The Role of Website Experience in Building Attitude and Intention towards Online Shopping

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The candidate confirms that the work submitted is his/her own and that appropriate credit has been given where reference has been made to the work of others.

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"My Lord, direct me to appreciate the blessings You have bestowed upon me and upon my parents, and to do the righteous works that please You" [46:15].

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Abstract

Since technology has become an inseparable part of consumers' lives, understanding acceptance and use of technology at individual consumer level has become a must for marketing theory and practice. To explain consumers' acceptance of a new technology, the present study uses the unified theory of acceptance and use of technology (UTAUT) as the theoretical foundation. It then proposes extending UTAUT through incorporating a hedonic dimension, which should be an important predictor in explaining technology acceptancy in a consumer context such as on-line shopping, especially where experiential products—like apparel—are involved. The proposed hedonic dimension is perceived playfulness, which itself has two first-order latent antecedents; vividness and embodied cognition. Vividness —visual in this case—is related to the vividness of the shopping environment as represented on-line and to what extent its visual cues stimulate consumers to form strong (as opposed to weak) mental images of the product that they seek to buy. Embodied cognition represents the relationship between the pre-existing knowledge that is saved in mind and body. The present study also reintroduces attitude to the model as an important construct in predicting purchase intention.

To test the proposed model's ability to explain technology acceptance in different cultural contexts, the model is empirically tested via an experiment and a survey in a western country—the UK—and a non-western country—The Hashemite Kingdom of Jordan (HKJ). Two hundred and twenty two questionnaires are collected from the UK and 258 questionnaires are collected from the HKJ.

Findings suggest that the incorporated hedonic dimension is as important as the utilitarian dimension in explaining technology acceptance in consumer context in both western and non-western countries. A positive relationship between perceived playfulness and purchase intention is found. However, attitude is partially mediating the

relationship between perceived playfulness and purchase intention. Social influence is also found to be a predictor of attitude in the HKJ, but not in the UK. Theoretical and practical contributions of these findings are exhibited and roots of future research are proposed

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1 Introduction

1.1 Chapter Overview

This chapter is a gateway to understanding the present study. The chapter starts with an introduction to the present research and the research field. Next, the potential theoretical gaps and research contributions are presented. Following this, research direction, and research objectives are discussed. Finally, an outline of the present study is introduced.

1.2 Research Context

The term electronic-commerce (E-commerce) or internet commerce has been developed to describe "the process of buying, selling, or exchanging products, services and information over the internet" (Turban et al., 2006, p.4). Electronic retailing (e-retailing) is a division of e-commerce and refers to selling products, services and ideas using the internet as an intermediate channel to sell companies' offerings to customers (Sun and Good, 2007).

The British office for national statistics data show that the number of online shoppers, and the amount they spend buying online, is increasing annually. Shopping online is reported to be the third most popular internet activity just after e-mailing and web browsing. In 2013, 72% of all British adults bought goods or services online, up from 53% in 2008 (Office for national statistics, 2013). Specifically, online shopping for fashion goods and apparel is reported to be the fastest growing online sector in the UK. In 2013, the e-retail of fashion was estimated to be worth £ 7.1 billion (Mintel, 2013). These fast growing numbers present an indication of the increasing importance of online shopping in general and online shopping for fashion and apparel specifically.

The noticeable successes of fashion e-retailing came contrary to the assumptions that the internet is not a suitable channel to sell this type of products (Hines and Bruce, 2007). These assumptions were attributed to the difference in nature between the traditional retailing channel (offline-channel) environment and the e-retailing (online-channel)

environment. The nature of the offline channel offers shoppers certain advantages, such as the opportunity to create a customer experience which allows customers to interact with the experiential product (Schmitt, 1999). This interaction involves engaging all of the five senses and allows shoppers of apparel products, specifically, to try on the item (Diamond, 2006) and build an embodied connection with it.

Customer experience construct is holistic in nature and includes customer's cognitive, emotional, social, and physical responses to the interaction with the product and the retailer. Therefore, consumer experience is developed by elements that retailers can create and control such as service's quality, shop atmosphere and price among other elements, and also by external elements that retailers cannot control like shopping motives (Verhoef et al., 2009).

The technological limitations associated with online channel at its early stage prevented it from providing online customers with a similar experience to the experience which offline-shopping provides (Chan et al., 2001). Also, early online shopping consumer research suggested that online-shoppers were more concerned with functional and utilitarian aspects of the online-shopping (Dennis et al., 2009). Therefore, researchers in the last decade have paid significant attention to Web utilitarian dimension and thus considered extrinsic motives — "which refers to individual's propensity to perform activities for known external rewards, whether they be tangible (e.g., money) or psychological (e.g., praise) in nature" (Brown, 2007, p.143) — the main factor that determines the adoption of online purchasing using websites and paid less attention to hedonic and experiential factors (Al-Natour et al., 2011).

