strategies influence ranking.</p> <p>Different rankings have different benefits from platforms.</p>
2.2 Box office revenue	<p>The box office revenue for China’s online film projects is directly related to ranking.</p> <p>The box office revenue for China’s online film is different from the box office revenue for theatre film.</p> <p>The unit price relates to ranking directly.</p> <p>The effective click times or effective film-watching time relate to box office revenue directly.</p> <p>There are two purchase options for China’s online film products which are buying membership for target platform and buying a piece of China’s online film product for its unit price.</p>
2.3 Promotion	<p>The promotion strategies for China’s online films can be divided into two categories: online and offline promotion activities.</p>
2.3.1 Online Promotion Activities	<p>The online promoting activities include online advertising activities, cooperating with other online applications, interrupting social media, bundling IP sales, releasing trailers, and others.</p> <p>Online advertising activities are mainly implant advertising in online films related to the sponsorship issue and platform advertisements.</p> <p>Cooperation with other online applications is an effective way to operate online promotion.</p> <p>IP-related advertisements are more emotional for IP chasers.</p>
2.3.2 Offline Promotion Activities	<p>Offline advertising consists mainly of posters, premieres, school campus events, and other useful offline promotion activities.</p>
3. Exhibition	<p>The platform plays a determining role in exhibition stage.</p> <p>The exhibition channels are mainly the cooperating platform’s website and mobile applications.</p>

	Spin-off products work mainly with IP products.
	The exhibition stage is clear and easy to be managed because digital devices are the main channel for China's online film exhibition.
4. Online film performance attributes	China's online film performance attributes can be divided into platform quality-related attributes and film quality-related attributes.
4.1 Platform-related attributes	<p>The interview content did not address the 'platform-related attributes' in detail.</p> <p>The platform-related attributes were tested and adapted to the literature since the information obtained from the interview content was limited.</p>
4.2 Film-related attributes	<p>Film quality</p> <p>Budget</p> <p>Star power</p> <p>Genre</p> <p>Adaptation from other media</p> <p>Internet exposure</p> <p>Distribution type</p> <p>Reviews</p> <p>Real-time online communication</p> <p>WOM</p>

A proposed China's online film supply chain map is shown in Figure 3.

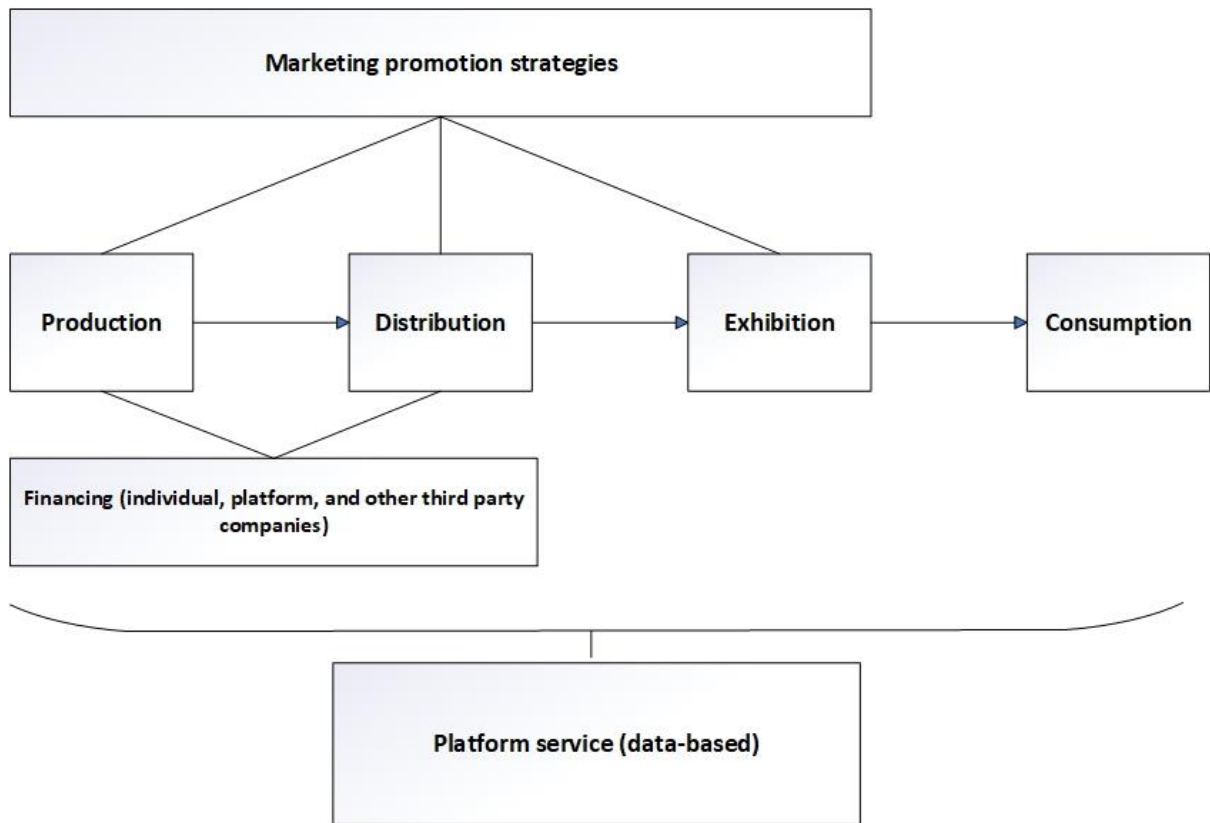


Figure 3. China's online film supply chain map

4.2 Data analysis results of Study 2 – quantitative phase

4.2.1 Study 2 pilot survey results

The Study 2 pilot study phase involved a survey in which items were collected from the literature review and the Study 1 qualitative interview analysis results. This sequential process combined the qualitative and quantitative results consistently to contribute to answering the research questions. The pilot survey questionnaire questions were designed to address the attribution variables that could be divided into two parts: platform quality-related attributes and film quality-related attributes. The Study 2 pilot participants' demographics profile is shown in Table 6. The demographic characteristics showed that the total number of the sample was 31 and males occupied 61.29% while females occupied 35.48% of the total number of participants. The sample mainly involved the age group from 25 to 34 years old (83.87%).

Table 6. Demographic Characteristics of the Participants (Study 2 Pilot Phase)

Characteristics	<i>n</i>	%
Gender		
Male	19	61.29
Female	11	35.48
Prefer not to say	1	3.23
Age		
18-24 years old	3	9.68
25-34 years old	26	83.87
35-44 years old	2	6.45
45-54 years old	0	0
55-64 years old	0	0
65 + years old	0	0
Prefer not to say	0	0

The scales from the existing literature and the interview analysis results were utilised to measure the two attributes. The platform quality-related attributes were ease of use (EU),

responsiveness (RS), security/privacy (SP), personalisation (PL), advertising (AD), and technology integration (TI). The SPSS Statistics 26 software was used for the pilot data analysis.

Ease of use (EU) utilised a three-item scale (Henderson et al., 1995; Aladwani & Palvia, 2002; Hackett & Parmanto, 2005; Parasuraman et al., 2005; Collier & Bienstock, 2006) with a seven-point importance scale (1 = not important at all, 7 = extremely important). The Cronbach's alpha was 0.886.

Responsiveness (RS) utilised a five-item scale (Wolfenbarger & Gilly, 2003; Collier & Bienstock, 2006) with a seven-point importance scale (1 = not important at all, 7 = extremely important). The Cronbach's alpha was 0.932.

Security/Privacy (SP) utilised a three-item scale (Janda et al., 2002; Parasuraman et al., 2005; Collier & Bienstock, 2006) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.737. However, the variable name may confuse the participants, so the variable name should be changed in the main phase to make it clearer to participants.

Personalisation (PL) utilised a seven-item scale (Kim & Fesenmaier, 2005; Tong et al., 2020) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.672, which did not meet the reliability requirement. The main problem with the literature on personalisation is that it applies to mobile marketing studies. New literature related to digital platform personalisation should be sought, and new items should be added in the main phase.

Advertising (AD) utilised a three-item scale (Jung & Butler, 2000) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.656, which did not meet the threshold of 0.70.

The problem for advertising (AD) was that Cronbach's alpha would reach 0.774 if question 10.1 was deleted, but the number of items would be two, which is insufficient to ensure good reliability. Thus, new items should be added in the main phase.

Technology Integration (TI) utilised a four-item scale (Technology integration (Aladwani & Palvia, 2002; Parasuraman et al., 2005; Collier & Bienstock, 2006; interview analysis result) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.788.

Film quality-related attributes could be divided into production quality attributes (PQA), distribution quality attributes (DQA), and exhibition quality attributes (EQA).

The production quality attributes (PQA) utilised a 13-item scale (Linton & Petrovich, 1988; Sochay, 1994; Bagella & Becchetti, 1999; Collins et al., 2002; De Vany & Walls, 2002b; Basuroy et al., 2003; Hadida, 2004; Delmestri et al., 2005; Chang & Ki, 2005; interview analysis result) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.898.

The distribution quality attributes (DQA) utilised a 10-item scale (Faber & O'Guinn, 1984; Prag & Casavant, 1994; Zufryden, 2000; Eliashberg et al., 2000; De Vany & Walls, 2002a; Basuroy et al., 2003; Ravid & Basuroy, 2004; Chang & Ki, 2005; interview analysis result) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.873.

The exhibition quality attributes (EQA) utilised a six-item scale (Litman & Kohl, 1989; Rosen, 1990; Eliashberg et al., 2000; Collins et al., 2002; Elberse & Eliashberg, 2003; Zuckerman & Kim, 2003; Ainslie et al., 2005; interview analysis result) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.831.

In the pilot phase, only one outcome variable was added to the survey, satisfaction (SAT), because the main phase model was under design. Satisfaction (SAT) utilised a six-item scale (Oliver, 1980; Fullerton, 2005; Heitmann et al., 2007; interview analysis result) with a seven-point importance scale (1 = not important at all, 7 = extremely important). Cronbach's alpha was 0.944.

In summary, the quantitative pilot survey mainly focused on the measurement model reliability test, and the results show that almost all of the factors considered work well in the model except for security/privacy (SP), personalisation (PL), and advertising (AD). The reliability results are shown in Table 7.

Table 7. Reliability results (Study 2 pilot phase)

Scale items	Cronbach's Alpha	N of Items
Ease of use (EU)	0.886	3
The usability of the website plays an important role		
The accessibility of the webpage makes it easy and fast to get anywhere on the site		
The network's navigability works well		
Responsiveness (RS)	0.932	5
The website responds to my inquiries		
The website gives me a satisfactory response		
When I have a problem, the website shows a sincere interest in solving it		
The website responds quickly to my inquiries		
The contact information is clear and easy to be found		
Security/Privacy (SP)	0.737	3
In the website appears symbols and messages that signal the site is secure		
The website assures me that personal information is protected		
The website assures me that personal information will not be shared with other parties		

Personalisation (PL)	0.672	7
The website can recommend the online films according to my interests		
The hardware mobile devices can satisfy customers' personal needs		
The virtual mobile applications can satisfy customers' personal needs		
The mobile affects my film watching pattern		
Freemium models offer me free opportunities to experience recommended online films before making purchases		
AI (artificial intelligence) makes recommendations that suit my film watching habits		
The website can send me custom message		
Advertising (AD)	0.656	3
This website has valid links		
The website has advertisements related to the film content		
The website has both online and off-line promotion activities		
Technology Integration (TI)	0.788	4
This website is always up and available		
This website loads quickly		
This website does not crash		
This website always has the messages are then projected onto the screen, so that at any given time the scene may be overlaid with multiple "bullets," or comments, scrolling across the screen.		
Production quality attribute (PQA)	0.898	13
The online film storyline is attracting		
The online film has memorable characters		
The online film has a clear genre		
The online film has well-known stars		
The online film has celebrities		
The online film has well-known directors		

The online film has well-known producers		
The online film has stars who had good past box office performance		
The online film has directors who had good past box office performance		
The online film has producers who had good past box office performance		
The online film has a big production budget		
The online film has adaptations from other media		
The online film has a good IP		
Distribution quality attribute (DQA)	0.873	10
The online film has attractive trailers		
The online film has good internet exposure		
The online film has a good rating from the platforms		
The distributor type (independent/ cooperative) influence		
There are good online and off-line promotion activities		
The advertising strategies related to other social media (Weibo, Tik Tok, and other social apps)		
The poster of the online film is attractive		
The banner position is good on the website		
The free trial film content (always the first 5 minutes) is attractive		
There is a good IP cooperation		
Exhibition quality attribute (EQA)	0.831	6
The online film has an effective release time		
There is a broad screen coverage (Laptop, cell-phones, iPods, and other mobile screens)		
There are positive reviews about the exhibition		
There are negative reviews about the exhibition		
The word of mouth shows it is a high-quality online film		
The word of mouth shows it is a low-quality online film		
Satisfaction (SAT)	0.944	6
I am satisfied with my decision to purchase from this website		

If I had to purchase again, I would feel differently about buying from this website

My choice to purchase from this website was a wise one

I feel good regarding my decision to buy from this website

I think I did the right thing by buying from this website

I am happy that I purchased from this website

The pilot survey also had an open question on unmentioned factors that could influence China's online film performance. The answers to this question are as follows.

1. The price of online movies should not be too expensive.
2. Film content.
3. Platform rating, release schedule.
4. The subject (genre), the story, and the actors.
5. Website quality: membership size; platform users' movie-watching habits and preferences. Online film quality: social demand; degree of competition; actor's appeal; the strength of the main cast; investment production publicity scale; plot and other works of the quality of each stage.
6. Release schedule; the fit of film type and website audience; publicity and marketing; payment method (e.g. membership, single pay); broadcast mode (exclusive, non-exclusive, network broadcast).
7. Genre
8. Film itself
9. Third-party rating site rating and score
10. Website and online movie quality will affect the box office but are not the most critical factors. The site membership and recommendation position are important, and then the station's successful marketing strategies are important.
11. The cast and the way the film was made.

12. It feels like early promotion is important.
13. Release time, other online film box office revenue in the same release cycle, the whole online film market.
14. Whether the online film combines the current hot topics and social hot spots also has a great impact on its box office.
15. Big budget, such as the emptiness of watching movies after the outbreak of Covid-19.
16. Clothing, makeup, prop, actor, marketing, platform promotion.
- 17, Content and rating
- 18, Publicity and publishing team
- 19, Price

19 of the 31 pilot survey participants gave their professional opinions since the participants included filmmakers, producers, directors, platform staff, and users. There were 19 male participants, 11 female participants, and one participant who preferred not to state a gender. All participants were 18-44 years old. The pilot quantitative survey tested the reliability of the measurement model, generated additional factor information, and demonstrated the consistency of the mixed-methods research design. Details of the questionnaire design are provided in the appendix.

4.2.2 Study 2 main survey results

4.2.2.1 Sampling and data collection procedures

The Study 2 main phase conducted an online survey delivered by Wenjuanxing (<https://www.wjx.cn/>) which is an online survey tool that is popular in China for both academic and practical research. The questionnaire consisted of 129 questions which seems too many for netizens. There were 723 reposed participants originally, but there were some invalid responses. The reasons for the invalid responses were various, such as being bored with too many questions, unstable internet connections, quickly selecting the same number, and other

dropping activities without reason. There were two ways for the sample screening. Firstly, the Wenjuanxing platform could mark a value of -2 for the blank responses. It was clear to drop the -2 values from designed values ranges 1 to 7. Secondly, removing the duplicate values by applying the data tool in Excel. After the data filtering check, there were 327 useable responded questionnaires for Study 2 main phase testing. The Study 2 main phase participants' demographics profile is shown in Table 8. For the demographic questions, the participants were allowed not to answer the questions. Therefore, there were empty answers to the demographic characteristics questions.

Table 8. Demographic Characteristics of the Participants (Study 2 Main Phase)

Characteristics	<i>n</i>	%
Gender		
Male	141	43.10
Female	140	42.80
Prefer not to say	44	13.50
Empty	2	0.60
Age		
18-24 years old	188	57.50
25-34 years old	48	14.70
35-44 years old	42	12.80
45-54 years old	32	9.80
55-64 years old	11	3.40
65 + years old	5	1.50
Prefer not to say	1	0.30
Education background		
No schooling completed	4	1.20
Junior high school	1	0.30
High school	31	9.50
Bachelor's degree	205	62.70
Master's degree	37	11.30
Ph. D. or higher	4	1.20
Prefer not to say	30	9.20

Empty	15	4.60
Marital status		
Single, never married	184	56.30
Married or domestic partnership	99	30.30
Widowed	4	1.20
Divorced	2	0.60
Separated	1	0.30
Prefer not to say	25	7.60
Empty	12	3.70
Income level (monthly) (1 GBP \approx 9 RMB)		
Under 1000 RMB	71	21.70
1001 RMB to 2000 RMB	16	4.90
2001 RMB to 3000 RMB	6	1.80
3001 RMB to 4000 RMB	10	3.10
4001 RMB to 5000 RMB	16	4.90
5001 RMB to 6000 RMB	15	4.60
6001 RMB to 7000 RMB	12	3.70
7001 RMB to 8000 RMB	12	3.70
8001 RMB to 9000 RMB	16	4.90
9001 RMB to 10000 RMB	12	3.70
10000 RMB +	25	8.00
Prefer not to say	85	26.00
Empty	30	9.20

In total, 327 usable surveys were recorded. There were 42.80% female participants and 43.10% male participants which achieved gender equality. More than half of the participants were located in the age group of 18-24 years old, followed by 25-34 years old (14.70%) and 35-44 years old (12.80%). There was a high level of participants who had a bachelor's degree in education background (62.70%). More than half of the participants were single (56.30%), followed by those with married status (30.30%). The income level was more sensitive than other demographic characteristics with 26.00% of 'prefer not to say' and 9.20% empty answers. The income level of under 1000 RMB (approximately 111.11 GBP) per month occupied 21.70% of the respondents' answers.

4.2.2.2 Measurement model assessment

The main phase of the quantitative study consisted of a survey which was modified based on Study 2 pilot phase results. The measurement model was analysed using the PLS-SEM in the software SmartPLS 4. The conceptual research model is shown in Figure 4.

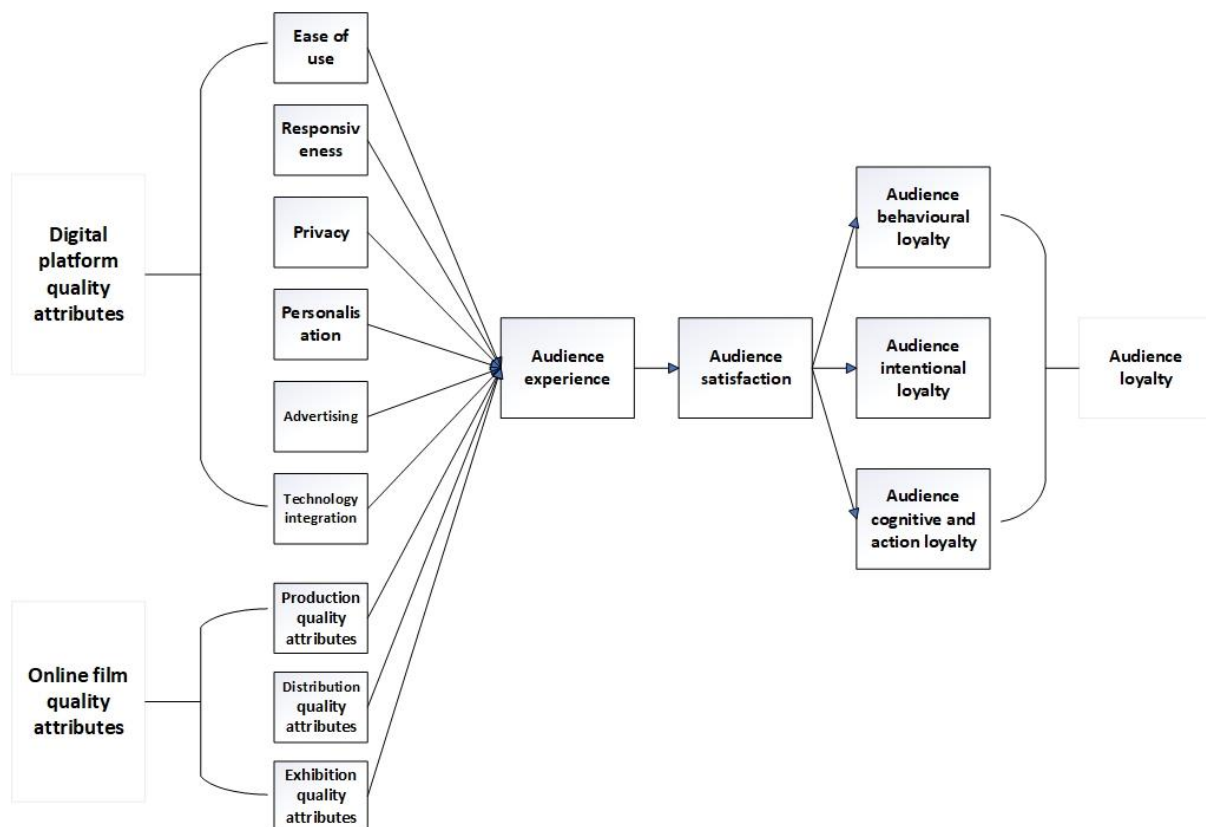


Figure 4. Conceptual research model

The pilot survey exhibited two main problems that should be changed in the main phase. The pilot survey used the concepts of 'website' and 'mobile application' that were not suitable for a consistent understanding of the 'platform'. Thus, in the main phase of the survey, the terms 'platform' and 'platform quality' should be clarified as referring to platform websites, mobile applications (APP), and other connected using devices to facilitate the participants' understanding of the concept of a platform. Another change made is that the independent variables 'audience experience (EXP)', 'behavioural loyalty (BLAY)', 'intentional loyalty

(ILAY)', and 'cognitive and action loyalty (CLAY)' were added to the questionnaire (Brakus, et al., 2009; Nysveen et al., 2002; Ponnnavolu, 2000; Anderson & Srinivasan, 2003; Srinivasan, Anderson & Ponnnavolu, 2002; Yang & Peterson, 2004; Chiou, 2004; Floh & Treiblmaier, 2006; Bhattacharjee, 2001; Harris & Goode, 2004). The term 'security/privacy (SP)' was changed to 'privacy (PY), and new items were added for personalisation (PL), and advertising (AD). Details are provided in the questionnaire in the appendix.

A two-stage analytical examination approach of reflective constructs was applied to assess the adequacy of the measurement model. The first stage of the assessment is the measurement model check by checking reliability and validity by evaluating the indicator loading (outer loading), composite reliability (CR), Cronbach's Alpha, and average variance extracted (AVE). The criteria for the indicator loading should be greater than 0.708, the CR should be greater than 0.70, the Cronbach's Alpha should be greater than 0.70, and the AVE should be greater than 0.50 (Hair et al., 2019; Hair et al., 2021). Therefore, some of the questions should be deleted. The detailed questionnaire is provided in the appendix and the Table 8 also shows the changed questions' details. The measurement model reliability and validity results are shown in Table 9, Table 10, and Table 11.

Table 9. Measurement model reliability and validity

Components and manifest variables	Indicator loadings	CR	Cronbach's Alpha	AVE
Ease of use (EU)		0.971	0.955	0.917
The usability of the platform plays an important role	0.947			
The accessibility of the platform makes it easy and fast to get anywhere on the site	0.970			
The network's navigability works well	0.956			
Responsiveness (RS)		0.977	0.970	0.894
The platform responds to my inquiries	0.932			

	The platform gives me a satisfactory response	0.951			
	When I have a problem, the platform shows a sincere interest in solving it	0.958			
	The platform responds quickly to my inquiries	0.957			
	The contact information is clear and easy to be found	0.929			
Privacy (PY)			0.962	0.940	0.893
	The platform is secure can protect my privacy	0.931			
	The platform assures me that personal information is protected	0.957			
	The platform e assures me that personal information will not be shared with other parties	0.947			
Personalisation (PL)			0.928	0.897	0.764
	The platform affects my film-watching pattern	0.843			
	Freemium models offer me free opportunities to experience recommended online films before making purchases	0.846			
	AI (artificial intelligence) makes recommendations that suit my film watching habits	0.906			
	The platform can send me a custom message	0.900			
Advertising (AD)			0.945	0.931	0.743
	This platform has valid advertisements links that reach the advertising product	0.871			

homepage when you click it				
The platform has advertisements related to the film content	0.871			
The platform has both online and offline promotion activities	0.883			
The advertisements are memorable	0.845			
The main messages of the advertisements can be gotten	0.894			
The advertisements are useful	0.804			
Technology integration (TI)		0.969	0.957	0.885
This platform is always up and available	0.946			
This platform loads quickly	0.960			
This platform does not crash	0.937			
This platform always has the messages are then projected onto the screen, so that at any given time the scene may be overlaid with multiple "bullets," or comments, scrolling across the screen.	0.920			
Production quality attributes (PQA)		0.979	0.975	0.853
The online film has well-known stars	0.916			
The online film has celebrities	0.912			
The online film has well-known directors	0.938			
The online film has well-known producers	0.936			
The online film has stars who had good past box office performance	0.941			

	The online film has directors who had good past box office performance	0.945			
	The online film has producers who had good past box office performance	0.951			
	The online film has a big production budget	0.844			
Distribution quality attributes (DQA)			0.951	0.922	0.866
	The poster of the online film is attractive	0.937			
	The banner position is good on the website	0.949			
	The free trial film content (always the first 5 minutes) is attractive	0.905			
Exhibition quality attributes (EQA)			0.929	0.848	0.868
	There are negative reviews about the exhibition	0.928			
	The word of mouth shows it is a low-quality online film	0.935			
Audience experience (EXP)			0.966	0.961	0.701
	The platform makes a strong impression on my visual sense	0.762			
	I find the platform visualization interesting	0.794			
	The platform appeals to my senses	0.815			
	The platform induces feelings and sentiments in me	0.876			
	I have strong emotions towards the platform	0.898			
	The platform creates an emotional brand	0.901			
	I found the platform very engaging	0.914			

I engage in a lot of thinking when I encounter the platform brand	0.802			
The platform stimulates my curiosity	0.843			
The platform stimulates my problem solving	0.826			
I feel like I am part of the platform community	0.781			
As a user of the platform, I never feel being left alone	0.818			
Satisfaction (SAT)		0.971	0.963	0.871
If I had to purchase again, I would feel differently about buying from this platform.	0.924			
My choice to purchase from this platform was a wise one.	0.956			
I feel good regarding my decision to buy from this platform	0.946			
I think I did the right thing by buying from this platform	0.930			
I am happy that I purchased from this platform	0.908			
Behavioural loyalty (BLAY)		0.957	0.933	0.881
I try to use the platform whenever I watched online films	0.943			
When I want to watch online films, this platform is my first choice	0.947			
I like to use this platform	0.927			
Intentional loyalty (ILAY)		0.938	0.900	0.834
I would say positive things about the	0.926			

platform to other people				
I recommend the platform to those who seek my advice on such topics	0.935			
I would point out positive messages about the platform on certain message boards on the Internet	0.877			
Cognitive and action loyalty (CLAY)		0.975	0.961	0.927
I have repeatedly found this platform is better than others	0.957			
I will always continue to choose this platform before others	0.964			
I will always continue to choose the features of this platform before others	0.968			

Table 10. Discriminant validity using heterotrait-monotrait ratio of correlations (HTMT) criterion

Factor	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Advertising														
2. Behavioural loyalty	0.648													
3. Cognitive and action loyalty	0.699	0.879												
4. Distribution quality attributes	0.770	0.636	0.621											
5. Exhibition quality attributes	0.658	0.659	0.605	0.848										
6. Ease of use	0.705	0.824	0.860	0.678	0.612									
7. Experience	0.691	0.722	0.763	0.618	0.604	0.711								
8. Intentional loyalty	0.725	0.815	0.884	0.622	0.555	0.766	0.855							
9. Production quality attributes	0.766	0.688	0.652	0.867	0.738	0.678	0.642	0.642						
10. Personalisation	0.796	0.815	0.838	0.778	0.689	0.883	0.757	0.819	0.731					
11. Privacy	0.722	0.704	0.734	0.733	0.627	0.830	0.684	0.698	0.712	0.893				
12. Responsiveness	0.732	0.800	0.873	0.683	0.581	0.891	0.775	0.814	0.660	0.861	0.840			
13. Satisfaction	0.858	0.767	0.788	0.788	0.725	0.757	0.717	0.758	0.802	0.838	0.773	0.777		
14. Technology integration	0.787	0.769	0.701	0.802	0.745	0.770	0.615	0.659	0.790	0.831	0.802	0.724	0.900	

Table 11. Discriminant validity using Fornell-Larcker criterion

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Advertising	0.862													
2. Behavioural loyalty	0.618	0.939												
3. Cognitive and action loyalty	0.670	0.833	0.963											
4. Distribution quality attributes	0.716	0.596	0.585	0.930										
5. Exhibition quality attributes	0.589	0.588	0.546	0.751	0.932									
6. Ease of use	0.676	0.782	0.825	0.638	0.552	0.958								
7. Experience	0.659	0.689	0.737	0.582	0.546	0.684	0.837							
8. Intentional loyalty	0.670	0.751	0.823	0.567	0.486	0.713	0.797	0.913						
9. Production quality attributes	0.737	0.659	0.631	0.824	0.672	0.656	0.623	0.602	0.924					
10. Personalisation	0.738	0.749	0.777	0.708	0.602	0.817	0.704	0.737	0.684	0.874				
11. Privacy	0.686	0.665	0.700	0.684	0.560	0.787	0.652	0.645	0.683	0.820	0.945			
12. Responsiveness	0.703	0.765	0.843	0.647	0.527	0.861	0.751	0.762	0.642	0.804	0.804	0.945		
13. Satisfaction	0.816	0.730	0.758	0.743	0.655	0.727	0.692	0.706	0.777	0.780	0.737	0.751	0.933	
14. Technology integration	0.750	0.729	0.673	0.755	0.672	0.737	0.593	0.615	0.764	0.771	0.762	0.699	0.864	0.941

The Table 9 shows that all indicator loadings were greater than 0.708; Cronbach's alphas were greater than 0.70, CRs were greater than 0.70; AVEs were greater than 0.50 proving that the first-order construct measurement model has good reliability and convergent validity (Hair et al., 2019; Hair et al., 2021). The Table 10 showed all the HTMT value was below 0.900 that provided the first-order construct measurement model has good discriminant validity (Hair et al., 2019; Hair et al., 2021). The Table 11 also showed that the square root of the construct's AVE was greater than the correlation between the construct and any other construct in the model according to Fornell and Larcker's (1981) criterion that provided the measurement model has good discriminant validity (Fornell & Larcker, 1981). Therefore, the reliability and validity results prove that the proposed measurement model could be used in this thesis. The next step would be the structural model test.

4.2.2.3 Structural model assessment

After having a satisfactory measurement model assessment in stage one, the second stage of the PLS-SEM evaluation is assessing the structural model. The criteria for standard structural model assessment should include the variance inflation factor (VIF), R^2 value, and Q^2 value (Hair et al., 2019). The VIF is often used to evaluate the collinearity issues among predictor constructs (Hair et al., 2019). The acceptable VIF range is from 3 to 5, and a VIF value close to 3 or lower should be recognised as an ideal standard (Mason & Perreault, 1991; Becker et al., 2015; Hair et al., 2019). The next step was to check the R^2 value of the endogenous constructs. The R^2 value is used to measure the variance in each of the endogenous constructs to show the model's explanatory power and in-sample predictive power (Shmueli & Koppius, 2011; Rigdon, 2012). The R^2 value ranges from 0 to 1, and a higher value means a better model's explanatory power and in-sample predictive power (Hair et al., 2019). The criteria for the R^2 value were 0.75, 0.50, and 0.25 which indicated substantial, moderate, and weak levels of the model's explanatory power and in-sample predictive power (Henseler et al., 2009; Hair et al., 2011). However, an R^2 value of 0.90 or higher could be defined as a problem indicative of overfitting (Hair et al., 2019). After checking VIF and R^2 values, the final step was to check the Q^2 value (Hair et al., 2019). The Q^2 value is often used to evaluate the PLS path model's predictive accuracy (Geisser, 1974; Stone, 1974). The Q^2 value could be defined as the combined power of out-of-sample prediction and in-sample explanatory (Shmueli et al., 2016). The Q^2 value should be higher than 0 for each endogenous construct to show the predictive

accuracy of the structural model for that specific construct (Hair et al., 2019). The criteria for the Q^2 value were 0, 0.25, and 0.50 which indicates small, medium, and large predictive accuracy of the PLS-path model (Hair et al., 2019). All three steps were finished without problems, the final step was to assess the statistical significance and path coefficients by running bootstrapping to check the path coefficients' significance and evaluated the values of each path coefficient's significance. The values of path coefficients' significance range from -1 to +1. The interpretation effect of a construct's indirect effect on the target construct through one or more intervening constructs is the assessment of the mediation effect (Nitzl, 2016; Hair et al., 2019). Similarly, reporting all the path coefficient estimates could be interpreted to show the total effects, direct effects, and indirect effects (Hair et al., 2019).

The results of the structural model VIF are shown in Table 12.

Table 12. The structural model VIF

	VIF
Advertising → Experience	3.138
Distribution quality attributes → Experience	4.453
Exhibition quality attributes → Experience	2.465
Ease of use → Experience	4.974
Experience → Behavioural loyalty	1.921
Experience → Cognitive and action loyalty	1.921
Experience → Intentional loyalty	1.921
Experience → Satisfaction	1.000
Production quality attributes → Experience	3.929
Personalization → Experience	4.781
Privacy → Experience	4.188
Responsiveness → Experience	4.976
Satisfaction → Behavioural loyalty	1.921
Satisfaction → Cognitive and action loyalty	1.921
Satisfaction → Intentional loyalty	1.921
Technology integration → Experience	4.083

All the structural model VIF values range from 1.000 to 4.976 which were all below 5 indicate there are no collinearity issues among predictor constructs.

Moreover, another VIF test using factor-based PLS-SEM algorithms was added to test the common method bias issue. According to Kock and Lynn (2012) and Kock (2015) criteria, all the VIF values should be less than 5 to avoid common method bias. The results of the structural model VIF by using factor-based PLS-SEM algorithms are shown in Table 13. All the structural model VIF values by using factor-based PLS-SEM algorithms range from 1.000 to 4.974 which were all below 5 indicating this model is free of common method bias.

Table 13. The structural model VIF by using factor-based PLS-SEM algorithms

	VIF
Advertising → Experience	3.139
Distribution quality attributes → Experience	4.454
Exhibition quality attributes → Experience	2.465
Ease of use → Experience	4.974
Experience → Behavioural loyalty	1.922
Experience → Cognitive and action loyalty	1.922
Experience → Intentional loyalty	1.922
Experience → Satisfaction	1.000
Production quality attributes → Experience	3.929
Personalization → Experience	4.781
Privacy → Experience	4.188
Responsiveness → Experience	4.975
Satisfaction → Behavioural loyalty	1.922
Satisfaction → Cognitive and action loyalty	1.922
Satisfaction → Intentional loyalty	1.922
Technology integration → Experience	4.084

After checking the VIF values, all the path coefficients, t-statistics, p values, R2 values, Q2 values, and hypotheses test results are shown in Table 14.

Table 14. Path coefficients, t-statistics, p values, R2 values, Q2 values, and hypotheses test results

	Path coefficients	T statistics	P values	R ² values	Q ² values	Hypotheses test results
<i>Direct effects</i>						
Ease of use → Audience	-0.006	0.065	0.948			(H1a) Not supported

	experience (H1a)					
Digital platform quality attributes → Audience experience	Responsiveness → Audience experience (H1b)	0.478	5.334	0.000***	(H1b)	Supported
	Privacy → Audience experience (H1c)	-0.020	0.237	0.813	(H1c)	Not supported
	Personalisation → Audience experience (H1d)	0.210	2.171	0.030*	(H1d)	Supported
	Advertising → Audience experience (H1e)	0.167	2.116	0.034*	(H1e)	Supported
	Technology integration → Audience experience (H1f)	-0.167	1.825	0.068	(H1f)	Not supported
	Production quality attributes → Audience experience (H2a)	0.197	2.028	0.043*	(H2a)	Supported
Online film quality attributes → Audience experience	Distribution quality attributes → Audience experience (H2b)	-0.142	1.341	0.180	(H2b)	Not supported
	Exhibition quality attributes → Audience experience (H2c)	0.170	2.331	0.020*	(H2c)	Supported
	Audience experience → Audience satisfaction (H3)	0.692	20.906	0.000***	(H3)	Supported
Audience experience → Audience satisfaction	Audience satisfaction → Audience	0.487	7.853	0.000***	(H4a)	Supported

Audience satisfaction → Audience loyalty	behavioural loyalty (H4a)				
	Audience satisfaction → Audience intentional loyalty (H4b)	0.296	5.020	0.000***	(H4b) Supported
	Audience satisfaction → Audience cognitive and action loyalty (H4c)	0.477	8.006	0.000***	(H4c) Supported
<i>Indirect effects</i>					
	Ease of use → Audience experience → Audience satisfaction → Audience behavioural loyalty (H5a1)	-0.002	0.064	0.949	(H5a1) Not supported
	Ease of use → Audience experience → Audience satisfaction → Audience intentional loyalty (H5a2)	-0.001	0.063	0.949	(H5a2) Not supported
	Ease of use → Audience experience → Audience satisfaction → Audience cognitive and action loyalty (H5a3)	-0.002	0.064	0.949	(H5a3) Not supported
	Responsiveness → Audience experience → Audience satisfaction → Audience behavioural loyalty (H5b1)	0.161	4.222	0.000***	(H5b1) Supported

	Responsiveness	0.098	3.325	0.001***	(H5b2)
	→ Audience experience				Supported
	→ Audience satisfaction				
	→ Audience intentional loyalty (H5b2)				
	Responsiveness	0.158	4.423	0.000***	(H5b3)
	→ Audience experience				Supported
	→ Audience satisfaction				
	→ Audience cognitive and action loyalty (H5b3)				
	Privacy	-0.007	0.235	0.814	(H5c1)
	→ Audience experience				Not supported
	→ Audience satisfaction				
	→ Audience behavioural loyalty (H5c1)				
Digital platform quality attributes → Audience experience → Audience satisfaction → Audience loyalty	Privacy	-0.004	0.233	0.816	(H5c2)
	→ Audience experience				Not supported
	→ Audience satisfaction				
	→ Audience intentional loyalty (H5c2)				
	Privacy	-0.007	0.232	0.817	(H5c3)
	→ Audience experience				Not supported
	→ Audience satisfaction				
	→ Audience cognitive and action loyalty (H5c3)				
	Personalisation	0.071	2.073	0.038*	(H5d1)
	→ Audience experience				Supported
→ Audience satisfaction					
→ Audience behavioural loyalty (H5d1)					

Personalisation → Audience experience → Audience satisfaction → Audience intentional loyalty (H5d2)	0.043	1.999	0.046*	(H5d2) Supported
Personalisation → Audience experience → Audience satisfaction → Audience cognitive and action loyalty (H5d3)	0.069	2.073	0.038*	(H5d3) Supported
Advertising → Audience experience → Audience satisfaction → Audience behavioural loyalty (H5e1)	0.056	1.894	0.058	(H5e1) Not supported
Advertising → Audience experience → Audience satisfaction → Audience intentional loyalty (H5e2)	0.034	1.788	0.074	(H5e2) Not supported
Advertising → Audience experience → Audience satisfaction → Audience cognitive and action loyalty (H5e3)	0.055	1.923	0.055	(H5e3) Not supported
Technology integration → Audience experience → Audience satisfaction → Audience	-0.056	1.705	0.088	(H5f1) Not supported

behavioural loyalty (H5f1)					
Technology	-0.034	1.616	0.106		(H5f2)
integration →					Not
Audience					supported
experience →					
Audience					
satisfaction →					
Audience					
intentional loyalty (H5f2)					
Technology	-0.055	1.729	0.084		(H5f3)
integration →					Not
Audience					supported
experience →					
Audience					
satisfaction →					
Audience					
cognitive and action loyalty (H5f3)					
Online film	0.067	1.923	0.055		(H6a1)
production					Not
quality					supported
attributes →					
Audience					
experience →					
Audience					
satisfaction →					
Audience					
behavioural loyalty (H6a1)					
Online film	0.041	1.763	0.078		(H6a2)
production					Not
quality					supported
attributes →					
Audience					
experience →					
Audience					
satisfaction →					
Audience					
intentional loyalty (H6a2)					
Online film	0.065	1.910	0.056		(H6a3)
production					Not
quality					supported
attributes →					
Audience					
experience →					
Audience					

	satisfaction →					
	Audience cognitive and action loyalty (H6a3)					
	Online film distribution quality attributes →	-0.048	1.301	0.193		(H6b1)
	Audience experience →					Not supported
Online film quality attributes → Audience experience → Audience satisfaction → Audience loyalty	Audience satisfaction →					
	Audience behavioural loyalty (H6b1)					
	Online film distribution quality attributes →	-0.029	1.232	0.218		(H6b2)
	Audience experience →					Not supported
	Audience satisfaction →					
	Audience intentional loyalty (H6b2)					
	Online film distribution quality attributes →	-0.047	1.320	0.187		(H6b3)
	Audience experience →					Not supported
	Audience satisfaction →					
	Audience cognitive and action loyalty (H6b3)					
Online film exhibition quality attributes →	0.057	2.119	0.034*		(H6c1)	
Audience experience →					Supported	
Audience satisfaction →						
Audience behavioural loyalty (H6c1)						

Online film exhibition quality attributes → Audience experience → Audience satisfaction → Audience intentional loyalty (H6c2)	0.035	1.989	0.047*	(H6c2)	Supported
Online film exhibition quality attributes → Audience experience → Audience satisfaction → Audience cognitive and action loyalty (H6c3)	0.056	2.118	0.034*	(H6c3)	Supported
<i>Predictive relevance values</i>					
Audience experience				0.634	0.594
Audience satisfaction				0.479	0.594
Audience behavioural loyalty				0.598	0.564
Audience intentional loyalty				0.682	0.586
Audience cognitive and action loyalty				0.661	0.651

Notes: * p < 0.05; ** p < 0.01; *** p < 0.001

To evaluate the predictive power of the model, the R² value for audience experience is 0.634 which is greater than 0.500 indicating a moderate predictive power; the R² value for audience satisfaction is 0.479 which is near 0.500 indicating a moderate predictive power; the R² value

for audience behavioural loyalty is 0.598 which is greater than 0.500 indicating a moderate predictive power; the R^2 value for audience intentional loyalty is 0.682 which is greater than 0.500 indicating a moderate predictive power; and the R^2 value for audience cognitive and action loyalty is 0.661 which is greater than 0.500 indicating a moderate predictive power. To evaluate the predictive accuracy of the mode, the Q^2 value for audience experience is 0.594 which is greater than 0.500 indicating a large predictive accuracy; the Q^2 value for audience satisfaction is 0.594 which is greater than 0.500 indicating a large predictive accuracy; the Q^2 value for audience behavioural loyalty is 0.564 which is greater than 0.500 indicating a large predictive accuracy; the Q^2 value for audience intentional loyalty is 0.586 which is greater than 0.500 indicating a large predictive accuracy; and the Q^2 value for audience cognitive and action loyalty is 0.651 which is greater than 0.500 indicating a large predictive accuracy. Therefore, all the R^2 values prove the model's predictive power is moderate, and all the Q^2 values prove the model's predictive accuracy is large. Additionally, the square root mean residual (SRMR) value is 0.050 which is less than 0.08 indicating a satisfied model's fitness (Hu & Bentler, 1999). The structural model is shown in Figure 5.

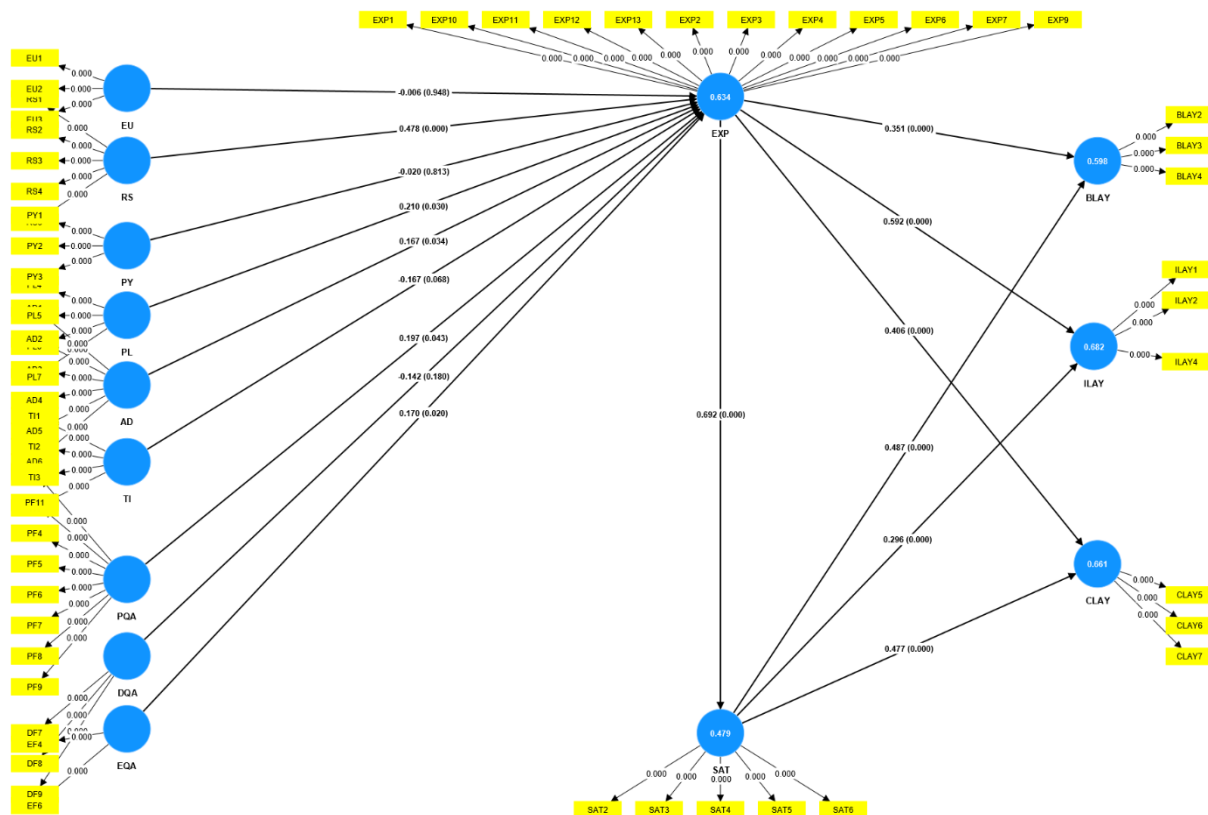


Figure 5. Structural model

4.2.2.4 Hypotheses assessment

Table 13 shows all the path coefficients, t-statistics, p values, R^2 values, Q^2 values, and hypotheses test results by the bootstrapping method applied 5000 subsamples at the 0.05 significance level in the software SmartPLS 4.