However, the proliferation of online shopping and the fast advent of technology led researchers to focus more on understanding online-consumers' behaviour (Harris and Dennis, 2008). Findings indicated that consumers' purchase orientations — task and hedonic — are very similar in both off-line and online customers (Jayawardhena et al.,

2007). These findings have provided a foundation to investigate the importance of replicating the traditional offline shopping experience — which includes both utilitarian and hedonic dimensions — in the virtual world especially for experiential goods — goods that involve hedonistic criteria, and customers' personal characteristics (Babin et al., 1994) — like fashion goods The present study is part of this notion, with the main focus on the role of website experience in consumer's acceptance of online shopping.

1.3 Adoption of Technology: An Introduction

Technology acceptance in general has been the focus of a number of different studies over the last two decades. A considerable part of the technology acceptance research was built on the Technology Acceptance Model (TAM) (Al-Qeisi, 2009). TAM is a specially tailored model used to predict and explain user adoption of new technology in the workplace (Davis, 1989; Venkatesh, 2000; Jiang, 2009).

The basic assumption of TAM is to embrace that intention is a major determinant of behaviour. TAM suggests that Perceived Usefulness (PU) — "the degree to which a person believes that using a particular system could enhance his or her job performance" (Davis et al., 1989, p.320) — and Perceived Ease of Use (PEOU) — "the degree to which a person believes that using a particular system would be free from effort (Davis et al., 1989, p.320) — are the two most important external factors that influence attitude — "An individual's positive or negative feelings (Fishben and Ajzen, 1975, p. 216) and predict intention and usage (Davis, 1989; Teo, 2001; Legris et al., 2003). TAM originally assumed a very low effect of subjective norms — "the perception that most people who are important to the individual think he/she should or should not perform the behaviour in question" (Ajzen and Fishbein, 1980, p.19) — on attitude and intention to adopt a technology.

TAM2 was introduced as an improved model which accommodates for the continuous development in the technology field. Several external variables were combined with

TAM to develop TAM2. The combined variables included subjective norms, voluntariness, image, job relevance, and output quality (Venkatesh and Davis, 2000). Although TAM and TAM2 were utilised in different studies related to the internet, their main focus was still on utilitarian aspects of technology rather than elements of experience and hedonic aspects (Jiang, 2009).

The success of TAM, and its updated version TAM2, in explaining technology acceptance and adoption behaviour, along with other theories and models, encouraged scholars to find a more holistic model. Venkatesh et al. (2003) introduced the Unified Theory of Acceptance and Use of Technology (UTAUT), which was based on TAM, as a holistic theory that tested and integrated variables from eight theories and models which explain consumer adoption of behaviour. The model was empirically validated. As a result, Venkatesh et al. (2003) determined three direct "determinants of intention to use performance expectancy, effort expectancy, and social influence and two direct determinants of usage behaviour (intention and facilitating conditions)" (Venkatesh et al., 2003, p. 467).

Four more variables, namely experience, voluntariness, gender, and age, were determined as significant moderators of UTAUT. The results of the Venkatesh et al. (2003) study have provided managers with the tools to assess how successful it is to introduce new technology into the work place and shed a light on drivers of technology acceptance.

As implied above, the main focus of TAM, TAM2 and UTAUT was to predict technology acceptance on the basis of factors that address the utilitarian benefits users presume to attain from using the technology (e.g., PU, PE) (Szymanski and Hise, 2000).

In the online consumer context, utilitarian benefits were perceived as the main motives for online shoppers; hence, utilitarian factors were professed as the main determents of technology acceptance in the consumer context (Childers et al., 2001). However, in more

recent work online customers were found to seek both utilitarian and hedonic benefits (Heijden, 2004); Jayawardhena et al., 2007). Therefore, researchers started emphasizing the importance of studying both dimensions in order to understand technology acceptance in consumer context.

For example, Heijden (2004) studied the differences in user acceptance models for utilitarian and hedonic information systems. Heijden (2004) defined hedonic systems as systems which aim to provide self-fulfilling value to the user, and utilitarian systems as systems that provide instrumental value to the user (Heijden, 2004). Heijden (2004) study's results provided support to the assumptions that perceived enjoyment and PEOU effect on intention to use a hedonic information system is stronger than PU. The previous finding suggests that the nature of an information system— the utilitarian or hedonic nature of a system— has a fundamental role in validating TAM.

The nature of a system can be identified by studying the strategies that system founders utilize to encourage use. The aim of a utilitarian information system is to enhance user's task performance; hence, system developers focus on system functionality, meeting task requirements, and on eliminating sources of distraction to help the user complete his/her task (Heijden, 2004). On the contrary, the aim of a hedonic system is to create an enjoyable experience for the user. To achieve this goal system developers focus on the presence of hedonic content, and aesthetically attractive graphics (Heijden, 2004)

The traditional models were extended by augmenting different behavioural beliefs that capture the relational and experiential aspects of the user-technology interaction (Al-Natour et al, 2011).