As for the direct effects, this thesis found that ease of use did not have a significant impact on the audience experience; thus, H1a Ease of use \rightarrow Audience experience ($\beta = -0.006$; $p = 0.948$) was not supported. However, responsiveness had a significant positive impact on the audience experience; thus, H1b Responsiveness \rightarrow Audience experience ($\beta = 0.478$; $p < 0.001$) was supported. This thesis found that privacy did not have a significant impact on the audience experience; thus, H1c Privacy \rightarrow Audience experience ($\beta = -0.020$; $p = 0.813$) was not supported. However, personalisation had a significant positive impact on the audience experience; thus, H1d Personalisation \rightarrow Audience experience ($\beta = 0.210$; $p = 0.030$) was supported. Similarly, advertising had a significant positive impact on the audience experience; thus, H1e Advertising \rightarrow Audience experience ($\beta = 0.167$; $p = 0.034$) was supported. While, technology integration did not have a significant impact on the audience experience; thus, H1f Technology integration \rightarrow Audience experience ($\beta = -0.167$; $p = 0.068$) was not supported. Thus, there were three factors (responsiveness, personalisation, and advertising) from digital platform quality attributes had a significant impact on audience experience while three factors (ease of use, privacy, and technology integration) did not have significant impact on audience experience. The results showed that both online film production quality attributes and distribution quality attributes had a significant impact on the audience experience; thus, H2a Online film production quality attributes \rightarrow Audience experience ($\beta = 0.197$; $p = 0.043$) and H2c Online film exhibition quality attributes \rightarrow Audience experience ($\beta = 0.170$; $p = 0.020$) were supported. However, online film distribution quality attributes did not have a significant impact on the audience experience; thus, H2b Online film distribution quality attributes \rightarrow Audience experience ($\beta = -0.142$; $p = 0.180$) was not supported. Thus, there were two factors (online film production quality attributes and online film exhibition quality attributes) from online film quality attributes had a significant impact on audience experience while one factor (online film distribution quality attributes) did not have significant impact on audience experience. The result showed that audience experience had a significant impact on the

audience satisfaction; thus, H3 Audience experience \rightarrow Audience satisfaction ($\beta = 0.692$; $p < 0.001$) was supported. There were three directly positive significant impacts which were from audience satisfaction to audience behavioural loyalty, from audience satisfaction to audience intentional loyalty, and from audience satisfaction to audience cognitive and action loyalty. Therefore, H4a Audience satisfaction \rightarrow Audience behavioural loyalty ($\beta = 0.478$; $p < 0.001$), H4b Audience satisfaction \rightarrow Audience intentional loyalty ($\beta = 0.296$; $p < 0.001$), and H4c Audience satisfaction \rightarrow Audience cognitive and action loyalty ($\beta = 0.477$; $p < 0.001$) were supported.

As for the indirect effects, the findings indicated there were no significant sequential mediation effects from ease of use to audience behavioural loyalty, intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H5a1 Ease of use \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience behavioural loyalty ($\beta = -0.002$; $p = 0.949$), H5a2 Ease of use \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience intentional loyalty ($\beta = -0.001$; $p = 0.949$), and H5a3 Ease of use \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience cognitive and action loyalty ($\beta = -0.002$; $p = 0.949$) were not supported. However, the findings indicated there were significant positive sequential mediation effects from responsiveness to audience behavioural loyalty, intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H5b1 Responsiveness \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience behavioural loyalty ($\beta = 0.161$; $p < 0.001$), H5b2 Responsiveness \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience intentional loyalty ($\beta = 0.098$; $p = 0.001$), and H5b3 Responsiveness \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience cognitive and action loyalty ($\beta = 0.158$; $p < 0.001$) were supported. The findings indicated there were no significant sequential mediation effects from privacy to audience behavioural loyalty, intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H5c1 Privacy \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience behavioural loyalty ($\beta = -0.007$; $p = 0.814$), H5c2 Privacy \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience intentional loyalty ($\beta = -0.004$; $p = 0.816$), and H5c3 Privacy \rightarrow Audience experience \rightarrow Audience satisfaction \rightarrow Audience cognitive and action loyalty ($\beta = -0.007$; $p = 0.817$) were not supported. However, the findings indicated there were significant positive sequential mediation effects from personalisation to audience behavioural loyalty, intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H5d1

Personalisation → Audience experience → Audience satisfaction → Audience behavioural loyalty ($\beta = 0.071$; $p = 0.038$), H5d2 Personalisation → Audience experience → Audience satisfaction → Audience intentional loyalty ($\beta = 0.043$; $p = 0.046$), and H5d3 Personalisation → Audience experience → Audience satisfaction → Audience cognitive and action loyalty ($\beta = 0.069$; $p = 0.038$) were supported. While the findings proved that there were no significant sequential mediation effects from advertising and technology integration to audience behavioural loyalty, intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H5e1 Advertising → Audience experience → Audience satisfaction → Audience behavioural loyalty ($\beta = 0.056$; $p = 0.058$), H5e2 Advertising → Audience experience → Audience satisfaction → Audience intentional loyalty ($\beta = 0.034$; $p = 0.074$), and H5e3 Advertising → Audience experience → Audience satisfaction → Audience cognitive and action loyalty ($\beta = 0.055$; $p = 0.055$); H5f1 Technology integration → Audience experience → Audience satisfaction → Audience behavioural loyalty ($\beta = -0.056$; $p = 0.088$), H5f2 Technology integration → Audience experience → Audience satisfaction → Audience intentional loyalty ($\beta = -0.034$; $p = 0.106$), and H5f3 Technology integration → Audience experience → Audience satisfaction → Audience cognitive and action loyalty ($\beta = -0.055$; $p = 0.084$) were not supported. Therefore, there was a partial mediation effect between digital platform quality attributes to audience loyalty through audience experience and audience satisfaction. The findings proved that there were no significant sequential mediation effects from online film production quality attributes and distribution quality attributes to audience behavioural loyalty, intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H6a1 Online film production quality attributes → Audience experience → Audience satisfaction → Audience behavioural loyalty ($\beta = 0.067$; $p = 0.055$), H6a2 Online film production quality attributes → Audience experience → Audience satisfaction → Audience intentional loyalty ($\beta = 0.041$; $p = 0.078$), and H6a3 Online film production quality attributes → Audience experience → Audience satisfaction → Audience cognitive and action loyalty ($\beta = 0.065$; $p = 0.056$); H6b1 Online film distribution quality attributes → Audience experience → Audience satisfaction → Audience behavioural loyalty ($\beta = -0.048$; $p = 0.193$), H6b2 Online film distribution quality attributes → Audience experience → Audience satisfaction → Audience intentional loyalty ($\beta = -0.029$; $p = 0.218$), and H6b3 Online film distribution quality attributes → Audience experience → Audience satisfaction → Audience cognitive and action loyalty ($\beta = -0.047$; $p = 0.187$) were not supported. However, the findings indicated there were significant positive sequential mediation effects from online film exhibition quality attributes to audience behavioural loyalty,

intentional loyalty, and cognitive and action loyalty through audience experience and audience satisfaction; thus, H6c1 Online film exhibition quality attributes → Audience experience → Audience satisfaction → Audience behavioural loyalty ($\beta = 0.057$; $p = 0.034$), H6c2 Online film exhibition quality attributes → Audience experience → Audience satisfaction → Audience intentional loyalty ($\beta = 0.035$; $p = 0.047$), and H6c3 Online film exhibition quality attributes → Audience experience → Audience satisfaction → Audience cognitive and action loyalty ($\beta = 0.056$; $p = 0.034$) were supported. Therefore, there was a partial mediation effect between online film quality attributes to audience loyalty through audience experience and audience satisfaction. To make all the hypotheses' results clear and visual, the hypotheses' test results are shown in the Table 15.

Table 15. Hypotheses test results

Hypotheses	Results
H1a: Ease of use has a significant and positive impact on audience experience.	Not supported
H1b: Responsiveness has a significant and positive impact on audience experience.	Supported
H1c: Privacy has a significant and positive impact on audience experience.	Not supported
H1d: Personalization has a significant and positive impact on audience experience.	Supported
H1e: Advertising has a significant and positive impact on audience experience.	Supported
H1f: Technology integration has a significant and positive impact on audience experience.	Not supported
H2a: Online film production quality attributes have a significant and positive impact on audience experience.	Supported
H2b: Online film distribution quality attributes have a significant and positive impact on audience experience.	Not supported

H2c: Online film exhibition quality attributes have a significant positive and impact on audience experience.	Supported
H3: Audience experience has a significant and positive impact on audience satisfaction.	Supported
H4a: Audience satisfaction has a significant and positive impact on audience behavioural loyalty.	Supported
H4b: Audience satisfaction has a significant and positive impact on audience intentional loyalty.	Supported
H4c: Audience satisfaction has a significant and positive impact on audience cognitive, affective, conative, and action loyalty.	Supported
H5a1: The relationship between ease of use and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5a2: The relationship between ease of use and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5a3: The relationship between ease of use and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5b1: The relationship between responsiveness and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Supported (positive effect)
H5b2: The relationship between responsiveness and audience intentional	Supported (positive effect)

loyalty is serially mediated by audience experience and audience satisfaction.

H5b3: The relationship between responsiveness and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Supported (positive effect)

H5c1: The relationship between privacy and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Not supported

H5c2: The relationship between privacy and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Not supported

H5c3: The relationship between privacy and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Not supported

H5d1: The relationship between personalisation and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.

Supported (positive effect)

H5d2: The relationship between personalisation and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.

Supported (positive effect)

H5d3: The relationship between personalisation and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.

Supported (positive effect)

H5e1: The relationship between advertising and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5e2: The relationship between advertising and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5e3: The relationship between advertising and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5f1: The relationship between technology integration and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5f2: The relationship between technology integration and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H5f3: The relationship between technology integration and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H6a1: The relationship between online film production quality attributes and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H6a2: The relationship between online film production quality attributes and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.	Not supported

H6a3: The relationship between online film production quality attributes and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H6b1: The relationship between online film distribution quality attributes and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H6b2: The relationship between online film distribution quality attributes and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H6b3: The relationship between online film distribution quality attributes and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.	Not supported
H6c1: The relationship between online film exhibition quality attributes and audience behavioural loyalty is serially mediated by audience experience and audience satisfaction.	Supported (positive effect)
H6c2: The relationship between online film exhibition quality attributes and audience intentional loyalty is serially mediated by audience experience and audience satisfaction.	Supported (positive effect)
H6c3: The relationship between online film exhibition quality attributes and audience cognitive, affective, conative, and action loyalty is serially mediated by audience experience and audience satisfaction.	Supported (positive effect)

Chapter 5. Discussions and implications

This thesis research used a mixed-methods approach based on a primary interview analysis (Study 1) and a survey analysis (Study 2). This research aimed to investigate China's online film supply chain (Study 1) and test the relationships between China's online film quality attributes and audience loyalty through the mediation effects of audience experience and satisfaction (Study 2). A new conceptual model was established covering digital platform quality attributes, online film quality attributes, audience experience, audience satisfaction, audience loyalty, and China's online film performance sequentially. These complex processes were explored and tested in an exploratory research design flow to address single connections in each research step, and then, statistical analysis was used to statistically assess the mediation effects. The findings brought new insights to both theoretical and empirical studies.

Digitalisation has been studied in previous research associated with internet-based technology upgrades (e.g. Schor & Fitzmaurice, 2015; Parviainen et al., 2017; Bloomberg, 2022). The focuses of digitalisation studies include business processes, business models, domain, and cultural/organisational transformations. Business process transformation studies frequently treat digital technology as a set of tools that can influence traditional operational processes and achieve new goals (Bloomberg, 2022). The findings in this field are related to chain management to reduce costs and establish new communication channels with audiences. Business model transformation studies prefer to use quality management by analysing a company's operation and financial performance. Domain transformation research usually involves the adoption of digitalisation in different business areas to show the digital impact on access to market changes. Cultural transformation normally relies on digital technology innovation and globalisation characteristics to deliver values. Meantime, the development of digitalisation has extended the current literature of online film industry supply chain and online platform audience behaviours by utilising supply chain management theory and attribution theory.

This thesis's **Study 1** findings describe the fundamental role that digitalisation has played in China's online film development by combining digital technology with traditional film and changing the supply chain and market structure. Digitalisation and 'Internet Plus' have been

the technological and ideological basis for China's online film development. In 2014, China's online film industry was identified by one of the major Chinese internet companies as providing a platform for talent in online film projects, making it a cultural and social phenomenon that has drawn the attention of investors, filmmakers, and new industrial participants. Four transformations of digitalisation are reflected in China's online film development. Digitalisation has helped to eliminate reliance on traditional physical resources for film projects, such as physical copies of films and theatre venues. Online film products allow users to watch films online using various digital devices anywhere and anytime they like. An online film business model with a new box office revenue calculation and industrial operation standard has also been proposed. This business model has encouraged digital technology companies, film producers, distributors, exhibition companies, and other online film-related companies to enter this new market. Finally, China's online film has become a creative digital platform-based area that has brought new social, cultural, and financial values to society. This phenomenon has also challenged supply chain management theory by establishing digital platforms as the main management body of the chain system operation (Ivanov & Dolgui, 2021).

A platform should establish acceptable and standard managerial plans for all of the cooperative components so that the whole supply chain system can achieve the goal of continuous improvement of China's online film quality. The components also need to focus on specialised quality management in their areas to help promote China's online film development together. In China, strict censorship has become one of the fundamental issues in the adoption of supply chain management theory in digital platform cultural products. The NRTA has issued 14 rules concerning online film product censorship and supervision. The 14 rules emphasise dynamic supervision and full supply chain supervision, which reflects the changeable and unified characteristics of China's online film product censorship. Dynamic financing strategies also reflect the rapid and changeable development of online visual products. This situation offers new insights into supply chain management theory development and reconsideration through recruiting of more chain components, investigating the role of the Chinese cultural background, and conducting consumer-side data analysis.

Policy information about the chain system can influence almost all stages of the chain operation process. Thus, supply chain theory needs to be reconsidered in the case of China's online film

industry because platforms are the main managers responsible for implementing policies and independent companies work in their own areas within the guidelines of platforms. The use of consumer-side data to evaluate the performance of China's online film supply chain can contribute to supply chain management theory development beyond the supplier-side, which emphasises a consumption-driven approach.

Discussions of Study 1 findings

The film industry has been studied as one of the important cultural industry forms. The supply chain of the film industry also represents the supply chain characteristics of other complex cultural industries. Based on Eliashberg et al.'s (2006) and Yang et al.'s (2023) studies, the film industry supply chain system includes *production, distribution, and exhibition* supply chain. Details of this chain system change depending on different film types, geographical distances, participants' collaboration, political issues, and other factors that influence the supply chain. The detailed supply chains in different film business models are also different. For example, the Hollywood film industry business model relies on the power of Hollywood majors, and thus almost all pricing and operating rules are centralised around the major studios (e.g. Kerrigan, 2009; Davids, 2023). In contrast, the Bollywood business model relies more on the collaboration of groups of small companies, so the pricing and operating rules are decentralised (e.g. Lorenzen & Täube, 2008; Lorenzen & Mudambi, 2013; Davids, 2023). Thus, the film industry supply chain and market structure are complex since different participants have different levels of control and financial sources have a powerful influence on the supply chain. The supply chain management for the film industry is complex, so the quality management process must cover all the different participants with different levels of quality control. The quality attributes of online film products are related to those of the digital platforms. For example, the Study 1 interview analysis showed that financing issues related to digital platforms are changeably related to online film projects' quality and distribution type. Audience reviews also reflect the newly selected quality attribute that can influence audiences' behaviour and psychology, suggesting new measurement scales of attributes in attribution theory application in China's online film.

In this thesis, it is important to study the supply chain and market structure of China's online film because the **Study 1** findings can help researchers understand how the industry operates. The supply chain of China's online film is similar to the traditional film industry supply chain but has some new participants and steps. Online platforms play an important role in the online film supply chain but do not require unconditional control. Online platforms provide services and supervision throughout the supply chain. Specifically, platforms provide guidelines for online film production and provide financial support for some high-quality online film projects. Online platforms are also responsible for dealing with political requests from the government, which have become more detailed since China's online film has matured beyond its early stage of development, especially concerning online visual products' censorship upgrades. Any individuals, teams, organisations, and owners with the ability to produce online films can be online film providers, which makes the production stage more complex than in the traditional film industry. Another core supply chain difference in China's online film production stage is financial support, which can come from various sources, such as individuals, organisations, and other investment owners. One special case of a source of financial support is the platforms themselves, which can invest in high-quality online film projects after the early review process.

The distribution stage of China's online film is simpler than the traditional film industry's distribution stage because the platform channels are the only distribution channels for online films. There are two types of distribution: exclusive distribution (in which an online film project can only be distributed on one platform) and non-exclusive distribution (in which an online film project can be distributed through all online video platforms). The distribution type is simple but important because it is directly related to the unit price. The exhibition stage of China's online film involves promotion strategies, reviews, and online exposure. Promotion activities are highly emphasised by platforms because platforms encourage online filmmakers to promote their film products and the industry together as a natural advertising strategy to promote China's online films. However, the exhibition stage was underestimated because practical industry participants always focused on the production and distribution stages by emphasising the online film product quality.

In this thesis, the result indicated the exhibition quality attributes had a significant impact on audience loyalty both directly and indirectly. Thus, platforms also provide some financial

support and reward for those online film projects that have good promotion strategies which can reflect the importance of distribution and exhibition chain management and marketing practice. The whole of China's online film supply chain operation is under the Chinese government's supervision through SARFT (State Administration of Radio, Film and Television). Political issues for China's online films are thus controlled by SARFT, and this is compulsory for all Chinese online film products. Although political issues are extremely important for China's online film as a whole, the political issues are dynamic, clear, and transparent. Therefore, it is meaningless to focus on the political factors in this thesis. This thesis's investigation of the new supply chain of China's online film has produced new insights into the combination of digital platforms and film products that build on the understanding of the traditional film represented in the literature. Eliashberg et al.'s (2006) description of the film industry supply chain reflects the basic flow of the film industry operation worldwide. However, the results of this thesis research add important details about additional participants, players, and elements in the online film that will also inform research on other digital platform-based cultural products.

The investigation of exhibition quality attributes involves audiences' reviews and WOM, which were proven to have significant and positive effects on audiences' loyalty. This finding suggests that future attribution theory applications in cultural products should consider new quality attributes from the consumer side. This thesis used supply chain management theory to explain the complex supply chain of China's online film industry. Furthermore, drawing on attribution theory, the impacts of quality of online film and platform attributes on the audience experience, satisfaction, and loyalty should consider new quality attributes measurement scales. The findings of this thesis related to supply chain theory reflect the fact that digital online platform cultural products have a complex supply chain system and dynamic information flows. Cultural differences can also influence quality attributes that should be considered in different cultural contexts. For example, privacy does not receive much attention from either the supplier side or the consumer side in China's online film industry practice. Furthermore, audience experience was shown to be a fundamental indicator for use in measuring consumer behaviour which suits the definition of attribution theory better than treating satisfaction as the main indicator in attribution theory applications.

Discussions of Study 2 results

Previous research has examined digital platform quality-related attributes and film quality-related attributes separately (e.g. Kim et al., 2006; Collier & Bienstock, 2006; Godes & Silva, 2012; Lorenzen & Mudambi, 2013). For example, the item scales for digital platform attributes are mainly focused on website-based factors or mobile-based factors and testing the relationship between platform quality attributes and audience loyalty (e.g. Constantinides, 2004; Yen, 2005; Rowley, 2006; Kim et al., 2006; Collier & Bienstock, 2006; Éthier et al., 2006; Park & Kim, 2006; Subramanian et al., 2021; Gong et al., 2023). Similarly, film attributes studies have focused on the relationship between film-related attributes and box office performance (e.g. Miller & Shamsie, 1996; Ravid, 1999; Basuroy et al., 2003; Hsu, 2006; Cattani & Ferriani, 2008; Godes & Silva, 2012; Lorenzen & Mudambi, 2013; McMahon, 2023). Digital platform factor analysis usually shows a significant impact of quality management on audience experience. The film factor analysis has yielded mixed results (positive, negative, or no clear result) because the researchers used different databases, film types, dependent variables, and model designs. There are some limitations associated with the existing studies. Firstly, there are many designs based on the impact of a single factor but limited research on a systematic analysis of the impact of sets of factors. Secondly, there is a gap in digital cultural industry quality-based attributes and digital platform-based attributes analysis. Thirdly, simple regression results ignore the sequential effects between quality attributes, audience experience, satisfaction, and loyalty.

Findings from the literature were combined with interview analysis results to develop item scales for measuring platform-related attributes and film-related attributes. Digital platform attributes were evaluated using six items: ease of use (EU), responsiveness (RS), privacy (PY), personalisation (PL), advertising (AD), and technology integration (TI) to evaluate the digital platform quality. Three main quality attribution dimensions were used to evaluate film quality attributes: production, distribution, and exhibition. Both pilot and main survey designs were tested for each item to ensure the reliability and validity of the quantitative analysis. Then, PLS-SEM was adopted for the data analysis. PLS-SEM is suitable for measurement modelling, structural modelling, and research model building and is frequently used in previous exploratory research (e.g. Hair et al., 2019; Sarstedt et al., 2021). Next, the results of the

statistical analysis were used to explain the levels of mediation effects and the relationships between digital platform quality attributes, online film quality attributes, audience experience, audience satisfaction, audience loyalty, and China's online film performance. The results also provide insights into supply chain management theory and attribution theory applications, especially in the complex context of the internet-based cultural industry. Previous research focused mainly on separate factors that influence customer behaviour, whereas the results of this research suggest a set of factors that influence online customer behaviour (e.g. Hair et al., 2019; Sarstedt et al., 2021; Safeer et al., 2021). The mixed-methods research design approach adopted in this thesis enhanced the investigation by employing a sequence of qualitative and quantitative analysis methods. The detailed **Study 2** findings and discussions are shown below.