Whereas Heijden (2004) focused on hedonic information systems, Venkatesh et al. (2012) studied both the utilitarian aspects and the hedonic aspects of information system in the context of consumer use of mobile internet. Venkatesh et al. (2012) focused on the utilitarian features (e.g., the business and productivity applications on iPhone, such as

QuickOffice) and hedonic features (e.g., mobile games and entertainment applications on iPhone). In their study— Venkatesh et al. (2012) — extended UTAUT generalizability to accommodate for consumer use setting by integrating hedonic motivation into UTAUT and hypothesizing the moderating effects of consumer demographics on the relationship between hedonic motivation and intention (Venkatesh et al., 2012). The empirical results of Venkatesh and others (2012) study have suggested that in the context of consumer use of information technology, both utilitarian benefits and hedonic benefits are considered vital factors of technology use. Vankatesh et al. (2012) have also suggested that in consumer context hedonic motives' role could be more important than performance expectancy's role.

Following this new direction, researchers started extending the traditional models and augmenting different behavioural beliefs that capture the relational and experiential aspects of the user-technology interaction (Al-Natour et al, 2011).

Mainly three types of beliefs were utilised by researchers to extend the traditional models: 1) social beliefs which includes factors related to the social outcomes of using a system such as social presence, 2) relational beliefs which includes factors related to the process of customer's interaction with the website such as trust, and 3) emotional beliefs which address the user's emotional state while interacting with the system such as enjoyment and playfulness (Al-Natour et al, 2011).

As a result two streams of research investigating consumer's acceptance of online shopping and online consumers' behaviour have been developed in the last two decades. The first stream focused on understanding the motives or value for online purchase including attitudinal antecedents of online purchases. For instance, Hausman and Siekpe (2009) focused on the effect of Web interface structures and their relationship with purchase intention. Different design elements were incorporated in one model using TAM, flow and the gratification theory. Whilst the previous stream of research has

mostly directed efforts towards examining the key factors that affect online shopping adoption and purchase, the second (and most recent) stream focused on understanding relationship between experience and new technology; such as studying the relationship between sensory, image interactivity, image stimulus, and experience (Chung and Park, 2009).

Accordingly, the objective of this research is to contribute to the literature on technology acceptance in consumer context which is still an under-explored area (Dennis et al., 2009). The researcher is proposing extending UTAUT, drawing from both the consumer and the technology viewpoint. The present study will combine the two research streams, mentioned above, both considering the antecedents and experiential factors of online shopping and their impact on purchase intention. And will draw attention to the needs to create a website that accommodates for customers with extrinsic, but also intrinsic motives — which refers to individual's propensity to perform activities without any obvious external rewards (Benbasat, 2006; Al-Natour and Benbasat, 2009; Coon and Mitterer, 2010) in order to achieve the intended compelling experience.

1.3.1 Research on Technology Acceptance in Different Cultural Contexts

The technology acceptance literature includes a number of models that were developed in the western world mainly in the USA. The field of technology acceptance have seen a general concern about effectiveness of these models in the interpreting technology acceptance in non-western countries (McCoy et al., 2007).

A number of studies have explored the applicability of different technology acceptance models — especially TAM and UTAUT — in different cultural contexts. The results of these studies have established that TAM, specifically, has succeeded in predicting technology adoption in many settings. However, it might not be capable of explaining and predicting technology adoption in all cultures (McCoy et al., 2007). This section is

providing an insight to the literature on technology acceptance models in different cultural contexts.

Anandarajan et al. (2002) examined factors that motivates user acceptance of technology in less developed countries (the West African country of Nigeria). Anadarjen et al. (2002) have proposed extending TAM by augmenting social pressure and perceived enjoyment. The suggested model studied the factors which motivate Nigerian bank employees to use microcomputers (Anadarjen et al., 2002).

In their study Anadarjen et al. (2002) have recognised the existence of cultural differences between developed countries and less developed countries. Based on Hofstede's (1984) index the Nigerian culture was considered a family culture (collectivist culture) this indicates that individuals' beliefs depend on the social norms of the group (Kluckhorn and Strodtbeck, 1961). On the other hand, USA and Europe was considered a market culture (individualist culture) which indicates that individuals in these countries are highly self-reliant (Hofstede, 1984) and therefore care less for status and formality (Adler, 1995). Thus, Anadarjen et al. (2002) have predicted that the relationships between the model variables will differ between developed countries and less developed countries. Based on the previous prediction Anadarjen et al. (2002) hypothesised that there will be a negative relationship between perceived usefulness (PU), perceive enjoyment, and microcomputer usage in the less developed countries.

The results of this empirical study were derived using partial least square (PLS). Results supported Anadarjen et al.'s (2002) hypotheses and showed that there is no relationship between PU, perceive enjoyment, and microcomputer usage in Nigeria. Results also suggested that social pressure is an important factor affecting technology acceptance. The result of this study suggested that the generalizability of TAM in other cultures could be questioned (Al-Qeisi, 2009).