5.1 Impacts of quality of digital platform attributes

All 6 items were selected to reflect the platform quality attributes, which explains the complex characteristics of the digital platforms. The platform quality-related attributes mainly emphasised the quality attributes that can have a high level of impact on user experience. Though all quality attributes are important in platform evaluation, quality attributes such as ease of use (EU), privacy (PY), and technology integration (TI), were proved that did not have a significant impact on audience experience. Combined with Study 1 interview results, the reasons for this phenomenon are as follows: (1) the exhibition stage was proved in Study 1 results that the available devices and APPs were designed as simply so all age group audiences can easily watch online films and the demography analysis of the questionnaire can reflect this situation too. Thus, ease of use could not receive a high level of attention from the audience since the platform solved this potential problem and kept updating the platform itself. (2) audiences treat the platform as a channel for watching online films rather than social media and there will not be different interface changes, so privacy does not matter much. Another reason is the unique Chinese socio-cultural background of collectivist culture which made privacy an instrumental good but not a practical action (Gong et al., 2023). (3) audiences cannot touch the technology information related to platform-building and upgrade directly, so technology integration does not matter much from the audience perspective, but the technology was highlighted in previous literature and Study 1 interview analysis results.

Responsiveness (RS), personalisation (PL), and advertising (AD) were proved to have a positive impact on the audience experience. The platform quality results from interviews (Study 1) and survey tests (Study 2) illustrate the different focuses of industrial participants and audiences, which can be useful information to guide China's online film upgrades. Previous studies have focused on individual factor effects (e.g. Hair et al., 2019; Sarstedt et al., 2021; Safeer et al., 2021), whereas this thesis combined a set of factors to measure the platform quality attributes and address the research questions by listing more new quality attributes, testing the set of quality attributes, and testing both direct and mediation effects.

The findings of this thesis research indicate that the cultural background can influence quality attributes. The insignificant impact of privacy on Chinese netzines' experience proves that the attributes with high value in a Western cultural background do not have the same value in Eastern culture. Therefore, future application of attribution theory requires cultural conditions. Furthermore, some potential quality attributes such as technology upgrades do not work well as attributes from an audience perspective even though technology is one of the important properties of digital platform attributes (e.g. Kim & Fesenmaier, 2008). This finding also shows that the mixed-methods research design suited this research effort well by combining qualitative and quantitative analyses of data from both the supplier and consumer sides. Audiences may not realise the quality attributes of technology, but future attribution theory applications need to consider more new quality attributes such as technology upgrades.

5.2 Impacts of quality of online film attributes

The online film quality attributes are adapted to the traditional theatre film quality attributes because the interview content analysis results showed that online films have no differences compared to the traditional theatre films from the film production level. All the film characters are covered in today's online films through the volume, genre, and other external impact factors such as marketing promotion, policy, and other different external factors. Therefore, the online film quality-related attributes were divided into three main categories, production quality attributes, distribution quality attributes, and exhibition quality attributes, according to supply chain studies.

The exhibition quality attributes include some items such as word of mouth (WOM) after the online film exhibition stage to make the questionnaire questions clear for survey participants' understanding rather than set up a group of items named 'attributes after the exhibition'. The measurement items and Study 1 interview analysis both proved that the production quality attributes are a core group of factors that can influence film quality. Platform interviewees and online film companies' interviewees all emphasised that online film quality, especially the film content quality, should be improved because the online film projects' quality can directly influence the whole of China's online film performance. Most filmmakers thought a good script was a basic step to producing a high-quality film project because this is the intrinsic property of a film project. Thus, participants used the term 'internal film quality' to reflect that script, storyline, genre, and other film content-related factors are internal quality factors in online film production. Another important factor in the production stage is financial support. Some previous studies put 'financing' as a single stage before the production stage (e.g. Bloore, 2009). However, it is hard to define whether financial support is an 'internal' or 'external' factor because financial issues have an impact on all stages of the supply chain, and the financial situation can influence the film production level, such as the quality of visual effects. The multiple roles of finance also show that there are many natural endogenous and multi-effects of film quality-related attributes. The budget will be increased if the film project plans to hire famous stars, and this is an apparent example reflecting the problem. Thus, a simple regression method cannot address the natural endogenous problems in film quality attributes tests as well as a systematic and more sophisticated research approach. Therefore, a mixed-methods research approach and a mediation process model test were used in this thesis research to obtain more reliable results for both research and practice purposes.

In terms of theorising, an important finding related to film quality attributes was the importance of exhibition quality attributes. The results show that audiences' reviews and WOM have significant and positive effects on audience experience. This finding shows that new quality attributes can influence consumer behaviours and psychology directly, which warrants consideration in future attribution theory applications.

5.3 Direct effects

In this thesis, Study 2 main survey results showed that responsiveness, personalisation, and advertising positively related to audience experience (H1b, H1d, and H1e), while ease of use, privacy, and technology integration had no significant impact on audience experience (H1a, H1c, and H1f). The supporting result for H1b, H1d, and H1e was the same as the previous literature results (Kaynama & Black, 2000; Chen & Chang, 2018; Gao et al., 2018a; Lew et al., 2018; Nguyen et al., 2018; Parker et al., 2018; Karampela et al., 2020; Lăzăroiu et al., 2020; Suryani & Margery, 2020; Boerman et al., 2021; Kozyreva et al., 2021). The results proved that responsiveness, personalisation, and advertising had a positive impact on audience experience reflected designed 'digital platform quality attributes' had a positive relationship with audience experience from single factors aspect. These three quality attributes (responsiveness, personalisation, and advertising) can reflect that audiences are willing to receive fast and customised experiences when they are watching online films.

The results of H1a, H1c, and H1f showed there was no significant relationship between ease of use, privacy, technology integration, and audience experience. The reasons for this situation were listed in the '5.1 digital platform quality attributes' section that the audience will ignore technology-related service improvements because the audience cannot see the changes directly. Another reason is that China's online film is a cultural product with an entertainment nature and the audience will not consider some 'serious' quality attributes when they are watching online films. For example, privacy issues could be easily solved when audiences use online nicknames or change their personal information easily. As the literature review part shows, Tan (2018) mentioned that the theatre film-watching experience was not only related to the films themselves but also to the sensory transformation of people and the film-watching situations. Online film-watching experience illustrates the freedom of consuming online film products that audiences can quit watching whenever they like. The lower cost of watching online films than theatre films also decreases the possibility of thinking about serious quality attributes from platform-building aspect. Kaba and Özalpman (2021) also stated that digital technologies changed the consumer experience and creative approaches needed to be used in new media research. This thesis used a mixed-methods approach by combining digital platform quality-related attributes from literature and interview analysis results and found that digital platform quality attributes had a significant impact on audience experience from a single factor level.

Study 2 main survey results also showed that online film production and exhibition quality attributes positively related to audience experience (H2a and H2c), while online film distribution quality attributes had no significant impact on audience experience (H2b). These results also catered to digital platform quality attributes results that the visible quality-related factors can receive audiences' attention. Naturally, the online film production quality was emphasised in both Study 1 and Study 2 results which can indicate the film quality directly. The exhibition quality attributes also could reach audiences directly through reviews and WOM that could influence the audience experience potentially. However, distribution quality attributes' results showed different views of opinions from the supplier side and the audience side. Study 1 results showed that the platform managers think highly of effective distribution strategies and the platform also provides good distribution strategies with allowance. Study 2 results showed that audience experience had no significant relationship with online film distribution quality attributes. This situation has the same reasons with ease of use, privacy, and technology integration that audience experience was more likely to relate to visible factors and visible quality improvement. This is a new finding compared with the traditional film-watching experience because the place, screens, people, time, and related film-watching situations change dramatically. All those changes made online film quality attributes a significant factor in audience experience from production and exhibition view.

The positive and significant relationships between audience experience and audience satisfaction (H3), audience satisfaction, and audience loyalty (H4a, H4b, and H4c) were all proved in this thesis. These findings were in line with the existing literature in consumer behaviour studies (e.g. Meyer & Schwager, 2007; Sahin et al., 2011; Milman et al., 2020; Goutam et al., 2021). The results also showed that audience experience, satisfaction, and loyalty were three frequently used indicators in consumer behaviour studies. This thesis used three types of loyalty measurements to show that audiences' behavioural, intentional, and action loyalty would be influenced by audiences' satisfaction. The three positive relationships between audience satisfaction and audience loyalty were tested and proved in a rich body of academic research (Sahin et al., 2011; Milman et al., 2020; Naini et al., 2022). The positive relationships between quality attributes and audience experience, audience experience and audience satisfaction, and audience satisfaction and audience loyalty were also proved in Study 1 interview analysis, and 'online film quality' was the most frequently highlighted concept from all the interviewees.

5.4 Indirect effects

The positive significant relationships between responsiveness and audience loyalty through the sequential mediation effects of audience experience and audience satisfaction (H5b1, H5b2, and H5b3); the positive significant relationships between personalisation and audience loyalty through the sequential mediation effects of audience experience and audience satisfaction (H5d1, H5d2, and H5d3); and the positive significant relationships between online film exhibition quality attributes and audience loyalty through the sequential mediation effects of audience experience and audience satisfaction (H6c1, H6c2, and H6c3) were all proved in this thesis. These results of the sequential mediation effects between quality attributes, audience experience, audience satisfaction, and audience loyalty are in line with the rich body of mediation effects for consumer behaviour studies (Shankar et al., 2003; Sahin et al., 2011; Line & Hanks, 2020; Milman et al., 2020). Therefore, from the practical aspect, the increase of digital platform quality attributes and online film quality attributes are two effective ways to improve audience loyalty but in a mediation way. The first step to reaching the aim of increasing audiences' loyalty is to care about the audiences' experience. Then, the audiences would feel satisfied with the online film product on a specific platform. Finally, a loyal audience would be recruited towards the target digital platform with online film products. This finding argued the Study 1 result that all the interviewees stated the importance of improving online film quality but ignored the platform quality. In fact, both digital platform quality and online film quality should receive a high level of attention for better China's online film performance.

The concept of 'performance' in this thesis is mainly commercial performance as measured by box office revenue. In film studies, researchers use box office revenue as the measure of film performance because it is difficult to measure artistic performance, given different people's different aesthetic tastes (De Vany & Walls, 1999; Ravid, 1999; De Vany & Walls, 2002b; Basuroy et al., 2003; Sorenson & Waguespack, 2006; Hsu, 2006; Hadida, 2010). The Study 1 interview analysis results showed that the box office revenue for China's online film box office revenue related to the number of users and unit price. Audience loyalty is a core indicator of the number of users. While the final interpretation right for unit price belongs to the platform

which cannot be controlled by other participants directly. Thus, China's online film box office revenue can rely on the number of users through audience loyalty. Thus, the dependent variable in the research model is 'loyalty', and 'performance' is explained by Study 1 interview content analysis results combined with the Study 2 statistical results.

5.5 Theoretical implications

This thesis used the supply chain management theory and attribution theory to support the proposed research objectives. Specifically, the supply chain theory is used to illustrate that an organisation (or organisations) should build long-term success by cooperating with all the chain system participants, monitoring and improving different stages of operation, building networks between different components, sharing information and risk, and finally improving the products and services' quality attributes to increase customers' satisfaction level, especially in digital platform-related areas in today's digital era (De Reuver et al., 2018, Ivanov et al., 2018; Bolton et al., 2021; Boyson et al., 2022). The results of the thesis prove that supply chain management theory works well for understanding China's online film operation but brings some new thinking to the supply chain management theory.

Firstly, the traditional production–distribution–exhibition supply chain works for China's online films, but the details changed. In this thesis, the range of suppliers is expanded to individuals, platform companies, film-producing/distributing/exhibiting companies, promotion companies, other industry-related companies, and 'everyone' who gets the ability to provide online film products. Secondly, previous supply chain management literature showed that the aim of supply chain management was a long-term successful performance of companies (Lummus et al., 2001; Mentzer et al., 2001; Burgess et al., 2006), and long-term relationships with suppliers (Cox, 1999; Burgess et al., 2006). However, the 'long-term' relationships and performance should be reconsidered depending on different organisations of China's online film supply chain. For example, platform companies chase long-term success because they aim to expand the whole of China's online film performance from an industry level, whereas some tiny filmmaking companies chase short-term success because they do not have sufficient cash flow to help them chase long-term profit. According to the Study 1 interview analysis results, some small companies may only have the budget to make one piece of online film and wait for

a return on the investment so that they can invest in their next online film project. However, those small companies also aim to produce high-quality online film projects because the quality of the film is related to the unit price directly.

Thirdly, both Study 1 and Study 2 results show that the platform plays an important role in the whole supply chain and the platform could take part in every stage of the supply chain. Although the coordination theory within the supply chain management context emphasised the main aim of supply chain coordination was joint activities across the chain to achieve the same goal, the difficulties were always related to conflicting objectives in the supply chain (Kanda & Deshmukh, 2008; Castañer & Oliveira, 2020). The platform in China's online film supply chain plays a fundamental role in controlling and managing coordination between different chain components which brings an effective way to solve coordination issues. The main consumer perspective outcome variable in the supply chain management field was consumer satisfaction. The results of this thesis prove the importance of consumer satisfaction and bring new thinking to the mediator role of 'consumer satisfaction' in supply chain management studies under the consumer behaviour and psychology context. Finally, quality-based attributes are one of the core outcomes of the whole supply chain operation, and the statistical analysis of quality-based attributes proved an important indicator to measure the supply chain performance from the consumer perspective.

The Study 1 results also offer new insights into the application of supply chain theory development in the digital era. Firstly, digitalisation provides channels for global cooperation and establishes platforms for multiple small independent companies to work together. However, cultural and political issues can arise in a complex supply chain system. The information flows among the chain components become more dynamic, and the platform needs to play a guiding role in such an environment. Secondly, current supply chain management theory focuses on quality improvement within the chain process, while the end consumption indicators are ignored. Although working efficiency and product/service quality improvement are effective indicators for evaluating the supply chain management process, consumer experience can also be used to measure supply chain management results from the end-consumption perspective. The consumer-side data analysis results reflect the importance of the consumption stage in supply chain management theory. Thirdly, cultural differences should be considered in supply

chain management theory applications. The Chinese government has strict censorship and supervision not only for online films but for all online visual products. This supervision influences all stages of the supply chain. Thus, cultural differences should be highlighted in rigorous applications of supply chain management theory.

The Study 2 results prove that attribution theory works well for establishing the quality-based attributes scales for consumer behaviour research, and also brings some new thinking to digital platform quality attributes. Firstly, the quality attributes measurements adopted from previous SERVQUAL model (Babakus & Boller, 1992; Van Iwaarden et al., 2003; Raza et al., 2020) and SERVPERF model (Cronin & Taylor, 1994; Jain & Gupta, 2004; Haque & Sultan, 2019) scales were suitable for digital platform quality. This thesis provides more factors such as advertising, and personalisation from mobile marketing studies, digital platform research, and Study 1 interview analysis. And these factors work well in the digital platform quality attributes measurement which provides more items to measure digital product and service quality. Secondly, customer satisfaction was the main indicator in consumer behaviour research under the attribution theory context (Yüksel & Yüksel, 2008; Iglesias, 2009). This thesis's findings prove that consumer satisfaction was one of the indicators of consumer behaviour research, but consumer experience and loyalty can be two important indicators in digital platform-based cultural industries studies. Thirdly, the attribution theory provided a theoretical foundation and quantitative scales. A mixed-methods approach was commonly used in the effects of attribution studies and both direct and indirect effects were found in previous studies (Weiner, 2000; Casado & Mas, 2002; Muschetto & Siegel, 2021).

This thesis applies a quantitative approach to test both direct and indirect effects of digital platform quality attributes and online film quality attributes on audience experience, satisfaction, and loyalty. This thesis's findings provide new empirical evidence of relationships between digital platform and film qualities and audience loyalty from a statistical perspective in consumer behaviour and marketing research. The findings also bring inspiration on how to apply the attribution theory to quality attributes and consumer behaviour studies. The Study 2 results support three main conclusions. Firstly, the combined results of Study 1 and Study 2 show that the same quality attributes have different degrees of influence from the supplier side and the audience side. For example, technology was highlighted as significant in the Study 1

result but was not shown to be significant in the Study 2 results. This finding brings new insights into attribution theory relying only on consumer-side data. Current attribution theory relies heavily on consumer behaviour and psychology indicators, but the Study 1 and Study 2 results indicate that consumers are not necessarily as sensitive to potential or indirect quality attribution effects (e.g. technology quality attributes) as experts believe them to be. Therefore, the measurements of attributes, especially high-technology attributes, should be considered in attribution theory applications. This phenomenon also confirms the suitability of the mixed-methods approach used in this thesis study. Secondly, cultural differences influence the successful application of attribution theory since a given attribute, such as privacy, may have different influences in Western versus Eastern countries. This finding implies that cultural conditions should be considered in future attribution theory application. Thirdly, this thesis research used audience experience as the first outcome variable in consumer satisfaction and loyalty, which can inspire more choices for consumer-side indicators.

5.6 Managerial implications

5.6.1 General management implications

China's online film evolved as a combination of digital platforms and film products to provide cultural leisure goods and services. The product is intangible and has cultural properties which make it even more difficult to manage. The iQIYI 2019 online film report mentioned the market environment, online film development, film content, structure upgrade, platform service, and promotion (iQIYI, 2019). The market environment, online film development, and structural upgrades are all related to supply chain studies. The supply chain study based primarily on the Study 1 interview analysis showed that the interview analysis results captured the main points of China's online film practice. The film content, platform service, and promotion are related to the Study 2 data analysis portion of this research, the results of which also demonstrate the suitability of the research design logic. However, the iQIYI 2019 report only presented some vague slogans and general analysis and ignored the user aspects. Firstly, the report and thesis results all show the importance of supply chain management. For platforms, the managers should focus on the services among the whole supply chain to make the platform a consistent role in China's online film practice because the platform is the core role that aims to achieve long-term success from the industry level while other participants focused on short-term

success from the organisation level. The platform leads the industrial upgrade by making practical policies, standards, and promotional events such as online film festivals. Moreover, the platform operators can take part in almost all stages of the supply chain which provides the platform operators a natural privilege to manage the coordination issues of the supply chain and help all the components to achieve the same goal in an effective way.

Secondly, platforms and online film providers should pay more attention to the emotional connections with users through good audience experience and satisfaction rather than just using slogans to announce that audience loyalty is important but cannot find a clear logical process to improve audience loyalty. This thesis states a sequential process of the relationship between quality attributes and audience loyalty that can help China's online film participants to know their users better. Specifically, digital platform quality attributes have both direct and indirect effects on audience loyalty and platform managers should think about responsiveness, personalisation, and advertising from an audience aspect but technology factors from a manager aspect. For example, user-friendly design for both PC (personal computer) drive and mobile drive should be checked and upgraded on usability, accessibility, and navigability. Users may not think those design aspects are important, but the platform managers should consider those issues because it is human nature to evaluate the quality of experience automatically rather than purposefully. Additionally, technology issues have emerged in monitoring user behaviour during film-watching, platform-using, and communicating. Platforms should use the technology tools under privacy consent to provide a scientific algorithm to analyse user data to provide a better understanding of the users and upgrade services to cater to users' requirements. Naturally, platform responsiveness, personalised services, customised advertising, high-quality online film products, and good exhibition strategies are visible areas that both platform managers and filmmakers should focus on.

Thirdly, the platform needs to play multiple roles to transmit the government's political guidelines, supervise online film quality, and improve audience experience, satisfaction, and loyalty. Film providers should focus on film quality improvement. There are many factors that could be relied on to help the improvement of film quality though it is hard to meet every audience's needs since it is too subjective. The best way is to improve audience film-watching experience, satisfaction, and loyalty to achieve a good financial performance goal. The early

stage of development of China's online film was characterised by rapid growth in the number of online film projects developed, which expanded the market share and attracted investors' attention. However, the large number of low-quality online film projects made it a negative word-of-mouth situation for China's online film (Study 1 pilot phase results), mainly due to the lack of long-term success in China's online film development plans and the chaotic supply chain at that time. In recent years, platforms strengthened the supervision of online film quality evaluation by lowering the production speed and increasing the film quality, which helped China's online film transformation and development. The results of Study 2 determine that digital platform quality attributes play an important role in improving China's online film performance, so platform operators should pay more attention to platform quality improvement rather than just chasing high-quality online film products.

In the future, China's online film will meet both horizontal and vertical challenges from other digital products, such as online games, music, series, and other types of online entertainment products, as well as traditional films. Furthermore, the interview phase was conducted before the COVID-19 pandemic, and the post-pandemic era will also bring market uncertainties for China's online films.

5.6.2 China's online film practical implications

Recommendations to China's online film industry

Some suggestions for China's online film industry can be made based on the findings of Study 1. Firstly, the supply chain for China's online film industry has the same logistic flows as the theatre film industry. Therefore, management and marketing strategies currently used in the theatre film industry can inspire China's online film industry practice. However, there are some differences between the theatre film industry and the online film industry. More flexible cooperation in the online film supply chain gives different independent companies opportunities to specialise in their own areas. Having different sources of financial support is one of the unique advantages in attracting investment in China's online film industry development. However, the complexity of the supply chain makes it difficult to deliver information to every component in the supply chain. The platform should therefore play not

only a fundamental role in communications and coordination within the supply chain but also a bridge role between suppliers, consumers, and policy-makers. Secondly, dynamic demand–supply information flows are influenced by digitalisation. The process management of a single online film project needs to be flexible depending on online audiences’ needs. Therefore, effective communications in the supply chain are important. Although the platforms play a fundamental role in sharing information, fast and effective communication tools need to be established within the supply chain to face various challenges in the digital era. Thirdly, censorship and government policies have absolute power in China’s online film industry supervision. All stages of the supply chain are supervised under censorship and these policies. The interview findings suggest that online film project quality should be highlighted. A high-quality film product is the cornerstone in supply chain management practice. The platforms will give more online and offline resources to high-quality online film projects, and improving the quality of online films will have great influence on China’s online film industry development. The findings also suggest that the future development direction of China’s online film supply chain will be towards development of high-quality film content, well-designed storylines, more attractive genres, and interactive promotion strategies.

Recommendations to online platform managers

Some suggestions to online platform managers can be made based on the findings of Study 2. First, focusing on the online audience aspect was shown to be an effective way to support management and marketing strategies. However, online audiences cannot directly appreciate potential quality attributes that emphasise the importance of improving management and marketing strategies from both the supplier and consumer sides. Building user-friendly platforms, upgrading technology, and protecting user privacy may not get much attention from online consumers, but they are fundamental issues warranting the attention of online platforms. Online consumers may not be aware of the positive influences of these fundamental issues, but they can complain about the negative experience of low-quality fundamental support of a digital platform. Secondly, online consumers tend to prefer personalised recommendations on digital platforms. Scientific recommendation algorithms should therefore be considered in online platform management. Obviously, scientific recommendation algorithms are related to ‘ease of use’, ‘technology support’, and ‘privacy’, and this phenomenon also reflects the

importance of improving the fundamental quality of digital platforms. Advertising was shown to be another useful marketing strategy for promoting online films. Similarly, online audiences have positive attitudes towards advertisements that have connections with online film content, such as film IP derivative advertisements. Thirdly, online consumer reviews were shown to have a significant impact on consumer loyalty, which suggests that platform managers need to pay attention to online reviews and real-time reviews. Word of mouth can influence branding from a long-term success perspective.

Chapter 6. Conclusions and limitations

6.1 Conclusions

In this thesis, the aims were to explore China's online film supply chain, find out digital platform quality-based attributes and film quality-based attributes, determine the relationships between digital platform quality attributes, online film quality attributes, audience experience, audience satisfaction, and audience loyalty, and assess China's online film performance. A mixed-methods approach was applied to this thesis. The sequential exploratory research design could be divided into a qualitative phase (Study 1) and followed by a quantitative phase (Study 2). Both Study 1 and Study 2 had a pilot phase and a main phase study. Literature search and semi-structured interviews were the detailed approaches used in Study 1, and the PLS-SEM technique was conducted in Study 2. This research identified the fundamental production-distribution-exhibition supply chain of China's online films and the different components and participants in the supply chain system based on Study 1 data analysis results. The research also showed both direct and indirect positive effects of digital platform quality attributes and online film quality attributes on audience experience, audience satisfaction, and audience loyalty. The responsiveness, personalisation, and advertising (digital platform quality attributes) and online film production and exhibition quality attributes (online film quality attributes) paths were clearly supported by the existing literature. However, ease of use, privacy, and technology integration (digital platform quality attributes) and online film distribution quality attributes (online film quality attributes) were tested without statistical significance but proved to have practical impact from interview analysis. The findings related to digital platform quality attributes and online film attributes brought new thinking to the relationships between digital platform online film products and consumer behaviour. The findings from both Study 1 and Study 2 showed that supply chain management theory and attribution theory could provide fundamental theoretical support for digital platform products and consumer behaviour studies. Simultaneously, the finding of digital platform products supply chain and relationships between digital platform products' quality attributes and consumer behaviour outcomes could bring new insights into existing supply chain management theory and attribution theory applications.

Overall, this thesis strengthens the idea that the digital platform-based film products supply chain gets the same logical flow as traditional theatre film products. However, detailed participants, components, relational coordination, and networks were changed due to digitalisation properties. Consequently, the goods, services, finance, information, data, and other digital attributes in the chain would rely on a dynamic process flow in supply chain management. The findings also have significant theoretical implications for understanding the attribution theory applications in digital platform film products and consumer behaviour studies. Moreover, the findings on digital platform quality attribute effects and online film quality effects bring new insights into the comparisons between platform attributes and platform-provided product attributes' effects on consumer behaviour. This research contributes to existing knowledge of digital film product supply chain management, China's online film quality attributes, and consumer behaviour in today's digital era. This thesis is the first comprehensive investigation of China's online film performance by using a mixed-methods research design. The quantitative phase (Study 2) quality attributes focus was chosen from the literature search and the data analysis results of the qualitative phase (Study 1). The film quality attributes effects from Study 2 argued with the Study 1 interview findings which will be of interest to future digital platform quality and digital platform-provided product quality studies within consumer behaviour and psychology context. The following paragraphs show the answers to the research questions.

RQ 1. What is the supply chain for China's online film?

China's online film follows the traditional theatre film production-distribution-exhibition supply chain because the interview analysis showed that China's online film-producing process obeys the rules of theatre films. However, platforms play a key role in the supply chain from the beginning stage to the end stage. Platforms manage coordination issues between different chain participants including the government censorship department. The production body can be individuals, organisations, and any other bodies that can provide qualified online film products. Platforms are the main distribution channels. Online film providers can make their own decisions to choose specific platforms or distribute online films on the whole internet network. The distribution ways relate to the unit price of the online films directly. The exhibition stage is simpler than theatre films because digital platforms are the only exhibition

channel. Financing is a fundamental thing for online filmmakers since the volume of China's online films is smaller than theatre films and a stable cash flow and fund means a lot for online filmmakers.

China's online film supply chain works like the Bollywood business model by emphasising the effective cooperation between different components. However, the platform plays a controlling and supervising role in the supply chain to guarantee the supply chain's working efficiency. The network building between different components and players in the chain system provides effective channels for communication, information-sharing, risk-sharing, coordination, negotiation, and cooperation-related issues. Platforms also can solve coordination problems for all the players in the supply chain. As for the online film project operations, the supply chain works the same as the theatre film supply chain which started with a film script, film shooting crew establishment, financing, producing, distributing, and exhibiting. The difference between China's online film project operations and theatre film project operations are: platform can join the script-building stage, film shooting crew should have the target platform when they moved to the filing stage which was supervised by the National Radio and Television Administration (NRTA). The main activities in the production stage are financing, film producing, censorship, and initial marketing activities. The main activities in the distribution stage are platform ranking check, box office revenue negotiation, promotion (online and offline), and other marketing activities. The exhibition stage activities are film exhibitions, spin-off product sales, and future IP cooperation.

The supply chain management theory works well for China's online film supply chain analysis by providing logical flow and detailed process analysis. The findings of this thesis provided detailed players and components in the supply chain and the quality attributes outcomes which brought new insights into supply chain management theory application in digital platform cultural products studies within consumer behaviour context. The outcomes from supply chain studies also were designed and tested based on the attribution theory support by testing the relationships between digital platform quality attributes, online film quality attributes, audience experience, satisfaction, and loyalty. The results of direct, indirect, and suppressor effects also brought new insights into attribution theory practical and theoretical thinking in consumer behaviour and psychology studies.

RQ 2. To what extent do digital platform quality attributes and online film quality attributes influence audience experience, satisfaction, and loyalty?

The platform quality attribute was measured by ease of use (EU), responsiveness (RS), privacy (PY), personalisation (PL), advertising (AD), and technology integration (TI). The film quality attribute was measured by production quality attributes (PQA), distribution quality attributes (DQA), and exhibition quality attributes (EQA).

The responsiveness (RS), personalisation (PL), and advertising (AD) positively and significantly influence audience experience, while the production quality attributes (PQA) and exhibition quality attributes (EQA) positively and significantly influence audience experience. There is a partial mediation effect between digital platform quality attributes and audience loyalty through audience experience and audience satisfaction. There is a partial mediation effect between digital platform quality attributes and audience loyalty through audience experience and audience satisfaction. Similarly, there is a partial mediation effect between online film quality attributes and audience loyalty through audience experience and audience satisfaction.

In conclusion, the findings of this thesis offer three contributions into supply chain management theory. Firstly, the information flow in China's online film supply chain is dynamic, and online platforms are the main information source for all independent film companies. The platforms apply policies and rules to every component of the chain. Therefore, the main managerial body is the platform in China's online film industry, with strict supervision in China. However, the NRTA holds absolute authority over China's online visual product censorship and supervision. The supervision and censorship rules are changeable to suit fast-changing online visual product practices. Therefore, vertical information flow from NRTA to supply chain components through platforms and horizontal information flow from production to consumption through platforms should be considered systematically in the application of supply chain management theory to China's online film industry. Secondly, cultural differences play an important role in China's online film industry, and censorship influences

all stages of the supply chain, even the consumption stage. Therefore, the application of supply chain management theory needs to be customised to different cultural backgrounds. Thirdly, consumer-side data analysis results can be used effectively in evaluating the supply chain management process. Unlike the current working efficiency and product/service quality improvement, an emphasis on consumer experience in the consumption stage can reflect the outcomes of the supply chain management process. Moreover, a suitable research design approach needs to be selected in testing supply chain management theory because supplier-side and consumer-side data may have different degrees of effects on the same factor. For example, in this thesis, the interview analysis results emphasised the importance of technology upgrades, whereas technology-related factors were not very important in consumer-side data. Consumers are not responsible for addressing technology issues but do receive the benefits of technology upgrades automatically. Therefore, research designs should place a high value on theorising.

Moreover, the thesis results have two implications for future attribution theory applications. Firstly, some potential attributes, such as technology issues, are underestimated if only consumer-side data are considered. Consumers cannot appreciate those potential attributes directly, but these attributes might nonetheless be important quality attributes. Similarly, current attribution theory relies on consumer satisfaction as the main outcome variable in consumer behaviour and psychology research (e.g. Abuhassna et al., 2020; Wong et al., 2020). However, this thesis study treated consumer experience as the first outcome variable in consumer satisfaction and loyalty, which suggests that more consumer-side indicators should be considered. Secondly, cultural differences should be highlighted when applying attribution theory in different regions because some attributes, such as privacy, have different impacts in Western versus Eastern countries.

In conclusion, the key contributions of this thesis are threefold. Firstly, the research produced theoretical contributions to the application of supply chain management theory and attribution theory in investigating the effects of supply chain practice and quality attributes on online film audiences' experience, satisfaction, and loyalty. These contributions offer new theoretical insights into the future applications of supply chain management theory and attribution theory in the digital era. Secondly, this thesis advances the current knowledge of China's online film

products practice and provides inspiration for future digital platform-based cultural product studies. Thirdly, this thesis advances the current research on online film audience experience and provides new insights into online consumer behaviour context.

6.2 Limitations and future research directions

The scope of this investigation of the relationships between digital platform quality attributes, online film quality attributes, and customer loyalty was limited to China's online film. As digital platform-based cultural products around the world continue to develop, information on digital platform-based cultural products in different geographical regions should be used for comparison tests because differences from one region to another could influence how digital platform-based cultural product quality attributes influence local consumer loyalty. Additionally, the digital platform-based cultural products supply chain will be investigated in detail since different regions could influence the supply chain operations. Future research directions should consider different types of digital platform-based cultural products such as online games, online music, and other online cultural products. Detailed digital platform-based cultural products supply chain management issues should be explored in different regions.

This thesis used a conceptual model and sought to test the relationships in the model to demonstrate systematic design advantages under supply chain management theory and attribution theory supports. However, the quality attributes were divided into two groups (digital platform quality attributes and online film quality attributes) rather than being treated together as 'China's online film industry quality attributes'. The PLS-SEM results showed there were no multicollinearity, reliability, validity, and model fit issues. The PLS-SEM works well for exploratory research which is suitable for this thesis. However, once the model is established and tested, more confirmatory-based statistic techniques should be used in future studies. If the digital platform-based cultural products field studies can receive more academic attention, the confirmatory stage statistic techniques should be used to test the relationships between digital platform quality attributes, digital platform-provided product quality attributes, audience experience, audience satisfaction, and audience loyalty and check all the possible direct and indirect effects. Future results of the direct and indirect effects can bring confirmatory insights into mediation, moderation, or other possible effects in digital platform

cultural products and consumer behaviour studies. The alternative statistical techniques can be covariance-based structural equation modelling (CB-SEM), multiple regression analysis, and other advanced statistical techniques.

In this thesis, the design of dividing China's online film quality attributes into digital platform quality attributes and online film quality attributes was mainly from conceptual model building based on literature, theories, and Study 1 interview results. Is this correct to divide the digital platform cultural product quality attributes into digital platform quality attributes and digital platform-provided product quality attributes? Does one quality attribute have more predictive power than another that will cause statistical problems between independent variables? Future research under digital platform cultural product quality attributes situations should solve these two questions.

As mentioned previously, the interview phase (Study 1) was conducted before the COVID-19 pandemic. The Study 1 interview analysis results, particularly the new item scales, may not reflect changes due to the influence of the COVID-19 pandemic. Similarly, findings concerning customer experience, satisfaction, and loyalty may not fully reflect post-pandemic conditions. Therefore, another future research direction is a follow-up study in the post-pandemic era.

This thesis research produced new insights into applications of supply chain management theory and attribution theory, but some limitations apply to the theory testing. This thesis expanded current supply chain management theory mainly from the perspectives of information flows, different managerial bodies, and data, cultural, and political differences. However, the information flows were proven to be dynamic, and detailed information flows needed to be explained with specific cases in China's online film practice. For example, the vertical information flow from NRTA to platforms is clear, but the process of implementation for different supply chain components should be explored in detail. Additionally, the horizontal information flow from production to consumption through online platforms should be investigated in depth since these platforms play a coordinating role in the supply chain. Case studies on Chinese online film projects are needed in future research to explain information flows in detail. Policy also plays a fundamental role in China's online film industry. This thesis

sought to investigate supply chain and quality attributes; policy was not a focus of the research. However, policies need to be interpreted clearly and carefully in future studies related to China's online film industry, and detailed explanations of policies could be useful in exploring the effects of censorship issues throughout the supply chain. This thesis research used China's online film as the research object, and the results showed that cultural differences can influence supply chain management theory application. Comparative studies of different regions are needed in future research to investigate the effects of cultural differences on supply chain management theory applications.

This thesis found that new consumer-side data should be considered in attribution theory tests such as consumer reviews, comments, and feedback. However, some dynamic logistic flows should be considered as well. For example, information from online film content and real-time communications should be tested in future studies. The real-time communication also provides different logistic flows between platform and consumers, and consumers themselves. So complex information logistic flow attributes will be an important direction in attribution theory research with the development of digitalisation. The role of cultural differences is another important area for future attribution theory development, especially in cultural industries, because it can influence cultural products and consumer experience potentially or indirectly. For example, in China's online film cases, 'privacy' was an insignificant factor in the empirical test. However, the existing literature using Western data proved that 'privacy' was one of the significant factors in consumer behaviour studies (e.g. Wang et al., 2022). One of the important factors examined in this thesis is online film content quality. This factor can be perceived dramatically differently by different audience groups with different cultural backgrounds because it relates to consumers' aesthetic and cultural tastes. The same attribute may have different impacts in different regions. Therefore, cultural differences should be tested in future attribution theory applications. Thirdly, this thesis applied consumer (audience) experience as the first outcome variable in consumer satisfaction and loyalty, which inspired more choices of consumer-side indicators. The mixed-methods data analysis results show that consumer-side data may be limited in its usefulness in assessing attributes that do influence consumer experience, satisfaction, and loyalty directly, even though these attributes are shown to be significant in a supplier-side data analysis. For example, technology issues were emphasised in interviews with experts but did not get much attention from consumers. Consumers might not be sensitive to potential or indirect attributes in practice. Thus, more considerable

measurements should be considered in future attribution theory research to counter underestimates of attributes' effects in practice.

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Appendix

Study 1 Pilot interview ethics



Downloaded: 24/01/2018
Approved: 24/01/2018

Yajie Chen
Registration number: 170142489
Management School
Programme: PhD

Dear Yajie

PROJECT TITLE: Success factors of online films in China: Pilot Phase
APPLICATION: Reference Number 017406

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 24/01/2018 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 017406 (dated 24/01/2018).
- Participant information sheet 1038566 version 3 (24/01/2018).
- Participant consent form 1038567 version 2 (24/01/2018).

If during the course of the project you need to [deviate significantly from the above-approved documentation](#) please inform me since written approval will be required.

Yours sincerely

Lucy Bartrick
Ethics Administrator
Management School

Study 1 Pilot interview analysis

Interviewees' background information

	Gender	Education information	Job situation
Interviewee A	F	Master, Filmology	Short video company (Ergeng)
Interviewee B	M	Master, Filmology	Online film director/maker
Interviewee C	M	Bachelor, Public Administration	Service Online film and screen film director/maker
Interviewee D	F	Master, Cultural Management	Industries Video sites (iQIYI)

Analysis:

Question 1 “What do you think of Chinese online big movies when this cultural product came to the film market?”

All four interviewees' answers were the same. First, they all maintained the time point is the year 2015 when “BAT” (Baidu, Alibaba Group, and Tencent) three major Internet companies in China began to pay much attention to the film market, and online capital and private resources started to get involved in the film industry. Second, they did not have a clear definition of online films at that time. Interviewee A thought Chinese online films are derivative of existing screen films at that time. Interviewee B thought Chinese online film is similar to B-movie in America. While both interviewees C and D thought Chinese online film is the development of micro-films. Though iQIYI company officially named online big film in 2015 it did not mean this concept was acceptable at that time. The main problems were unclear concepts, low film product quality, and capital adjustments at the early stage of Chinese online films. In addition, all those four interviewees mentioned screen films or micro-films when we

talked about online films, and that information also reflected the messy situation in the 2015 online film market.

Question 2 “What are the differences between screen films and online films in China and could you tell me the influence factors for each of them? The influence factors could be positive or negative and you can rank them.”

Interviewee A stated,

“I think the influence factor for online films in China is that there is no one perfectly successful online film in China but there were some very successful online/internet dramas in China.”

This statement showed that there is always a comparison with other products on the same platform while the comparison for online films would be online dramas, online variety shows, online literature, and other online entertainment products. Interviewee A also said,

“I think the possible success factors for online films might be film genre and film script... and promoting marketing strategies are playing an important role in online films success.”

Interviewee A claimed that Chinese online films benefited from the lower costs and shorter production time compared to traditional films and had looser supervision in the film genre which could be one of the advantages to recover the blank genre of traditional Chinese screen films. As for the promoting marketing strategies, interviewee A said that online films as a part of internet cultural products were using online promoting strategies via social media or online advertising much more the same field methods in screen films.

Interviewee A thought the film concept and film script ranked the first for traditional screen films. The star power ranked the second position while the production team hold the third

position. She also said that promoting and marketing methods were playing an important role in traditional screen films. She thought the promoting methods could occupy 50% of the importance for screen films' success. For example, one Chinese producer named Fangli kneeled on the circuit and begged for more bookings, because more bookings could narrow the audience's choices and influence their decisions making.

Interviewee B held that the biggest difference between online films and screen films is the target audience. He stated,

“The age group of online films' audience is from 19 to 24 though it may not be that accurate and I just talked this issue with my own experience. When I was producing an online film, I would decrease the quality of the film and aesthetic standards to cater to the public taste of online films. I also remembered the data for my first online film showed that the main audiences were located in second-tier cities and third-tier cities in Fujian and Guangdong provinces. They were almost a young generation from the age aspect. Their careers are mainly in service industries. Moreover, those data were all from my first film project. Therefore, I would like to say the main difference between those two types of films is the audience from my aspect. Due to this situation, the audio and video language and marketing strategies are all different.”

As for the influence factors, interviewee B said the team (directors, stars, and budget) power would rank the first for screen films. The second-ranking would be an open window. The third one would be booking. The score would be the fourth important factor. For online films in China, interviewee B said the most important factor is the rating from the platform because the rate would influence the advertising banner position and resources directly. The second one would be the barrage review. The third one is the first 6 minutes of film content to recruit the audience.

Interviewee C said that the differences could be seen in two ways. The biggest difference is the audience from the market aspect while the other big difference is the playing channel from the operational aspect. He said that the main playing channel for screen films are off-line screenplay and some private film demand services and those ways to play films could make the communication more private and a sense of ritual. While online films had more flexible

room for the audience to choose and the communication methods could be online real-time (OLRT) with other consumers who were looking at the same film. Interviewee C said the property for online films is more like the property of pure entertainment consumption. He also stated that the audience groups are different from the market aspect. The main audience group for online films is the “Diaosi” (usually young male audiences) group and 80% of the total audiences are male audiences the age group is located in young generations with strong hormones. He said the situation for screen films was the opposite, female audiences are the main consumers, and the range of age groups was much bigger than the online film, because the diversity of types of films could cater to different audiences from different age groups.

Interviewee D said there were several differences at the early stage of online film’s birth. She said,

“If it is the very beginning stage of online films, there were so many differences between online films and screen films. For example, the basic production team structure, budget, investment volume, genre, and producing methods and technique were all different.”

As for the influence factor, she thought the most important and only factor is the quality of the film. In addition, she explained that the quality included several aspects such as the art quality, script quality, and technique quality. She said,

“From the market aspect, we cannot decide whether audiences’ aesthetic judgment is mature or not. We cannot segment the audience so specifically. But we can recruit our audiences’ attention by improving the film quality and more market segments.”

Thus, she stated that the final critical reviews and box office performance could be a positive relationship with the film’s quality.

Question 3 “What do you think about the strengths/weaknesses and opportunities/threats for online films at the begging stage of the online film itself?”

Interviewee A thought the strengths of online films were shorter production time, faster-distributing speed, looser supervision influence, and higher creation freedom. The main weakness for the online film could be the budget because she thought the lower budget had made online films lower quality in the market.

Interviewee A thought one of the opportunities for online films is that the online film platforms gave new directors who have the potential power to make high-quality films a chance to show their talents. And those talented directors could contribute to the online film market and the Chinese film market making this a positive developing environment. She also mentioned that the internet environment was not good these years and the government would use stricter supervision on online films in the future. Thus, she thought online films would despair or mix with screen films in the future.

Interviewee B said that one of the opportunities for online films during the beginning stage was the profit model transformation from micro-films to online films via video websites. He also said that online films had the same gene as micro-films so the pros of online films could be convenient transfer, low production cost, low market barrier, high production output, and more genre choices. Interviewee B stated the first con for online films was the ecological economic system because the market participants were all overusing the resources at the very beginning to make a profit but forgot to protect this industry by improving the film quality. And he said the platform and production participants could take this responsibility. The second one is for the supervision aspect. He said both platform supervisors and SARFT (The State Administration of Radio Film and Television) did not have a long-term plan and rule to protect the online film to develop healthily. Interviewee B also put forward a question which is “why online dramas and online variety shows could succeed but online films could not reach a higher level?” He said this was another weakness for online films that online films did not have a very successful example online film project, which the Chinese film participants call it an explosion film project.

Interviewee C said that one of the advantages of online films was flexible room for supervision though the rules were stricter than before. So, the genre and concept of films were opener than screen films. He said,

“As for the disadvantages, honestly speaking, the market is tiny. During the last few years, especially last year, the whole market growth rate was slower than before including the major players in this industry. The first echelon made no difference compared with the situation two years ago. Teng, iQIYI, and Qishuyouyu occupied are the major players in this industry while this situation is similar to the situation last year. Thus, we can see there are fixed classes in this market.”

As for the opportunity, he claimed that the key issue was whether there will be an explosion project of online films in two years to help online films create a brand effect. The threat would be online film producers did not want to make films from a female perspective which made female audiences have no feeling about online films. And this was a vicious circle of a limited group audience.