Merchant (2007) studied the relationship between the cultural/work values of employees and IT adoption in three different countries (the US, France and China) through TAM. Merchant (2007) hypothesized that understanding employers cultural orientations greatly help adopting technologies at work place. The study depended on Harrison (1975) to conceptualize a framework, and relayed on exploratory factor analysis (EFA) to identify the TAM factors for each country. The EFA analysis exhibited that TAM constructs factored correctly only to the American sample, whereas it did not load as expected to the Chinese and French sample. These results were ascribed to the cultural differences between the three countries.

Oshlyansky et al. (2007) aimed at validating UTAUT across cultures. A data was collected from undergraduate and postgraduate students from nine different countries (the US, UK, SaudiArabia, New Zealand, India, Czech Republic, Malaysia, and Greece). In their study, Oshlyansky et al. (2007), did not investigate users usage acceptance or usage of technology, therefore certain UTAUT measures were excluded. For example, "behavioural intention to use was dropped, as it is intended as a predictor of use, facilitating conditions, also, was excluded specifically because the chosen technology, websites, would be available and accessible to all participants" (Oshlyansky et al., 2007, p83).

To avoid affecting the overall validity of the instruments associated with removing measures the data was analysed only from the English speaking countries. To ensure sample homogeneity within each country only native participants were hired to participate in the study. The study used exploratory factor analysis (EFA) to identify UTAUT factors. The exploratory factor analysis analysis exhibited that UTAUT constructs factored together across the sampled countries.

The results showed that UTAUT is a robust tool that predicts user acceptance of technology across different cultures. The results also showed that the influence of

constructs varied among countries. For example, social influence factor only emerged for the Saudi Arabian sample, signifying that social influence has greater effect on website acceptance in Saudi Arabia than in the other countries sampled.

Cyr (2008) investigated the relationship of Web site design (information design, navigation design, and visual design) to trust, satisfaction, and loyalty within three different countries Canada, Germany, and China. In addition, the relative strength of trust and satisfaction to e-loyalty across cultures (Cyr, 2008) was also examined. The hypotheses were tested using the partial least square method for each country separately. In addition, to control and verify the results the overall model was tested for all countries combined.

Cyr (2008) was conducted in line with Hofstede's cultural categories with an emphasis on uncertainty avoidance. Results confirmed the importance of trust as a leading factor to e-loyalty compared to satisfaction in china. On the other hand, trust and satisfaction showed to be equally important factors leading to e-loyalty (Cyr, 2008). Results also suggested that website design characteristics should be a central consideration in Web site design across cultures (Cyr, 2008).

The literature on technology acceptance models showed that culture influences users' acceptance of technology. The literature, also, suggests that practitioners are facing an ongoing challenge with influencing user acceptance of technology across cultures. Ongoing research has shown that differences do exist in the way subjects in different cultures respond to standard usability measurement techniques Oshlyansky et al. (2007)

The present study use Hofsted's (1984) dimension of collectivism and individualism to understand cultural effect on the proposed model. The main focus on the present study is on how collectivism and individualism alter the role of social influence effect in UTAUT in different cultures.

1.4 Theoretical Gaps and Contributions

A large body of the literature on online shopping suggested that extrinsic motives had a more important role than intrinsic motives in motivating online shopping. This was based on the belief that online shoppers are task oriented customers who are relying on utilitarian attributes of the internet like convenience, accessibility, selection, and availability of information (Zhou et al., 2007). However, the emergence of web 2.0 and the advent in internet technology, which allowed higher levels of interaction between the user and the items, urged scholars to start considering the effect of intrinsic motives on online shopping behaviour. Hence, the effect of hedonic dimension on user acceptance of new technology has been investigated. Different hedonic constructs and their effect on technology acceptance were studied (e.g., Hoffman and Novak, 1996; Childers et al., 2001; Cheema et al., 2013). However, there is still a gap in understanding the role of hedonic constructs and their antecedents in creating and shaping users experience and acceptance of new technologies.

Flow, which was borrowed from psychology (Csíkszentmihályis, 1975) is one of the highly used hedonic constructs. Hoffman and Novak (1996) conceptualized flow as cognitive state that occurs during online navigation "which is characterized by a seamless sequence of responses facilitated by machine interactivity, intrinsically enjoyable, accompanied by a loss of self-consciousness, and self-reinforcing" (Hoffman and Novak, 1996, p. 5-6). They proposed that flow will lead to an increase in quality of time spent on hypermedia; which is a logical extension of the term hypertext to include graphics, audio, video, plain text and hyperlinks to create a non-linear medium (Kumar, 2005). Although, researchers generally agree on the conceptual definition of flow Choi et al. (2007) proposed that flow is too broad and ill-defined. They attributed this to the numerous ways it has been operationalized, tested and applied.

To overcome this weakness of flow, scholars suggested a number of different hedonic variables which are linked to flow that can complement technology user acceptance models and strengthen their role in explaining technology adoption in the consumers' online context. For example, Moon and Kim (2001) introduced perceived playfulness as an intrinsic motive and a hedonic construct that influences consumers' acceptance of using the WWW in general. Perceived playfulness was defined as "the strength of one's belief that interacting with the WWW will fulfil the user's intrinsic motives" (Moon and Kim, 2001, p.222). Perceived playfulness definition is more defined than flow yet, there is still a gap in identifying its antecedents.