Interviewee D said one of the strengths of online films at the early stage was the potential power in the film market. She said online films were “Duan Pingkuai” (with little investment but quick output) projects. For filmmakers and investors, online films had lower risk, lower pressure, lower investment volume, and looser supervision that made themselves good cultural products to make a profit. And screen films should meet several steps before release such as advertising step, distribution step, investment steps, and investment payoff period. The online film production model was simpler than the screen films so that the production time was shorter, and the investment payoff period was shorter. The weakness of online films could be budget. She said limited budget made online films lower quality and this situation could influence the online films themselves negatively. She said the opportunity in 2015 was the rapid development of video websites because those websites provided the public a platform to see more visual products. The audiences had various demands for visual information with different aesthetic levels and this basic situation gave online films a chance to show their power via

internet platforms. She said one of the threats was the horizontal competition. She stated that the entertainment ways were various and this situation could influence video websites. Meantime, the threats to online films could be more. Online dramas, online variety shows, and other online cultural products could seize the same platform resource while screen films could seize the film market at the same time.

Question 4 “Chinese online film developed its volume, investment, concept quality, and marketing strategies during these years. How could online films attract more audiences and investment now? What do you think of the market share influence factors both inside the online film itself and outside the market? You can answer questions with your own experience and opinion.”

Interviewee A said that the film concept quality ranked the first position, and a good film script was the key method to solve this problem because the online film was a new art form the artistry played an important role in artwork.

Interviewee B stated that the first 6 minutes were the key method to attracting audiences at the beginning stage. However, he also said that he would like to put some pornographic images in the first 6 minutes as a gimmick or some action pictures. He said that investors would pay much attention to the directors’ previous films because most online film investors were not specialized experts to the film industry. He said most investors were private enterprise holders located in Shenzhen city. He thought both internal and external factors would influence online films’ box office performance. However, he said screen films’ internal factors would help their box office performance better than online films which could be a bias. For example, an art film called “Youth” by director Xiaogang Feng had a good box office performance. However, if using the same resource to produce an online film “Youth” it would not be successful. He said that because

“... from the online film audience aspect, they treated online visual products mainly as a curiosity. If a film with a high education level, they would not pay for that one. The slow rhythm of narration also could have a negative influence on online film audiences.”

As for the external film factors, he said screen film as a type of mature art form could have more related factors than online films. He took advertising steps for example and claimed that screen films would meet release timing, open window, and other issues while online films might only have a negotiation with the platform such as banner position or other issues.

Interviewee C said that the key issue for online films was to create different products compared with screen films from the market aspect. The second part would be the genre. He said “Zombie” and “Gambling” online films could make a great profit from his working experience. He also stated that the most important difference between online films and other pure entertainment products (e.g. travel, games) was that online films had an educational function. He said the shared value was the core of both online films and screen films.

Interviewee D said a good story was the key factor for online film product development. She said,

“We iQIYI company now is focusing on some literature IP development. We planned to find some film-producing teams and some literature or comics works and get them to work together to change the literature IP and comics IP to online film IP. Those artworks may not be famous as some blockbusters’ IPs such as “Daomubiji” and “Candle in the tomb”, but they do have their audience. And our iQIYI’s adaptations are based on literature and comics which made the scripts better and a good story.”

She stated that iQIYI had many plans to develop film-related IP and a good quality script was the basic success factor of both online and screen films.

Question 5 “What do you think of the problems that online films were facing during the development stage? You can list the problems in all aspects that you want to discuss. Did those problems had been solved or not? You can give your solutions and solve those problems in a market manager’s aspect.”

Interviewee A said they would focus on their target audience from the market aspect. Interviewee A is working in a short video company, but they also built Ergeng Films last year. She stated that they would figure out the target audience group and the film genre before they invested in an online film project. She said Ergeng Films company produced one online film called “Life Under My Skin” and this is a science-fiction mystery film that was made according to the investigation of their audiences’ taste. She also said that precision marketing played an important role in producing and investing in online films.

Interviewee B said he would like to use a film called “Daoshichushan” as an example to analyse the problems of online films. He said the director of “Daoshichushan” had another online film called “Chaoziranshijian” in 2017 with the same leading actor. Thus, he thought those two films witnessed the online films changes over three or four years. First, “Daoshichushan” had a low producing budget about 20 thousand to 30 thousand GBP, and the production quality was low at that time. The genre was light comedy and used Lin Zhengying’s zombie film’s IP. However, “Chaoziranshijian” used an original IP or took inspiration from an event. And these were positive changes in film concept and IP practice. Another difference was that “Chaoziranshijian” had a trailer before release, and that trailer showed amazing visual effects. He said he was so excited when he saw that trailer, but when you paid for the whole film, you could see that all the visual effects in this film were shown in the trailer which made interviewee B so disappointed with this tricky operation. And he claimed that this was the common problem for online films that online film producers always made low-quality artistic film products and focused on a high profit. He thought the best solution was to improve the quality of online films. He took a series of online films named “Damengxiyou” which did better on concept

compared with other online films and those sequence films used Xiyou IP but created their own story.

Interviewee C claimed that the platform did not have severe problems because they had many plans to help online film development. The platform provided with script development plan and funds. He said

“... if you don't have a script, the platform will give you literature products. If you do not have a producing team, they will give you a team. If you don't have money, they will give you money.”

He stated that online film production would take responsibility for the main problem because they could not produce high-quality film products to meet the market demand. He also said some of the top online films were not the “real” top ranks because they used the best resources but could not meet the demand of high-quality film products. He said the top players in this market had the best resources, but they could not produce films like “The Shawshank Redemption” or “Crazy Stone” as good industry examples in this digital era. He explained that the major players in this market dared not to create new type of film products, but they were in a new film market. However, he also said it is unfair to say it was all film companies' duty because online films were difficult for film companies to make a profit and this was the key contradiction. Interviewee C stated that platforms were trying to use some good solutions to help the development of online films. First, many platforms had talent people development plans to help new and creative directors show their talent in this new market. However, online drama could make more profit compared with online films now. This situation made websites want to invest more in recruiting talented people in online drama aspects but not online films. Second, some good cultural products' copyright owners did not want to cooperate with online film companies. He said top cultural IPs' owners refused to cooperate with online films because they did not like online films.

NB: Question 5 for interviewee D is “What do you think of the role of platform/video website (iQIYI) in the online film market? What are the success and failure factors of

online films from the iQIYI's aspect? How do you define the market manager of online films? Is iQIYI the manager or government departments?"

Interviewee D said that the role transformation was obvious. At the beginning stage of online film production, iQIYI was a platform to distribute online films. Now, iQIYI divided online films into two different types. First, some of the online films were finished by film companies that could be distributed directly. Second, iQIYI would take part in the film production stage because iQIYI had many film plans and projects to help new directors. In this aspect, platforms did not have a fixed role in the online film market, but the main role was a distributor. She said the main age group of online film users was 30 years old to 40 years old male consumers with lower education backgrounds and this might be one of the failure factors that their taste limited the quality or genre of online films. She stated that another cruel factor for online film producers was that an online film company's lifecycle highly related to its products and sometimes the box office performance of one piece of film would determine the company's life. For iQIYI company, interviewee D said the main problem is the increasing demand for high-quality online films. In the market aspect, she said the online film market would be bigger than before. First, online film and screen film had different film-consuming experiences. Screen films hold a centralized experience with the cooperation of voice, light, and effect. Online films hold a flexible film watching experience with mobile and internet technology and this would be one success factor for online films. And online films had less limitation and supervision than screen films, but they also needed to be recorded for the filing system and obey laws and government requirements.

Question 6 "From the existing literature and industry common sense during the last two years, many online film participants believed that the most important factors for online films were 1) the first 6 minutes 2) film poster 3) film name. Do you think those three factors are suit for online films now? What are the important factors for the online film now according to your experience and opinions?"

Interviewee A said,

“I think what you said is the situation that audience don’t know what films they want to see online and don’t have specific choices for films they want to see.”.

She stated that when audiences did not have specific choices and they would like to search online films according to genre or other keywords even randomly search films. Those three factors could be important methods to attract online moviegoers. However, if the audiences knew what they want to see, those three factors would not be important anymore. She said the film concept, production quality, and visual effect could be important factors now.

Interviewee B said those three factors were suitable for the developing stage of online films. He thought the rating from the platform would be the most important factor now, because the rating would directly influence the profit per click and the advertising position on the webpage. He also said the rating could be the reflection of the quality of film so a high quality of online film could be an important self-influence factor.

Interviewee C said those three factors were the basic factors in this industry that could be a common sense for all the online film producers. He said marketing strategies could be another factors such as star power, ground-based promotion, resource exchange and SEO (Search Engine Optimization). He also said that platform would provide marketing allowance to help the film promotion.

Interviewee D said those three factors were the key factors for some strong stimulation audiences who wanted to see something new and attractive. She said iQIYI company had different strategies to judge an online film and iQIYI thought WOM (word of mouth) was more important now. First, iQIYI would encourage the online film producers to improve their products’ quality and the film concept quality would influence the concept rating directly. Second, iQIYI would encourage film producers to promote their films to make good marketing communication with audiences. She claimed that concept quality and promotion would be two important factors now. She also said that those three factors would be washed out in the future

and the future trend for the online film would be sequel films, high-quality films, and big-budget films.

Question 7 “Honestly speaking, Chinese online films got much more negative reviews from audiences than positive reviews but some of the online films could still make a profit in this situation. Could you explain this phenomenon according to your experience and re-think the role of film critical reviews in the online film market? If you know a blockbuster called “Douzhanshengfo” in 2017, we can take it as an example.”

Interviewee A thought film reviews were one of the marketing strategies now and related to “Internet Water Army”(that means somebody hired a group of people to control the reviews). She said online films were not like screen films and online films had a limited budget so online film promotion channels would be new media and We-Media. She said KOL (Key Opinion Leader) via social media/We-Media would be a good choice for online film promotion.

Interviewee B said critical reviews and movie scores were very important for both online films and screen films. He took “Douzhanshengfo” as an example that was a blockbuster in 2017 and had a good ROI (Return of Investment). He said,

“... Douzhanshengfo” got many negative reviews, but it had a good release window at that time because both online films and screen films did not have many good films at that time. Audiences did not have many choices during that period of time and this film had high click rates so the platform would give this film a good banner position and good resources. And those factors together made “Douzhanshengfo” a good choice for audiences to consume. And only some special online films could have a high score while many online films would have 6 points or 7 points film score. I think audiences will not see a film with 3 points or 4 points score films.”

He also mentioned that many audiences did not know online films well from their negative reviews analysis. That some online film audiences did not understand this type of new art form

and treated online films as screen films, and this might be the reason why there were so many negative reviews of online films because the online film cannot reach the same level as the screen film now, but this is the fact and it is unfair to treat online film projects the same way to screen films.

Interviewee C emphasised that critical reviews were real and he appreciated reviews from audiences. He also said that “Douzhanshengfo” was a positive try but also it had a good open window at that time because during that time there was a rumour said that the online film market would be closed since the best-selling online films could just make hundreds of thousands of Chinese yuan (tens of thousands of GBP/GBP) box office. At that time, “Douzhanshengfo” had star power and a good IP so the iQIYI company gave it the best resource to stimulate this market. And this might be the reason why “Douzhanshengfo” got a good ROI but also many negative reviews. He also said both online film and screen film markets were not good in early 2017 due to different types of funds involved in 2016.

Interviewee D said online film producers valued WOM and wanted to get more positive reviews by improving their products’ quality, but she also said so many reviews were posted during first 6 minutes because the first 6 minutes were free to see. She said

“...the audiences did post reviews according to the concept of film. Maybe they think online films are low quality products in their minds. Because there is a preconceived attitude could influence the reviews for online films.”

In one hand, she stated that there was a bias for online films reviews which was also a negativity bias for screen film reviews. She said when a moviegoer had a negative experience they would post a negative review more than the rate for positive reviews posting when a moviegoer had a positive film consuming experience. In other hand, she said the quality of online films could not meet consumers’ demands and this was a fact in practice. She said iQIYI would analyse the situation when an online film had a good ROI but bad film reviews and this was an

important method for marketers to figure out what are the success factors from a good ROI online film with negative reviews to investigate consumer behaviour and psychology.

Question 8 “We talked about the development of online films for so long and what do you think of the future of online films? You can answer with a positive attitude or negative attitude and explain it if you want.”

Interviewee A holds a negative attitude toward the online film future. She said she could not approve of the future of online films, but she thought the online drama would have a bright future. She also said that a comparative study of online film, online drama, and online literature would really make sense for online cultural product analysis.

Interviewee B holds a negative attitude towards the online film future. He explained that he was waiting for an online film blockbuster that could bring the whole market or art form to a higher level, but he was disappointed during the last few years. He also claimed that the online film industry had a wrong way of its development because some of the major players in this industry wanted to use star power to attract more audiences, but this method could not beat the star power of screen films due to limited budget. He said online films might be the added value part to expand the value/IP chain of other art forms if they could not do industrial upgrading.

Interviewee C holds a positive attitude about the future of online films. He said online films would not disappear and they would develop with the development of video websites (platform). However, he also said the key issue of whether online films could be a major film market would depend on the industrial participants' ability in the future.

Interviewee D hold a positive attitude. She said this market was not replaceable even though the online film market was facing fierce competition it would develop in the future.

Question 9 “What will be the future strengths and weaknesses of the Chinese online film market? You can talk about this question with the thinking of online dramas, online literature, and other online cultural products. What do you think of the future plan for online films?”

Interviewee A said that internet video products would rely on mobile end systems because Chinese internet development was moving to mobile end these years. And people spent too much time on mobile phones than PCs (personal computers). This phenomenon made time consumption a fragmentation consumption pattern. So she thought short videos could have a bright future. She said future online films might use 60 minutes, 30 minutes, or 15 minutes to tell a film story to suit the fragmentation of time consumption.

Interviewee B said online dramas and online variety shows showed potential possibility to go beyond TV dramas and TV variety shows in China but online films would have a long-term development comparing with the success of online dramas and variety shows. He stated that online films needed some creative changes. Second, platform guide and government support would be another way to help online films to develop. He emphasised that online films should have “sense of internet/web” and pay attention to cooperation with bottle and middle level of IPs. He also thought online cultural products would have a bright future. He said the “reviews and real-time communications” culture could become one of the products’ parts and this was a good phenomenon to use consumers’ reviews to re-process cultural products. Moreover, the generations after the 1990s had consumption power now and they were totally Internet/Web born generation which made a good basis for the development of online cultural products.

Interviewee C said he was so interested in this question because he was studying online literature for a period of time. He said the debility of online literature matched the historical development. He mentioned that online literature had a booming development in the year 2000 when online literature came to the market with the development of internet technology and better entertainment than paper literature. He said online literature did well during last few years, but the development speed was slower than before. He said there were two main reasons for this situation. First, there were many replacement choices for online literature such as online games, online shopping, and social network apps. Second, there was less creative online

literature than before because it was hard to create a new genre in this market. However, he still thought online literature would have a bright future because writers could create IPs for further films, dramas, or other art forms to expand the use of IP. As for online dramas, interviewee C holds negative thinking. He said that the online dramas market was fully developed these years, and this meant this market was saturated. He said,

“...you can see that iQIYI sets up a high threshold of online dramas. If you want to cooperate with iQIYI for an online drama project, you should have at least thirty million Chinese yuan (around three million GBP) funds and they will check it. Once they see thirty million Chinese yuan (around three million GBP) in your bank account they will start the negotiation.”

And this situation made small companies could not do online drama projects. He said the online drama market did not have much space or potential development from the producers' aspect.

Interviewee D said there were many differences between online films and online dramas/literature because those online cultural products had different targets from the platform aspect. Online dramas could increase the amounts of paying users because they had a long-playing period and promoting periods that were different from online films. She said that she did not have much experience with the marketing issues of online variety shows but she thought online variety shows and TV variety shows did not have many differences except the playing channel. She also said that both online dramas and online variety shows had some high-quality projects which made those types of online products a good position in today's online market. She stated that online films did not have one high-quality product that could bring the whole market to a higher level, but she hoped online distribution would become one of the mainstream distribution and be acceptable to film industries.

Study 1 Pilot analysis result form

Interviewee	A	B	C	D
Categories	The beginning stage of the online film market and now			
First impression of online movie	Derivative of existing films	Similar to screen movie in America	B- in micro-films	Development of micro-films
Differences between online films and screen films	Cost, production	genre, Target audience, audio, and video language, marketing strategies	Audience from the market aspect, channel the operation aspect	Basic production team structure, budget, investment volume, genre, producing methods, technique
Influence factors for online films at the beginning stage	Film genre, film script, promoting marketing strategies, looser supervision, online promoting strategies via social media or online advertising, lower costs, shorter production time	Rating from the platform, barrage review, the first 6 minutes	N/A	Quality of the film (talents' quality, script quality, and technique quality)

Influence factors for screen films	Film concept, for film script, star power, production team, promoting and marketing methods	Team (directors, stars, budget) power, open window, booking, score	N/A	Quality of the film (talents' quality, script quality, and technique quality)
Strengths of online films	Shorter production time, faster-distributing speed, looser supervision influence, higher creating freedom, promotion strategies (speed)	Convenient transfer, low production cost, low market barrier, high production output, and more genre choices	Flexible room in supervision, opener genre and concept of films	Potential power in the film market, lower risk, lower pressure, lower investment, looser supervision, profitable product, simpler production model, shorter production time, shorter investment payoff period
Opportunities for online films	New director development	Profit model transformation from micro-films to online film via video websites	The future explosion of online film	The rapid development of video websites
Weaknesses of online films	Lower budget, lower quality, promotion	The bad ecological economy system, the	Tiny market, fixed classes for online film companies	Budget

	strategies (low budget)	(low government did not have a plan to help its health development, no successful online films (explosion film)		
Threats to online films	Online dramas, bad internet environment	No long-term development guide or plan	The vicious circle of a limited group audience	Horizontal competition, online dramas, online variety shows, and other online cultural products, screen films
The developing stage of the online film market				
Ways to attract audiences and investment (market share influence factors)	Improving film concept quality, good film script	First 6 minutes (beginning stage), quality of directors' previous films, the concept of films	Creating different products compared with screen films, genre, shared value	A good story, IP, and a good quality script
Problems with online films	No successful explosion of online film	Online film producers always made a low quality of art products and focused on a high profit	Production could not meet the market demand; major players could not produce a creative product	N/A (a special question could be seen with an "NB" mark)

Possible solutions	Figuring out the target audience group, tastes, and the film genre; precision marketing	Improving the quality of online films, creating own story	Platforms had talented people's development plans	N/A (a special question could be seen with an "NB" mark)
Opinions to existing important factors	3 For audiences who do not have a film-watching plan	Suitable for the developing stage of online films	Basic factors in this industry	Those three factors would be washed out in the future
New important factors to online films	Film concept, producing quality, and the visual effect	Rating from platform	Marketing strategies (star power, ground-based promotion, resource exchange, and SEO (Search Engine Optimization))	WOM (word of mouth), film concept quality, concept rating, marketing communication, sequel films, high-quality films, big-budget film, and big-deal film
Role of online film critical reviews	Marketing strategies, "Internet Water Army", KOL (Key Opinion Leader)	Important role but unclear for a new art form	Real reflection could be influenced by capital	An important indicator to analyse online films is negativity bias
Attitude towards future online film	Negative	Negative	Positive	Positive
Future predictions for online films	See Question 8 and Question 9			

Conclusion

This pilot study considers the basic impact factors of China's online films and a comparative analysis of online films, screen films, and other online cultural products. The interview result shows that both industrial participants and online moviegoers did not have a very clear awareness of online films at the beginning stage of this film product. However, interview participants also claimed that this is a common phenomenon for a new cultural product and consumers would have more considerable thinking about China's online films in the future. The potential impact factors were shown as keywords in the pilot analysis result form and that information was the guideline for Study 1 main phase of interview design.

Study 1 Main phase interview ethics

Research project title:

A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China

Has your research project undergone academic review, in accordance with the appropriate process?

Yes

Similar applications:

Success factors of online films in China: Pilot Phase. This application got approved on 24/01/2018 and the reference number is

017406

Section B: Basic information

Supervisor

Name Email

Elizabeth Carnegie e.carnegie@sheffield.ac.uk

Proposed project duration

3: Project code (where applicable)

Start date (of data collection):

Sat 11 May 2019

Anticipated end date (of project)

Tue 28 September 2021

Project code

Suitability

Indicators of risk

- not entered -

Takes place outside UK?

Yes

Involves NHS?

No

Human-interventional study?

No

ESRC funded?

No

Likely to lead to publication in a peer-reviewed journal?

Yes

Led by another UK institution?

No

Involves human tissue?

No

Clinical trial?

No

Social care research?

No

Involves adults who lack the capacity to consent?

No

Involves research on groups that are on the Home Office list of 'Proscribed terrorist groups or organisations'?

No

Involves potentially vulnerable participants?

No

Involves potentially highly sensitive topics?

No

Section C: Summary of research

1. Aims & Objectives

The aim of the overall PhD project contains the proposal for a doctoral inquiry which takes a marketing approach to the study of key impact factors in the contemporary online film industry in China. China film market box office revenue ranked second by \$6.6 billion (around £5.04 billion) behind the U.S./Canada market in latest Motion Picture Association of America (MPAA)'s Theatrical Market Statistics 2016. In 2014, a new type of film product combined with digital technology was named by Chinese major online video companies. The Chinese online films are not theatrical films derivative products by distributing theatrical films after the release window. The Chinese online films are total new film products that the film production, distribution, and exhibition all rely on the internet. The reasons for the Chinese online films' birth can be various. The rapid development of the film industry, the digital economy, and investment would be important factors to facilitate online films.

In China, the online film is emerging as the new business model. The Chinese online film industry relates to the traditional film industry and digitization development. It aims to provide

netizens with a new choice for visual demand. According to the China Internet Network Information Centre (CNNIC)'s annual report, the Chinese netizens reached 731 million (December 2016) and mobile internet users occupied more than 95% of the total internet users. Internet-based marketing activities need more practice and academic attention since a large number of consumers and high speed developing digital markets (CNNIC, 2017). The rapid increase in internet using made digital market a potential place for investment. The birth of online film also showed digital technology could influence traditional industries and make a new economic spin-off in the future. However, the online film practice is moving ahead of theories. The new business model of the online film industry and industrial key impact factors will be the research direction to fill up the theory gap.

This PhD thesis aims to build a conceptual model which explains how this new type of digital CCI (Creative and Cultural Industries) business is working and use this model to inform scholarly, policy and managerial debate and thinking. The research gap is the existing theatrical film industry in a digitization era. The online film has a new market structure and value chain with new influencing factors. This thesis plans to test the efforts from existing theatrical film industry models and investigate the unique factors for the Chinese online film industry. Firstly, using the parallel study of other digital related markets to find out the market changes driven by digitization. Secondly, designing a mixed method to analyse online film key impact factors and set up market conflict detection and resolution for an online film map. Finally, building new models and theories to fill in the blanks of the Chinese online film industry in a digitization era.

2. Methodology

The research design for the PhD project will use a mixed method approach of 3 stages. Stage 1 will use semi-structured interviews to acquire professional practice information on Chinese online film industry from Chinese online film companies. In Stage 2 and Stage 3, industry data and survey will be adopted to identify the key impact factors for Chinese online film industry. The research design will consist of 3 stages to collect data from both industry experts and consumers. Stage 1 will use semi-structured interviews to acquire professional information from online film marketing managers and staffs. Stage 2 will use secondary data from Chinese online film box office performance annual reports such as film budget, stars, directors, reviews and other accessible data to compare the impact factor with the Stage 1 outcomes and existing literature. Stage 3 will use the questionnaire to acquire information from the consumers' aspect

and Structural Equation Model (SEM) to test latent variables such as film quality, website information quality and other related latent variables from the Stage 1 outcomes and existing literature. The outcomes from Stage 2 and Stage 3 will contribute to the information asymmetry theory by comparing the impact factors from both the producers and consumers aspects.

Stage 1 (Semi-structured Interview)

The Stage 1 of the research design will use 15-20 semi-structured interviews with online film company marketing department managers and staffs from Youku and iQIYI which are two top online film companies in China, and online film directors, and staffs in online film producing companies such as Qishuyouyu which is the top one online film producing company in China. Each interview will take 40 minutes to 60 minutes. Companies, such as Youku and iQIYI, are the websites companies that provide online platforms for online films distributing and exhibiting. Individual online film directors and online film producing companies are experts at online film producing. The normal film producers and directors or their teams are usually hired by film studios. However, the online film producers and directors can be individual person, organisation, online film company teams or other groups of people who can get online film approved licenses from the State Administration of Radio, Film and Television (SARFT). The planned interviews with target groups of people will acquire professional information about online film producing, distributing, and exhibiting that will cover the whole film value chain. The interviews (Stage 1) outcomes will be a clear statement to introduce this new type of film industry in China; an industrial map to show the industrial chain that can explain how this industry works, and a list of key impact factors to investigate the marketing performance.

Stage 2 (Secondary Data)

The film industry and digital information-based goods have accessible data (e.g. box office revenue, reviews, budget, stars) and those accessible secondary data will be used to test key impact factors at an industrial level. For example, the pilot interview analysis outcome shows the budget is one of the impact factors for online film box office performance which caters on the existing literature with Miller & Shamise (1996), Eliashbery et al. (2006), Hsu (2006), and Weinberg (2006)'s studies. The result of the analysis for secondary data will test the impact factors for Chinese online films according to the Chinese online film annual reports. However, there is one problem for the secondary data test which is the measurement of latent variables. For example, "Film Content" is one of the latent variables in this thesis. From the pilot interview outcomes and existing literature review, the measurements for "Film Content" can

be “Film Genre”, “Critical Reviews”, “Star Power” and “Film Rating” (Rayport & Sviokla, 1995; Eliashberg & Shugan, 1997; Ravid, 1999; Clay et al., 2002; Basuroy et al., 2003; Cattani & Ferriani, 2008). The pilot interview outcomes showed that “Intellectual Property (IP)”, “Banner Position” and “Platform Power” will be other impact factors for Chinese online film box office performance. So more interviews are needed to explore more impact factors that can influence the Chinese online film box office performance.

Stage 3 (Questionnaire)

A survey with a designed questionnaire from Stage 1 outcomes and existing literature to online film consumers will be used to test the Chinese online film box office performance from the consumer aspect. The planned model design is to use Structural Equation Model (SEM) and 400-500 questionnaires will be collected to ensure the model accuracy because of 200 pieces of effective data can provide with a good model validity (Breckler, 1990). As the current research is a combination of exploratory study and confirmatory factor analysis, SEM uses consist of both the measurement and structural model. Firstly, SEM has a clear structure and diagram (Stage 1 outcome can show the new industry structure and value chain) that can show the factor impact on different stages. The path analysis and factor analysis can help this thesis to understand the Chinese online film industry market structure and value chain which related the Stage 1 outcomes. Secondly, SEM is a system controlling method that can analyse the complex online film impact factors rather than investigating special factors to avoid endogeneity problems such as the relationship between budget and star power. Thirdly, SEM provides a better understanding of latent variables such as film content quality which was one of the most important factors from Stage 1 pilot interviews. All items will be measured on a continuous 11-point semantic differential scale, where 0 = not important at all, and 10 = extremely important (Each construct will have a general question that will be reported. The Cronbach alpha will be reported for each factor. Additionally, interitem correlations will be reported for two-item factors.). The measurement model is shown in the support document and that document is the proposal for my PhD study and was approved by the Management School based on the confirmation review document. The factor loading will be computed within the estimated model using Mplus. The t values also will be reported. The designed questionnaire is shown in the support documents (English and Chinese version). There are two main target latent variables will be measured that are “Film content quality” and “Website quality”. There are 10 questions covered different items (budget, star, director, review, IP, script, special effect, trailer and new items will be designed from the outcome of Stage 1) to measure the online film

content quality based on the literature review and the outcomes of the pilot interviews. And there are 19 questions covered different items (access, usability, navigation, entertainment, products, design, pricing and new items will be designed from the outcome of Stage 1) to measure the website quality based on the literature review and the outcomes of the pilot interviews. These questions will be changed and add new questions when Stage 1 was finished. Then all the data will be put into the estimated model and through “Theoretical Development”, “Model Specification”, “Model Identification”, “Sampling and Measurement”, “Parameter Estimation”, “Assessment of Fit”, “Model Modification”, and “Discussion and Conclusion” process to test and modify the final model. The questionnaire was designed using Qualtrics software. However, Qualtrics may not be used in China due to the licence issue. The potential software for designing questionnaire in China is Wenjuanxing (<https://www.wjx.cn/>) which has the same function as Qualtrics in the UK.

The reason for a mixed method research design is that through interviews (Stage 1) with online film industrial participants, the researcher will be able to get new professional practice information of what are the new impact factors for the online film in China and how this new industry works because there is limited academic literature of this industry.

The film industry and digital information-based goods have accessible data (e.g. box office revenue, reviews, budget, stars) to investigate the relationships between key impact factors and industry performance. Once the information is found, the quantitative method design by using industry secondary data (Stage 2) to test the key impact factors will be able to show the new factors for online films at an industrial level. The information from Stage 1 will also help the researcher to design the statistic test and questionnaire to test detailed impact factors of the current industry performance from the consumer aspect (Stage 3). A survey from the consumer aspect will explain some latent variables better than only using secondary data. Stage 2 and Stage 3 outcomes can contribute to the information asymmetry theory development by comparing the impact factors from both producer and consumer aspects. Overall, this threestage designed research will provide an evidence-based understanding of the Chinese online film new industry value chain and a statistic test of impact factors from both industry aspect and consumer aspect.

3. Personal Safety

Have you completed your departmental risk assessment procedures, if appropriate?

Not applicable

Raises personal safety issues?

Yes

The interview will be the face-to-face interview, or interview will be conducted online, using Skype, Wechat, or other video call apps, and the dialogue will be recorded for further transcription and the interview form will be chosen by participants. The interview time will be suitable for participants. The participants have the right to choose the interview places, time, and the record issue. However, the interview places should be public places such as meeting room, library, or other public safe places to ensure the safety for both the researcher and interviewees. And I will email back to my supervisory team regularly and have Skype meeting to report the process. Once I finish all the interviews, I will return to Sheffield and do the analysis with my supervisory team. The participants also have the right to stop the interview without explanation. So participating in the research is not expected to cause participants and the researcher any personal safety issues.

In addition, the interview schedule will be shared with my supervisory team only, indicating the time and location of the interview. And I will use Wechat App with my parents because the Wechat App has a tracking function and my parents can know my latest location and reach me if I am disconnected. I come from China and my parents will be my emergency contact people because the location of the interview is China and my parents can contact me without time difference.

As for the survey, this survey will be an online survey by using online questionnaires so there are no related personal safety issues.

Section D: About the participants

1. Potential Participants

Stage 1 (Semi-structured Interview)

The interviewees are current Chinese online film producers/exhibitors/distributors and are all members of my professional network and some of the interviewees are from current Chinese online film companies. They all have working experience in China's online film field and some of the interviewees are now working in the marketing department in top Chinese online film companies. The normal film producers

and directors or their teams are usually hired by film studios. However, the online film producers and directors can be individual person, organization, online film company teams or other groups of people who can get online film approved licenses from the State Administration of Radio, Film and Television (SARFT). The online film distributors are video websites such as Youku, iQIYI, Tencent and other video websites that can provide with an online platform to distribute online films. The new Chinese online film industry market structure emphasised the film directors' power and reduced the control of studios, circuits, and theatres. The film producers are individual directors, film-producing teams, video website driven teams (cooperation), and any producing bodies who can get online film approved licenses from the State Administration of Radio, Film and Television (SARFT) according to the iQIYI online film guidebook. However, the role of video websites such as iQIYI, Tencent and other platform websites could have multi-identities in the industry market structure. Firstly, video websites and online film companies are one of the online film filmmakers by using their own film producing team. Secondly, individual filmmakers can provide with their script and ask the websites related film-producing teams to make cooperation online films. Thirdly, website companies and online film companies are buyers to buy copyrights from individual filmmakers and any producing bodies who can get online film approved licenses from the SARFT. Therefore, market structures could be more complex in the production stage compared with normal theatre films. The distribution can be divided into exclusive release and Web Scale release by the copyright belongings. And these two ways of distribution had different standards of paying fees related to the film ratings. The target video websites are Youku and iQIYI because they are two top online film platforms and I plan to use 5-7 interviews for each company with their marketing department managers, and their operating team members to acquire newest and professional practice industry information about online film producing and distributing. The target online film producing company is Qishuyouyu company which ranks the first place of output of online film producing. I plan to use 3-5 interviews with their film producing managers and the team members to acquire expert information about online film producing. And there will be 1-2 interviews with individual online film directors to acquire individual online film producing experience and there were 2 finished interviews with individual online film directors in the pilot interviews. The total number of interviews will be 15-20. Thus, my potential participants will cover both individual online filmmakers and members from online film companies to make sure the interview information can be critical and convincing.

Stage 3 survey

The questionnaire participants will be online film consumers in China and will cover both online film member users (monthly and yearly), users who pay for each online film click and users who just consume free online film products. The aim of the survey here is to acquire information on how consumers think about the impact factors of Chinese online films. And there will be 400-500 questionnaires to have a good model validity.

2. Recruiting Potential Participants

Stage 1 Interview

Through my professional network in China, I have strong connections with people working in the online film field. The potential participants are online film producers/exhibitors/distributors in China's online film field with professional working experience. They are interested in this field and helping China's online film to develop. They also interested in the academic analysis of the key impact factors of online films in China. My connection people are marketing department managers who are working for video websites such as Youku and iQIYI, production managers who are working for online film producing companies such as Qishuyouyu, individual online film producers, directors, and online film critics. Some of them joined my pilot interviews and they found this research is interesting and helpful and they are willing to introduce more people such as marketing department team members, production team members, more individual online film producers and directors to take part in my research. Using my personal network connection, I will contact the target respondents and companies to ask them to participate and send them a project information sheet (as attached to this application). I will explain clearly that all the data will be anonymized, and participation will be on the basis of informed consent only - see below. Once I get permission from the participants I will make an appointment to interview them at a mutually convenient time.

Stage 3 Survey

There will be two ways to recruit survey participants.

1, Cooperating with the video websites.

This cooperating will be a snowball process after the Study 1 interviews. The questionnaire will be published on the video website page and consumers can participate in this survey online. The ways of giving online questionnaires will be discussed with online video companies as a part of consumer feedback investigation or put a questionnaire link at the online film comments, discussion and review area.

2, Online film discussion board and forum.

There are many online film discussion boards and forums such as Douban.com (<https://www.douban.com/>). Douban.com is one of the biggest Chinese social networking service website that allows registered users to record information and create content related to film, books, music, recent events, and activities in Chinese cities. Douban.com has hundreds of millions of users so it will be one of the potential platforms to give this online questionnaire. Other social networking service websites are also potential platforms to publish the questionnaire such as Zhihu.com (<https://www.zhihu.com/>), Weibo, and Wechat. These four social networking service websites all have phone apps and websites and have hundreds of millions of users.

2.1. Advertising methods

Will the study be advertised using the volunteer lists for staff or students maintained by CiCS?

No

- not entered -

3. Consent

Will informed consent be obtained from the participants? (i.e. the proposed process) Yes

Stage 1 (Semi-structured Interview)

I will email the participants the attached information sheet and consent form and ask for their informed consent. I confirm I will do this before data collection.

Stage 3 (Questionnaire):

There is a one-page statement to introduce the research information and explain the consent including data use issue and participants anonymity and confidentiality issue. Once the participants agreed with the statement, they can click to the next page and finish the questionnaire. The first questionnaire question is “I allow my responses to be used as part of the academic research on A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China”. This question aims to ask the informed consent from the participants. If the participants choose “yes”, the response will be used in my research. If the participants choose “No”, the response will not be used in any related research and participants can just close the questionnaire page and drop this survey without any explanation.

4. Payment

Will financial/in kind payments be offered to participants? No

5. Potential Harm to Participants

What is the potential for physical and/or psychological harm/distress to the participants?

Participating in the research is not expected to cause participants any physical and/or psychological harm/distress. The interview will be conducted online or face-to-face, using Skype, Wechat, or other video call app, and the dialogue will be recorded (only if the participants agreed with recording) for further transcription. The conversation focuses on the research topic only and will be in accordance with the interview guide attached. The questions, as can be seen, do not touch on any topic of a personal or sensitive nature. The survey is an online survey by using questionnaires and participants can drop this survey without any explanation. All the data participants provide will be treated confidentially. There are no questions relating to personal information (except gender and age group), other people, organisations, or events. Participating in the survey is not expected to cause participants any physical and/or psychological harm/distress.

How will this be managed to ensure appropriate protection and well-being of the participants?

I will communicate with the participants before the interview and the participants have the right to make their own decisions whether they would like to take part in the interview or not and to predetermine a time and place where they want to have the interview. And I will send information sheet and consent form to them before the interview to make sure the participants would know what will happen if they take part in the interview. All the information can be seen in Section F.

Participation in the online survey is voluntary. All the data will be strictly confidential and anonymous and the questions do not include personal information except gender and age group. Participants are free to withdraw at any time without explanation and without incurring a disadvantage. Participants can also drop out of the survey any time, without giving any explanation.

Section E: About the data

1. Data Processing

Will you be processing (i.e. collecting, recording, storing, or otherwise using) personal data as part of this project? (Personal data

Which organisation(s) will act as Data Controller?

University of Sheffield only

2. Legal basis for processing of personal data

If, following discussion with the UREC, you wish to use an alternative legal basis, please provide details of the legal basis, and the reasons for applying it, below:

- not entered -

3. Data Confidentiality

What measures will be put in place to ensure confidentiality of personal data, where appropriate? All the data participants provide will be treated confidentially. Confidentiality also will be extended to any other person, organization, or events the interviewee refer to during the interviews. If the interviewee referred to any other person, organization, or events, I will give the referred information a code such as Person A, Organization B, or Event C. And if some participants consent to having their names/identities revealed, I will also give them a job title and code such as Marketing Manager A, B, C, Producing team member A, B, C instead of using their real personal information. Only my supervisors and I will have access to the data. They will be asked to sign up a consent to show whether they would like any report using their data and information or not and also to decide whether they would like to hide their names and other personal information or not and also to decide whether they would like to be recorded or not. Data will be anonymized, and any data collected about participants in the interview will be stored in a form protected by passwords, or in a locked space.

As for the survey, all the data participants provide will be treated confidentially. There are no questions relating to personal information (except gender and age group), other people, organizations, or events. Only my supervisors and I will have access to the data. Data will be anonymized, and any data collected about participants in the survey will be stored in a form protected by passwords, or in a locked space.

4. Data Storage and Security

In general terms, who will have access to the data generated at each stage of the research, and in what form

Any data collected in the interview will be stored in a form protected by passwords. Where data is printed for the purpose of analysis it will be stored in a locked space after the work session. I will control all the data collections. Analysis of data will use the University of Sheffield computers. My supervisors and I will have access to the data. The data will be anonymized. While this data is mainly intended for my PhD project and future related

publication. The data will be retained intact until any papers resulting from the study have been published.

What steps will be taken to ensure the security of data processed during the project, including any identifiable personal data, other than those already described earlier in this form?

The University of Sheffield and my supervisors will help and supervise all the data to ensure the security of data processed during the project.

Please outline your plans for retention of the data, including a justification for holding personal data beyond the end of the project, and data security arrangements.

Firstly, all the data will be anonymized and be stored in a form protected by passwords. Where data is printed for the purpose of analysis it will be stored in a locked space after the work session to ensure the data security. Secondly, this data may be used in future journal papers or further studies. All the future plans will be shown in the information sheet and all the future plans will be under the consent form signed by all the participants. The data that has collected for the PhD thesis will be deleted once the PhD thesis had ended. I will destroy my data that has collected for publications of film marketing purpose and future studies by 2025, four years after I gain my PhD degree, in case of the potential publication and conference.

Section G: Declaration

Signed by:

Yajie Chen

Date signed:

Fri 10 May 2019 at 19:12



Downloaded: 27/05/2019
Approved: 21/05/2019

Yajie Chen
Registration number: 170142489
Management School
Programme: PhD

Dear Yajie

PROJECT TITLE: A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China
APPLICATION: Reference Number 024457

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 21/05/2019 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 024457 (dated 10/05/2019).
- Participant information sheet 1055406 version 3 (10/05/2019).
- Participant consent form 1055407 version 3 (10/05/2019).

If during the course of the project you need to [deviate significantly from the above-approved documentation](#) please inform me since written approval will be required.

Yours sincerely

Sophie May
Ethics Administrator
Management School



Title of Research Project: A Marketing Study of Key Impact Factors in the Or Evidence from China

Name of Researcher: Yajie Chen

Participant Identification Number for this project:

Please initial box

- 1. I confirm that I have read and understood the information sheet/letter (delete as applicable) dated explaining the above research project and I have had the opportunity to ask questions about the project.
- 2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline
- 3. I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.
- 4. I agree with the data collected from me to be used in future research.
- 5. I agree to take part in the above research project.
- 6. I agree to be recorded during the interview.

Name of Participant <i>(or legal representative)</i>	Date	Signature

Name of person taking consent <i>(if different from lead researcher) To be signed and dated in presence of the participant</i>	Date	Signature

Lead Researcher <i>To be signed and dated in presence of the participant</i>	Date	Signature

Copies: Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

研究课题：关于网络电影关键影响因素的市场调研：中国的实证分析

研究者姓名：陈亚杰 Yajie Chen

参与者认同信息编号：

请在方格内勾选

1, 本人确认已阅读及明白有关资料信息表/信件日期_____，解释说明了本次研究项目并且本人有机会就此研究项目提出问题。

2, 本人明白我的参与是自愿的，我可以随时退出不需要给出任何理由，也没有任何负面后果。此外，如果我不想回答任何特定的问题，我可以自由地选择不回答。

3, 本人明白我的回答将严格保密。我允许研究小组的成员有权使用我的匿名采访信息。本人明白本人的姓名不会显示在研究的相关资料中，亦不会在研究报告或研究结果的报告中被识别。

4, 我同意我的采访信息将会被使用在未来的研究中。

5, 本人同意参与上述研究项目。

6, 本人同意将会在采访时被录音。

参与者姓名
(或法定代表人)

日期

签名

取得知情首肯的人姓名
(如果与领导研究者不同) 须在参加者面前签署及注明日期

领导研究者
须在参加者面前签署及注明日期

日期

签名

副本:所有参与方签署本协议后,参与方应收到一份已签署并注明日期的参与方同意书、信函/事先写好的脚本/信息表以及其他书面信息的副本提供给参与者。已签署及注明日期的同意书副本应放在项目的主记录(例如网站档案),必须保存在安全的地方。

Participant Information Sheet

Research project title: A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China

You are invited to participate in a research study which looks at key impact factors of online films in China. Before you decide whether to participate, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and feel free to ask me if you would like more information or if there is anything that you do not understand. I would like to stress that you do not have to accept this invitation and should only agree to take part if you want to.

Thank you for reading this.

1. What is the purpose of the study?

This doctoral inquiry takes a marketing-theoretical approach to the study of key impact factors in the contemporary online film industry in China. Chinese online films are not a derivative product of theatrical films by distributing theatrical films after the release window. Chinese online films are a new type of film offering whose production, distribution, and exhibition all rely on the internet. The rapid development of the film industry, digital economy, and financial investment are important factors in facilitating the development of online films. In China, online film is emerging as a new business model. The Chinese online film industry has a strong relationship with the traditional film industry and digitization development. It aims to provide netizens with a new choice of the visual offer. However, online film practice is moving ahead of theory. By studying this new business model in the online film industry and elucidating the impact factors, this project will contribute to filling the gap in theory.

This proposed study is to build a conceptual model which aims to explain how this new type of digital Creative and Cultural Industries (CCI) business is working and use this model to inform scholarly, policy and managerial debate and thinking. The research gap is the Chinese online film industry is developing in a digitization era, and the online film has a new market structure and value chain with new impact factors. This thesis plans to test the efforts from existing theatrical film industry models and investigate the unique factors for the online film industry.

All the data participants provide will be treated confidentially. Only my supervisors and I will have access to the data. You will be asked to sign up a consent form to show whether you allow any report using the data and information or not. And you will be asked to decide whether you would like to have your names disguised and other personal information or not, and also to decide whether they would like to be recorded or not. Data will be anonymised, and any data collected about participants in the interview will be stored in a form protected by passwords, or in a locked space.

2. Why have I been chosen to take part?

You have working experience in this field and have substantial knowledge of the topic studied. Your information is important for us to do some academic analysis to know and to help this cultural industry.

3. Do I have to take part?

Participation is voluntary and you are free to withdraw at any time without explanation and without incurring a disadvantage. It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and be asked to sign a consent form, and you can also drop out of the research any time, without giving any explanation.

4. What will happen if I take part?

You will be interviewed and be asked some questions on your job situation, film making/marketing strategies, some Chinese online film key impact factors of your area and future thinking of China's online films. You will be asked to draw a map of the current Chinese online film value chain to help the researchers to know how the Chinese online film industry works. You have the right to decide whether you would like to be recorded of the interview on an anonymous and confidential basis or not. It will take around 40-60 minutes to complete the interview and the visual value chain map. If you don't want to be recorded I will just make notes from the interview. It will be better if the interview is audio recorded. If you don't want to draw anything of the value chain I will just use notes from the interview. The interview could be a face-to-face interview or online interview by using Skype, Wechat or other video call APP or you can choose other channels for online interviews as you wish.

5. Are there any risks in taking part?

Participating in the research is not anticipated to cause you any disadvantage or discomfort. No potential physical or psychological harm or distress is expected. There are no known dangers of taking part in this interview. The interview is not intended to discuss commercially confidential issues.