As it was mentioned in the previous section UTAUT is reported as a successful theory that explains users' acceptance of technology and provides an understanding of users' online behaviour. However, UTAUT was criticized for being restricted to a specific user task and work environment, which questions its ability to explain the technology acceptance of systems and activities that includes hedonic aspects such as online shopping. Therefore, there is a recognised gap in the field, and a need to adapt UTAUT and investigate relevant factors that would apply to consumer context (Dishaw and Strong, 1999; Venkatesh et al., 2012) and help in creating a compelling experience.

The present study is proposing to integrate perceived playfulness to UTAUT as a hedonic construct to bridge the gap in the theory and to study the effect of particular perceived playfulness antecedents on creating a compelling experience for online shoppers.

1.5 Present Study's Direction

Although marketers are achieving knowledge of strategies to attract visitors to commercial websites there is still a gap in the knowledge of what creates a compelling experience for online customers (Hoffman and Novak, 2009). The development in the technology has brought with it an opportunity to mimic the shopping experience in

traditional channels and to start focusing on the hedonic dimension and its effect on users' acceptance of new technologies, in the fashion and apparel online shopping context specifically. The focus of the present study is on the acceptance of technology in the consumer context and what creates a compelling experience for online customers.

The present study proposes an attitudinal model using UTAUT as its theoretical foundation and investigates two main points of interest. First, this study will consider the impact of website experience as a determinant of user intention to purchase. The main focus of the present study is directed towards fashion goods and apparel; which represent an experiential product that needs to involve the whole body in the purchase decision process, and online retailing of fashion goods and apparel. This domain was chosen in this study to bridge the gap in the literature of technology acceptance of experiential goods retail which is still a developing area. Also, for online retail importance as the fastest growing online sector which was estimated to worth £ 7.1 billion in the UK (Mintel, 2013).

Second, this study will consider the ability of the proposed model to explain user acceptance in western countries in comparison to non-western countries. Many theories and models were developed to provide an understanding of technology acceptance; however, it is noticeable that most, if not all of these theories, were established in western countries such as the USA and then applied in non-western countries (Venkatesh et al, 2012). Western countries refer to those countries that share a western culture, which is a wide concept that refers to diverse aspects that consist of social norms, traditional customs, political systems and technologies that are connected with Europe and countries outside Europe which share a strong historical relationship with European immigration and colonization (e.g., USA and Australia) (Gilbert, 2009).

There is a close link between the western countries and technology, where the western world is usually perceived as technologically advanced. However, many non-western

countries are also considered technologically advanced societies. Although western and non-western countries may share a very close level of technological advancement, there are many cultural differences that might affect the way each society's members are accepting the technology (Al-Qeisi, 2009).

The existence of cultural differences between western and non-western countries, and the debate in the literature regarding the applicability of different technology acceptance models which was developed in the western countries (e.g., AL-Ghahtani, 2002; AL-Ghahtani, 2003; Mao and Palvia, 2006; Wetzels and Schepers, 2007) generates a gap in the literature. Hence, the researcher is interested in investigating the proposed model in both western and non-western countries and report if there are any differences in the proposed model. Therefore, the present study will be conducted in two countries the United Kingdom (the UK) which represents a western country, and the Hashemite Kingdom of Jordan (the HKJ) which represents a non-western country. These two countries were chosen as the setting for this research due to their technological infrastructure similarities and the obvious cultural differences which sets a platform for comparison.

The UK and the HKJ share a number of similarities on the internet technological infrastructure and penetration, these similarities are very important for the present study, because it will eliminate the effect of technology limitations on technology acceptance. They also have obvious cultural differences which are expected to create a platform for a comparison between technology acceptance patterns. Following is an explanation of the technological similarities and cultural differences between the two countries.

1.5.1 Technological Similarities between the UK and the HKJ

UK and HKJ share a very similar internet technological infrastructure and penetration level taking into consideration the difference in population size. The UK and HKJ have the same network-related services. For example, both countries offer third generation

(3G) services, ADSL internet and broadband internet in a comparatively high speed for both households and mobiles (Office for national statistics, 2012; Department of statistics -Jordan, 2012). Other services that facilitate online shopping like secure payment methods and reliable courier are also available in both countries. For example, secure payment method like credit cards, debit cards, and online debit cards are available in the UK and the HKJ, as well as different national and international couriers like DHL.

1.5.2 Cultural Differences between the UK and the HKJ

Individuals' common perception of social roles, norms, and values in their social environment which determines what behaviour is desirable or should be avoided is referred to as culture (Hofstede, 1984). Culture, therefore, is expected to shape individuals behaviour interaction and the way he/she build relationships with others (Hofstede, 2001; Kim et al., 2011).

There are two fundamental groups for cultural differences; individualism and collectivism (Frost et al., 2010). While individualism exhibits an independence from social interaction and paying more attention for ones rights over ones duties, collectivism exhibits harmony between individual and groups (Hofstede, 2001; Frost et al., 2010).