6. What if I am unhappy or if there is a problem?

If you are unhappy, or if there is a problem, please feel free to let me know by contacting myself or my supervisor, Dr Elizabeth Carnegie. If you want to report complaints against the research, please contact the Research Support Manager (Management School and Economics), Ms Catherine Workman.

7. Will my participation be kept confidential?

All the data you provide will be treated confidentially. You will be asked to sign a consent form to show whether you would like any output to use your data and information or not, and also to decide whether you would like to hide your name and other personal information or not and also to decide whether you would like to be recorded or not. Only my supervisors and I will have access to your data. Data will be anonymised, and any data collected about

you in interview will be stored in a form protected by passwords, or in a locked space. Any data collected in the interview will be stored in a form protected by passwords. Where data is printed for the purpose of analysis, it will be stored in a locked space after the work session. I will control all the data collections. Analysis of data will use the University of Sheffield computers. My supervisors and I will have access to the data. While this data is mainly intended for the project of my PhD study, it is possible that some of it may be used in the final thesis and journal papers if deemed suitable. The data will be retained intact until any papers resulting from the study have been published.

8. Will I be recorded, and how will the recorded media be used?

You can make the decision whether your answers will be audio recorded or not. And the data will be analysed by myself and supervisors, and all the records will be stored in a form protected by passwords or in a locked space.

9. What type of information will be sought from me and why is the collection of this information relevant for achieving the research project's objectives?

The information collected from you will be your personal opinion and job experience only. Your answers will be analysed to explore the factors involved in China's online films. This information will be gathered because this is what my research aims to explore.

10. What will happen to the results of the research project?

The data collected may be published in my PhD final thesis and academic journal papers, but always on a basis of complete anonymity and your informed consent.

11. Who is organising and funding the research?

I am organising my research and no funding is required for it. The study is part of my PhD project at The University of Sheffield.

12. Who has ethically reviewed the project?

This research project has been ethically approved in accordance with Sheffield University Management School's ethics procedure.

13. What will happen if I want to stop taking part?

You can withdraw at any time, without explanation.

14. Who can I contact if I have further questions?

If you have any further questions about this research and want to stay updated on my research, please contact me and my supervisors. If you want to report complaints against the research, please contact the Research Support Manager (Management School and Economics), Ms Catherine Workman.

Dr Elizabeth Carnegie

Sheffield University Management School

Conduit Road, Sheffield, S10 1FL, UK

Tel: +44 (0)114 222 2182

E mail: e.carnegie@sheffield.ac.uk

Yajie Chen

Sheffield University Management School

Conduit Road, Sheffield, S10 1FL, UK

E mail: ychen132@sheffield.ac.uk

Ms Catherine Workman (Research Support Manager)

Sheffield University Management School

Conduit Road, Sheffield, S10 1FL, UK

Tel: +44 (0)114 222 9189

E mail: c.workman@sheffield.ac.uk

Thank you for your interest in this study!

参与者信息表

研究课题：关于网络电影关键影响因素的市场调研：中国的实证分析

您被邀请参加一个关于中国网络电影影响因素的研究学习。在您决定是否参与之前，对您来说了解一下此项调研学习的原因以及此项调研学习涉及的问题非常重要。请花一些时间认真读一下下面的信息并且可以随时联系我如果您需要更多的信息或者你有一些不清楚的地方。我想强调的是，您不是必须要接受这个邀请，您可以接受这个邀请如果您愿意参加这个研究。

感谢您的阅读。

1. 这个研究的目的是什么？

此博士学术研究采用市场营销理论的方法，对中国当代网络电影产业的关键影响因素进行了研究。中国网络电影并不是院线电影在上映后发行的衍生产品。中国网络电影是一种新型的电影产品，其制作、发行和展览都依赖于互联网。电影产业、数字经济、金融投资的快速发展是推动网络电影发展的重要因素。在中国，网络电影正在成为一种新的商业模式。中国网络电影产业与传统电影产业和数字化发展有着密切的关系。它的目的是为网民提供一个新的视觉选择。然而，网络电影的实践正在超越理论。通过对网络电影产业这种新的商业模式的研究，并对其影响因素进行分析，本项目将有助于填补理论空白。

本研究旨在建立一个概念模型，解释这种新型的数字创意与文化产业(CCI)业务是如何运作的，并利用该模型为学术、政策和管理方面的讨论和思考提供信息。研究的

空白在于中国网络电影产业正处于数字化时代，网络电影具有新的市场结构和价值链，具有新的影响因素。本研究拟从现有的院线电影产业模式入手，对网络电影产业的独特因素进行研究。

所有参与者提供的数据将被保密。只有我和我的导师团队才能接触到这些数据。您将被要求签署一份知情首肯同意书，以表明您是否允许任何报告使用您的数据和信息。您将被要求决定是否要将您的姓名和其他个人信息进行匿名处理，并决定是否要对此次采访进行视频和音频记录。数据将被匿名，任何收集到的有关面试参与者的数据都将以密码保护形式存储，或者存储在一个安全的地方。

2. 为什么我被选中参与？

您有这方面的工作经验，对所研究的课题有丰富的实践知识。您的信息对于我们做一些学术分析，了解和帮助这个文化产业是很重要的。

3. 我是否必须参加？

参与是自愿的，您可以在任何时候退出，不需要解释，也不会造成任何不好的结果。是否参加由您决定。如果您决定参加这项研究，您将得到这张信息表保存，并被要求签署一份知情首肯同意书，您也可以随时退出研究，无需任何解释。

4. 如果我参与，将会发生什么？

您将接受一项采访，并被问及有关您的工作情况、电影制作/营销策略、您工作中了解的一些中国网络电影的关键影响因素以及中国网络电影的未来思考等问题。您将被要求绘制一幅当前中国网络电影产业链的流程图，以帮助研究人员了解中国网络电影产业是如何运作的。您有权决定是否愿意在匿名和保密的基础上对面试进行录音。完成访谈和可视化产业链图需要 40 分钟到 60 分钟左右。如果你不想被录音，

我会通过笔录的形式记录采访。如果您能接受录音那么会对研究更加有利。如果你不想画产业链的任何东西，我就用采访内容来作为参考。采访可以是面对面的形式，也可以是通过 Skype、微信或其他视频通话 APP 进行的在线采访，也可以根据您的意愿选择其他渠道进行采访。

5, 参加有什么风险吗?

参与研究并不会给您带来任何不利或不妥。没有任何可预见的或潜在的身体或心理伤害。参加这次采访没有已知的危险。此次采访不会讨论商业机密问题。

6, 如果我不满意采访或者有问题怎么办?

如果您不满意，或者有什么问题，请随时与我本人或我的上司 Elizabeth Carnegie 博士联系来让我知道您的不满和问题。如过您想就有关研究提出投诉，请联络研究支援管理者(管理学院及经济)的 Catherine Workman 女士。

7, 我的参与会保密吗?

您提供的所有资料将被保密。您将会被要求签署一份知情首肯同意书显示是否您愿意在调研中使用您的数据和信息,并决定是否您想隐藏您的名字和其他个人信息并决定是否您想被录音。只有我和我的导师团队才能看到您的资料。数据将被匿名，在采访中收集到的关于您的任何数据都将以密码保护的形式存储，或者存储在一个安全的地方。在采访中收集的任何数据都将以密码保护的形式存储。如果数据被打印用于分析，打印的数据将在分析工作之后存储在一个安全的地方。我将控制所有的数据收集。数据分析将使用谢菲尔德大学的计算机。我和我的导师团队将有权使用这些数据。虽然这些数据主要是为我的博士研究项目准备的，但是如果有机会的话，

其中的一些数据会进入最终的博士毕业论文和期刊论文。在研究结果发表之前，这些数据将保持完整。

8, 我会被录音吗?录音媒体将如何使用?

您可以决定您的采访回答是否会被录音。数据将由我和导师团队分析，所有的记录都将以密码保护的形式或锁存在安全的地方以存储。

9, 将向我寻求什么类型的信息?为什么收集这些信息与实现研究项目的目标有关?

所收集的资料只作个人意见及工作经验之用。您的答案将被分析，以探索中国网络电影产业涉及的关键影响因素。这些信息会被收集起来做学术研究，这就是我研究的目的。

10, 研究项目的结果将会怎样?

所收集的数据可能会发表在我的博士论文和学术期刊论文中，但前提是完全匿名和您的知情同意。

11, 谁在组织和资助这项研究?

我正在组织此项研究，没有额外资金的支持。这项研究是我在谢菲尔德大学博士项目的一部分。

12, 谁对项目进行了伦理审查?

本研究项目已按照谢菲尔德大学管理学院的伦理程序获得伦理批准。

13, 如果我想停止参加，会发生什么?

您可以随时停止参与，不需要任何解释。

14. 如果我还有其他问题，我可以和谁联系？

如果您对这项研究有任何进一步的问题，想了解我的最新研究，请联系我和我的导师。如欲就有关研究提出投诉，请联络研究支援管理者(管理学院及经济)Catherine Workman 女士。

联系方式如下：

Dr Elizabeth Carnegie

Sheffield University Management School

Conduit Road, Sheffield, S10 1FL, UK

Tel: +44 (0)114 222 2182

E mail: e.carnegie@sheffield.ac.uk

Yajie Chen

Sheffield University Management School

Conduit Road, Sheffield, S10 1FL, UK

E mail: ychen132@sheffield.ac.uk

Ms Catherine Workman (Research Support Manager)

Sheffield University Management School

Conduit Road, Sheffield, S10 1FL, UK

Tel: +44 (0)114 222 9189

E mail: c.workman@sheffield.ac.uk

非常感谢您愿意参加此次学术调研!

Study 2 Pilot questionnaire

A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China

Welcome to the "A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China" academic research survey.

This survey looks at the key impact factors in the Chinese online film industry in order to have an evidence-based understanding of the Chinese online film industry marketing performance.

The Chinese online films are defined as the films on online platforms such as iQIYI, Youku, and Tencent which can be found in the "online film" module on the website homepage. Therefore, the term of "platform", "platform quality" refer to the platform websites, mobile applications (APP), and other connected using devices.

Your data will be strictly confidential and anonymous and the questions do not include your personal information except gender and age group. While this data is mainly intended for my PhD project and future related publication. The data will be retained intact until any papers resulting from the study have been published. And all the questions are based on your own experience and thinking. It will not bring predicted harm both physically and mentally. This survey should take no more than 30 minutes. Participation in this research is voluntary.

You are free to withdraw at any time without explanation and without incurring a disadvantage. You can also drop out of the survey any time, without giving any explanation. If you have any further questions about this research and want to stay updated on my research, please contact me (ychen132@sheffield.ac.uk) and my supervisors (r.cheng@sheffield.ac.uk; h.olya@sheffield.ac.uk). If you want to report complaints against the research, please contact the Research Support Manager (Management School and Economics), Ms Catherine Workman (c.workman@sheffield.ac.uk).

If you are ready to continue, click to the next page. Thank you for your interest in this survey

Please choose one number from 0 (Not important at all) to 7 (Extremely important) according to your purchase experience and own thinking.

	1(Not important at all)	2	3	4	5	6	7 (Extremely important)
The usability of the platform plays an important role							
The accessibility of the platform makes it easy and fast to get anywhere on the site							
The network's navigability works well							
The platform responds to my inquiries							
The platform gives me a satisfactory response							
When I have a problem, the platform shows a sincere interest in solving it							
The platform responds quickly to my inquiries							
The contact information is clear and easy to be found							
The accuracy of service promise reaches my expectation							
The online film booking process is easy and quick							
The ordered film information confirms quickly and I can watch the film as I booked							
The ordered film link works quickly							
The ordered film link works accurately							
The ordered film history tracking process is available							

The platform is secure can protect my privacy							
The platform assures me that personal information is protected							
The platform e assures me that personal information will not be shared with other parties							
The platform can recommend the online films according to my interests							
The hardware mobile devices can satisfy customers' personal needs							
The virtual mobile applications can satisfy customers' personal needs							
The platform affects my film watching pattern							
Freemium models offer me free opportunities to experience recommended online films before making purchases							
AI (artificial intelligence) makes recommendations suit my film watching habits							
The platform can send me custom message							
The platform looks attractive							
The platform uses fonts properly							
The platform uses colors properly							
The platform uses multimedia features properly							
The platform information is useful							
The platform information is accurate							

The platform information is clear							
The platform information is current							
The platform information is complete							
I can trust the operation of this platform to be good							
This platform is reliable for online films shopping							
This platform is trustworthy							
The billing process was done without mistakes							
The platform keeps the records accurately							
The platform sends via email a confirmation of the service purchased							
The platform FAQs works well							
The platform has an online chat to answer my questions							
The platform has a guest guide							
This platform has valid advertisements links reach to the advertising product homepage when you click it							
The platform has advertisements related to the film content							
The platform has both online and off-line promotion activities							
The advertisements are memorable							
The main messages of the advertisements can be gotten							
The advertisements are useful							
I am satisfied with my decision to purchase from this platform.							

If I had to purchase again, I would feel differently about buying from this platform.							
My choice to purchase from this platform was a wise one.							
I feel good regarding my decision to buy from this platform							
I think I did the right thing by buying from this platform							
I am happy that I purchased from this platform							
This platform is always up and available							
This platform loads quickly							
This platform does not crash							
This platform always has the messages are then projected onto the screen, so that at any given time the scene may be overlaid with multiple "bullets," or comments, scrolling across the screen.							
The online film storyline is attracting							
The online film has memorable characters							
The online film has clear genre							
The online film has well-known stars							
The online film has celebrities							
The online film has well-known directors							
The online film has well-known producers							
The online film has stars who had good past box office performance							

The online film has directors who had good past box office performance							
The online film has producers who had good past box office performance							
The online film has big production budget							
The online film has adaptation from other media							
The online film has a good IP							
The online film has attractive trailers							
The online film has good internet exposure							
The online film has a good rating from the platforms							
The distributor type (independent/ cooperative) influence							
There are good online and off-line promotion activities							
The advertising strategies related to other social media (Weibo, Tik Tok, and other social apps)							
The poster of the online film is attractive							
The banner position is good on the website							
The free trial film content (always the first 5 minutes) is attractive							
There is a good IP cooperation							
The online film has an effective release time							
There is a broad screen coverage (Laptop, cellphones, iPods, and other mobile screens)							

There are positive reviews about exhibition							
There are negative reviews about exhibition							
The word of mouth shows it is a high-quality online film							
The word of mouth shows it is a low-quality online film							
The iQIYI website and mobile APP quality is important to the online film box office performance							
The iQIYI online film quality is important to the online film box office performance							

Are there any other elements' qualities that affect the online film box office performance?

(1) Yes (2) No

If your answer is (1)Yes, please write down the specific elements' qualities here:

I allow my responses to be used as part of the academic research on A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China

- Yes (1)
- No (2)

What is your gender?

- Male (1)
- Female (2)

What is your age group?

- 18-24 (1)
- 25-34 (2)
- 35-44 (3)
- 45-54 (4)
- 55-64 (5)
- 65+ (6)

Study 2 Main phase questionnaire

A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China

Welcome to the "A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China" academic research survey.

This survey looks at the key impact factors in the Chinese online film industry to have an evidence-based understanding of the Chinese online film industry's marketing performance.

The Chinese online films are defined as the films on online platforms such as iQIYI, Youku, and Tencent which can be found in the "online film" module on the website homepage. Therefore, the term "platform", "platform quality" refer to the platform websites, mobile applications (APP), and other connected using devices.

Your data will be strictly confidential and anonymous and the questions do not include your personal information except gender and age group. While this data is mainly intended for my Ph.D. project and future related publication. The data will be retained intact until any papers resulting from the study have been published. And all the questions are based on your own experience and thinking. It will not bring predicted harm both physically and mentally. This survey should take no more than 30 minutes. Participation in this research is voluntary.

You are free to withdraw at any time without explanation and without incurring a disadvantage. You can also drop out of the survey any time, without giving any explanation. If you have any further questions about this research and want to stay updated on my research, please contact me (ychen132@sheffield.ac.uk) and my supervisors (r.cheng@sheffield.ac.uk; h.olya@sheffield.ac.uk). If you want to report complaints against the research, please contact the Research Hub Manager (Department of Economics & Management School), Dr. Camille Jacob (c.jacob@sheffield.ac.uk).

If you are ready to continue, click on the next page. Thank you for your interest in this survey

I allow my responses to be used as part of the academic research on A Marketing Study of Key Impact Factors in the Online Film Industry: Evidence from China

- o Yes (1)
- o No (2)

Please choose one number from 1 (Not important at all) to 7 (Extremely important) according to your purchase experience and own thinking.

	1 (Not important at all)	2	3	4	5	6	7 (Extremely important)
I have good experience using the platform							
The platform makes a strong impression on my visual sense							
I find the platform visualization interesting							
The platform appeals to my senses							
The platform induces feelings and sentiments in me							
I have strong emotions towards the platform							
The platform creates an emotional brand							
I found the platform very engaging							
The platform is action-oriented							
I engage in a lot of thinking when I encounter the platform brand							
The platform stimulates my curiosity							
The platform stimulates my problem solving							
I feel like I am part of the platform community							
As a user of the platform, I never feel being left alone							

I interact with other audiences about things other than my film-watching							
I have developed a relationship with the platform							
I have developed a relationship with other users							
I enjoyed talking to other audiences							
I am a loyal user of this platform							
I rarely consider changing to another platform							
I try to use the platform whenever I watched online films							
When I want to watch online films, this platform is my first choice							
I like to use this platform							
For me, this platform is the best online film watching platform to be used							
I think this is my preferred platform							
I would say positive things about the platform to other people							
I recommend the platform to those who seek my advice on such topics							
I would encourage friends and relatives to use this platform							
I would point out positive messages about the platform on certain message boards on the Internet							
I intend to continue watching online films							

with the present platform							
I intend to watch more online films from the platform							
I believe that using this platform is preferable to other platforms							
I believe that this platform has the best offers at the moment							
I believe that the features of this platform are badly suited to what I like							
I have a negative attitude toward the platform							
I have repeatedly found this platform is better than others							
I would always continue to choose this platform before others							
I will always continue to choose the features of this platform before others							
The platform quality plays an important role when I am watching the online films							
The usability of the platform plays an important role							
The accessibility of the platform makes it easy and fast to get anywhere on the site							
The network's navigability works well							
The platform responds to my inquiries							
The platform gives me a satisfactory response							
When I have a problem, the platform shows a sincere interest in solving it							

The platform responds quickly to my inquiries							
The contact information is clear and easy to be found							
The accuracy of service promise reaches my expectation							
The online film booking process is easy and quick							
The ordered film information confirms quickly and I can watch the film as I booked							
The ordered film link works quickly							
The ordered film link works accurately							
The ordered film history tracking process is available							
The platform is secure can protect my privacy							
The platform assures me that personal information is protected							
The platform e assures me that personal information will not be shared with other parties							
The platform can recommend online films according to my interests							
The hardware mobile devices can satisfy customers' personal needs							
The virtual mobile applications can satisfy customers' personal needs							
The platform affects my film-watching pattern							
Freemium models offer me free opportunities to experience recommended online							

films before making purchases							
AI (artificial intelligence) makes recommendations that suit my film watching habits							
The platform can send me a custom message							
The platform looks attractive							
The platform uses fonts properly							
The platform uses colors properly							
The platform uses multimedia features properly							
The platform information is useful							
The platform information is accurate							
The platform information is clear							
The platform information is current							
The platform information is complete							
I can trust the operation of this platform to be good							
This platform is reliable for online films shopping							
This platform is trustworthy							
The billing process was done without mistakes							
The platform keeps the records accurately							
The platform sends via email a confirmation of the service purchased							
The platform FAQs works well							
The platform has an online chat to answer my questions							

The platform has a guest guide							
This platform has valid advertisements links that reach the advertising product homepage when you click it							
The platform has advertisements related to the film content							
The platform has both online and offline promotion activities							
The advertisements are memorable							
The main messages of the advertisements can be gotten							
The advertisements are useful							
I am satisfied with my decision to purchase from this platform.							
If I had to purchase again, I would feel differently about buying from this platform.							
My choice to purchase from this platform was a wise one.							
I feel good regarding my decision to buy from this platform							
I think I did the right thing by buying from this platform							
I am happy that I purchased from this platform							
This platform is always up and available							
This platform loads quickly							
This platform does not crash							
This platform always has the messages are then projected onto the screen, so that at any							

given time the scene may be overlaid with multiple "bullets," or comments, scrolling across the screen.							
The online film quality is important when I decided to watch online films							
The online film storyline is attracting							
The online film has memorable characters							
The online film has a clear genre							
The online film has well-known stars							
The online film has celebrities							
The online film has well-known directors							
The online film has well-known producers							
The online film has stars who had good past box office performance							
The online film has directors who had good past box office performance							
The online film has producers who had good past box office performance							
The online film has a big production budget							
The online film has adaptation from other media							
The online film has a good IP							
The online film has attractive trailers							
The online film has good internet exposure							
The online film has a good rating from the platforms							

The distributor type (independent/ cooperative) influence							
There are good online and off-line promotion activities							
The advertising strategies related to other social media (Weibo, Tik Tok, and other social apps)							
The poster of the online film is attractive							
The banner position is good on the website							
The free trial film content (always the first 5 minutes) is attractive							
There is a good IP cooperation							
The online film has an effective release time							
There is a broad screen coverage (Laptop, cellphones, iPods, and other mobile screens)							
There are positive reviews about the exhibition							
There are negative reviews about the exhibition							
The word of mouth shows it is a high-quality online film							
The word of mouth shows it is a low-quality online film							
The iQIYI website and mobile APP quality is important to the online film box office performance							
The iQIYI online film quality is important to the online film box office performance							

Are there any other factors that affect the online film box office performance from your thinking?

(1) Yes (2) No

If your answer is (1)Yes, please write down the specific factors here:

About you

What is your gender?

Male (1)

Female (2)

Prefer not to say (3)

What is your age group?

18-24 (1)

25-34 (2)

35-44 (3)

45-54 (4)

55-64 (5)

65+ (6)

Prefer not to say (7)

Education (What is the highest degree or level of school you have completed? If currently enrolled, highest degree received)

No schooling completed (1)

Primary school (2)

Junior high school (3)

High School (4)

Bachelor's Degree (5)

Master's Degree (6)

Ph.D. or higher (7)

Prefer not to say (8)

Marital status

Single, never married (1)

Married or domestic partnership (2)

Widowed (3)

Divorced (4)

Separated (5)

Prefer not to say (6)

Income level (Your monthly income)

Under 1000 RMB (1)

1001 RMB to 2000 RMB (2)

2001 RMB to 3000 RMB (3)

3001 RMB to 4000 RMB (4)

4001 RMB to 5000 RMB (5)

5001 RMB to 6000 RMB (6)

6001 RMB to 7000 RMB (7)

7001 RMB to 8000 RMB (8)

8001 RMB to 9000 RMB (9)

9001 RMB to 10000 RMB (10)

10000 RMB + (11)

Prefer not to say (12)

Thank you very much!