The core component of individualism is the assumption that individuals are independent and different from one another in this sense; an individualistic culture is a culture where people are independent and not influenced by other people in their surroundings. There are a number of different aspects that define individualism. For example, Hofstede (1980) reported that individualistic cultures are : 1) more concerned about their right and less concerned about their duties, 2) their priority is toward their own selves first then their immediate families, and 3) they focus their attention on self-fulfilment and on creating a special identity (Oyserman et al., 2002). Similarly, Waterman (1984) defined people in individualistic cultures as self-focused individuals who live up to their

potentials yet respect the integrity of others. Schwartz (1990) focused on the individualistic societies in general and described them as "fundamentally contractual, consisting of narrow primary groups and negotiated social relations, with specific obligations and expectations focusing on achieving status" (Oyserman et al, 2002, p. 4).

On the other hand, collectivism implies interdependency between individuals and groups. The individual is part of a bigger group where he/she is expected to follow and obey societies' roles. The individual in this society is expected to make sacrifices for the common good and to maintain harmony in the group (Oyserman et al., 2002; Frost et al., 2010). In general, the key factor that distinguishes individualist and collectivist cultures is the degree of separation from a group. The more the individuals in a specific society are able to separate themselves from the group the more that specific society is considered an individualistic society. On the contrary, the less the individuals in a specific society are able to separate themselves from the group, the more that specific society is considered a collectivist society (Frost et al., 2010).

The present study is using Hofstede's cultural index to compare between the UK and the HKJ's level of cultural individualism. Hofstede's cultural index is a framework for cross-cultural communication, describing the effects of a society's culture on the values of its members, and how these values relate to behaviour (Hofstede et al., 2010). Although Hofstede's cultural index did not provide a cultural dimension score for HKJ specifically, it provided a score to the Arabic culture in general. This score was referred to as the "Arabic group score" (Khanum et al., 2012).The HKJ is considered an Arabic country with an Arabic culture (Jordan constitution, 1952). The HKJ is also a member of the "The Arab League" (The League of Arab States, 2014). Therefore, the "Arabic group score" will be applied to HKJ in this opening cultural comparison between HKJ and UK.

Hofstede's cultural index, defined individualism as "the degree of interdependence a society maintains among its members" (Hofstede, 2010, no pagination). On this

dimension the Arabic group have a very low individualism level (38) while the UK (98) has a very high individualism level (Hofstede et al., 2010; Khanum et al., 2012). These scores implies that in the Arabic group — and eventually in the HKJ — individual gives a lot of importance to what the society is expecting from him/her to do, and his actions are influenced by the opinion of other members of the society which he seeks their approval on his/her actions. On the other hand, individual of the UK's society is less influenced by the opinion of other members of the society and does not necessary seek their approval on his/her actions. As a result of the previous comparison it is possible to claim that the UK is an individualistic culture and the HKJ is a collectivist culture. However, in the present study the term "*high individualistic culture*" is used to represent the UK and the term *"low individualistic culture"* is used to represent the HKJ.

1.6 Research Objectives

The present study aims to bridge the gaps presented in the previous section by integrating Venkatesh et al.'s (2003) constructs of UTAUT and Moon and Kim's (2001) perceived playfulness in an attitudinal model. UTAUT was chosen as a base model in this study because of its reported ability to predict intention to use technology in the organizational and non-organizational context (Venkatesh et al. 2012). Moon and Kim's (2001) perceived playfulness was also reported as an intrinsic motive and a hedonic construct that influences consumers' adoption of using the World Wide Web (WWW) in general. Also perceived playfulness was linked to the theory of flow. However, it is important to mention that the present study will only focus on studying the main links between constructs.

By conducting this study and investigating the proposed model the researcher is aiming to achieve the following objectives:

1) To gain an overall understanding of online customers' shopping behaviour for experiential products.

2) To extend UTAUT to consumer context through introducing an attitudinal model based on UTAUT and the theory of flow.
3) To emphasise the importance of creating a compelling website experience.
4) To test the compatibility of the proposed model in a highly individualistic western context and a low individualistic non-western context.

1.7 Outline of the Study

This thesis contains seven chapters. The first chapter is an introduction to the present research. The first section of the first chapter provides an introduction to the present research and the research field. Next, the potential theoretical gaps and research contributions are presented. Following this, research direction, and research objectives are discussed. Finally, an outline of the present study is introduced.

Chapter two reviews the literature on users' acceptance of technology, embodied cognition, culture, and human-computer interaction to provide a comprehensive understanding of the research context. This is followed by establishing the research framework through reviewing the relevant theories.

Chapter three illustrates the process of constructing the conceptual model. Definitions of constructs are provided and the relationships between these the constructs are illustrated. These relationships are framed as hypotheses combining both utilitarian and hedonic dimensions.

Chapter four introduces the methods performed to conduct the empirical stage of the study. It provides a description of both the data collection methods and the data analysis methods. An experiment is designed to capture the effect of website experience on intention to purchase. This experiment is accompanied by a questionnaire consisting of different scales applied to measure different constructs. Finally, the sampling methods and techniques used to avoid Common Method Variance (CMV) are discussed.

SPSS and EQS are used to perform the statistical analysis which is reported in chapters five and six. Chapter five is divided into two sections. The first section reports the results of the demographic and internet experience level questions. The second section is dedicated to the introduction of the structural equation model (SEM) and to the development and validation of the measurement model. Chapter six is a continuation of chapter five. The structural model is verified in this chapter and the hypotheses testing results are reported. Finally, the results are discussed and interpreted individually and with respect to the literature in chapter seven. Chapter seven also reports the limitations of this study and provides suggestions for future research.

2 The literature Review

2.1 Chapter Overview

The introduction chapter cited two types of research streams which investigates consumers' acceptance of online shopping and online consumers' behaviour. The first stream focuses on understanding the motives or value for online purchase and the second stream focuses on understanding the relationship between experience and new technology (Chung and Park, 2009). The present study is combining these two research streams and proposing to extend UTAUT, drawing from both the consumer and the technology viewpoint.

The present chapter's main objective is to provide a systematic review of the existing literature and to create a complete understanding of the theoretical framework. To achieve the present study's main objectives the literature review chapter is focusing on three streams of literature: 1) literature on retail shopping which covers literature on retail shopping motivations, online shopping motivations, and user experience, 2) literature on technology acceptance which discusses user acceptance of technology and focuses on UTAUT and its evolution, and 3) literature on theory of flow within the technology acceptance field.

2.2 Retail Shopping Motivations

Motives are defined as forces initiating behaviour to fulfil an internal need (Westbrook and Black, 1985). There are two types of motives based on the direction of the force initiating the behaviour; intrinsic motives and extrinsic motives. While the intrinsic motive refers to "performing an activity for its inherent satisfactions rather than for some separable consequence" (Ryan and Deci, 2000, p.56) an extrinsic motive refers to the performance of an activity in order to achieve a utilitarian value (Ryan and Deci, 2000). Thus, the direction taken in behaviour depends heavily on the purpose the person is trying to achieve (i.e., person's motive). Retail shopping, as behaviour, is not an

exception. Therefore, understanding shopping motives is very important to influence shopping behaviour.

Shopping motives are defined as "drivers of behaviour that bring consumers to the marketplace to satisfy their internal needs" (Jin and Kim, 2003, p. 396). A considerable part of the literature on consumer consumption behaviour during the 1970s has adopted the information-processing approach which viewed consumers as logical thinkers and goal directed problem solvers, who would perform a purchase after processing all the available information and chose the best product from the available products (Fiore and Kim, 2007). Therefore, shopping was perceived during that period as an extrinsically motivated behaviour.

Holbrook and Hirschman (1982) proposed that consumers' consumption behaviour includes an experiential view which encompassed a steady flow of fantasies, feelings, and fun (i.e., a hedonic side) in addition to the goal oriented motive. In the early 1990s more support was given to the notion that retail shopping includes both utilitarian and hedonic dimensions. As a result consumers were segmented based on their shopping motive orientations into utilitarian orientation customers — who were described as rational customers who see shopping as task — and hedonic orientation customers— who were described as experience seekers and refer to shopping as an emotional value trip and hedonic orientation customers (Babin et al., 1994).

2.2.1 Online Retail Shopping Motivations

The limitations associated with the internet technology during the 1990s and the early years of the twenty first century imposed technical restrictions on online channels' ability to provide a recreational environment and a multisensory experience. The internet technology limitations made it challenging for the online channel to provide a recreational environment and a multisensory experience that the physical shopping environment provides. These technical limitations brought back the utilitarian features of

shopping motivation, such as time saving and convenience, as the main motivations that influence online shopping behaviour (e.g., Keeney, 1999; Morganosky and Cude, 2000; Parsons, 2002). Indeed, characteristics associated with online retail shopping were such that it was described as a convenient, accessible, and time saving channel. Moreover, online shoppers were represented as time-poor who would rather avoid the hassle associated with offline channel such as staying in the queue to pay (Parsons, 2002). As a result online shopping research was mainly focusing on utilitarian motives and ignored the effect of hedonic motives.

Kim and Shim (2002) proposed that online shoppers — similar to offline shoppers — are shopping to satisfy their experiential and emotional needs in addition to utilitarian needs such as gathering information and acquiring products. Therefore, to reach a holistic understanding of online shoppers' behaviour the effect hedonic motives on online shoppers' behaviour ought to be perceived as important as utilitarian motives effect on online shoppers' behaviour.

The development in internet technology and the introduction of new technology — mainly Web 2.0 which embraces a high level of interactivity — allowed to potentially overcome limitations previously associated with the online channel (Childers et al., 2001). As a result utilitarian attributes have lost their position as the main, if not the only, motive behind online shopping. The literature on online shopping motivations has seen an increase of appreciation for the existence of hedonic dimension, especially by more experienced online shoppers whom were found to seek a more hedonic value while shopping online (Szymanski and Hise, 2000; Childers et al., 2001). Feelings of control and enjoyment were also found to contribute to predicting and enhancing online shopping intentions. This development brought back the question: what motivates people to adopt online shopping? (Bridges and Florsheim, 2008).

The relationship between shopping motives and consumer acceptance of online shopping was reported to be influenced by product class (e.g., apparel vs. technical products) (Dennis et al., 2010). Apparel is perceived as an experiential product which indicates that shopping for clothing is often viewed as fun (Peterson et al., 1997; Hansen and Jensen, 2009). Therefore it is plausible to assume that shoppers for this product are generally driven by hedonic motives, and that more weight might be given to the hedonic dimension when studying different aspects that influence customers' acceptance and adoption of online shopping.

2.2.2 User Experience

User Experience (UX) is "a sum of momentary constructions that grow from the interaction of users with their environments" (Kourouthanassis et al., 2007, p.321). These momentary constructions may be influenced by different elements including a user's internal state like motivations, characteristics of the designed system (e.g., complexity, purpose, usability, functionality, etc.) and the context (or the environment) within which the interaction occurs (e.g. organisational/social setting, meaningfulness of the activity, voluntariness of use, etc.) (Hassenzahl and Tractinsky, 2006; Kourouthanassis et al., 2007). Minge (2008) formulated a holistic definition of UX that includes both the utilitarian dimension and the hedonic dimension of UX. Minge (2008) defined UX "as a multidimensional phenomenon, that consists both of the perception of different product qualities and related emotions" (Minge, 2008, p.1). Similarly Brakus et al. (2009) proposed that experience consists of "sensations, feelings, cognitions, and behavioural responses evoked by stimuli that are part of a product design and identity, packaging, communications, and environments" (Brakus et al, 2009, p: 52).

UX has two main characteristic; these are 1) the nonpartisan nature of experience, and 2) the engaging nature of experience (Hoch, 2002). The nonpartisan nature of an experience specifies that when the user is observing an event in person, he/she will have the

opportunity to build his/her own interpretations and beliefs, and to develop feelings about that event. Consequently an individual will establish a solid positive or negative opinion and belief towards a certain event brand or product (Kempf and Smith, 1998; Hoch, 2002). The second characteristic of UX is its engaging nature which will lead to stimulating cognition and increasing experience traceability in memory.

2.2.2.1 **Engagement and User Experience**

Engagement is defined as "both the act of emotionally involving users (Jacques et al., 1995) and the state of being in gear and interacting directly with a system (Hutchins et al., 1986)" (O'Brian, 2010, p.2). Engagement is viewed as a mental state that is associated with active and continued cognitive processing (Mollen and Wilson, 2010). The engaging nature of UX allows for the integration of more than one sense in the process of experience; which will result in stimulating cognition and increase experience traceability in memory (Brakus et al., 2009). Therefore, it is very important to create a meaningful interaction between users and technology, which is achieved through accounting for user (i.e., affective), system (i.e., aesthetic), and situational (i.e., dynamic) elements of experience (O'Brian, 2010). As a result, failing to engage users might bring them into a state of boredom, which will discourage users from using company's website.

Engagement is associated with continued cognitive processing. Cognition "is the process by which the sensory input is transformed, reduced, elaborated, stored, recovered, and used" (Hargie, 1996, p.36). Cognition science assumes that human thoughts are symbolic therefore, in order for an individual to process any input and come out with an output; it is essential to start with building a mental imagery of objects that are not currently detected by the five senses (i.e., mental representations) of what these inputs represents (Friedenberg and Silverman, 2006). The modal model of memory provided a general overview of how sensory input is processed and saved in different memory types

(Atkinson and Shiffrin, 1971). The modal view recognises three types of memory involved in the cognition process: 1) sensory memory, 2) short term memory, and 3) long term memory. Sensory memory describes the human brain's ability to hold sensory information received through the five senses accurately for a very short period of time. Short term memory describes the human brain's ability to remember and process information at the same time. The long term memory describes the human brain's ability to store information for a very long period of time (Mastin, 2010).

According to the modal model of memory, stimulus information are received from the outside world through the five senses and stored very briefly in the sensory memory. From there, the information is transferred to short-term memory. Information in the short-term memory goes through different computations such as rehearsal and recoding. Following this, the processed information is encoded, converted into a usable form, and stored in the long term memory as *to be remembered information* (Friedenberg and Silverman, 2006). The modal model of memory assumes that human thought are symbolic. Therefore, information previously saved in the long term memory is retrieved once the person is encountered with a stimulus related to the saved memory. Retrieving information is performed by transferring the information from long term memory to working memory where it can then be operated on.

The modal model of memory was the foundation of numerous studies in consumer behaviour (Malter, 1996). For example, the modal model of memory was the base of studies in decision making process, consumer learning, mood status, and memory for advertising (Gardner, 1985; Burke and Srull, 1988; Nedungadi, 1990; Huffman and Houston, 1993; Malter, 1996). However, several issues lead to criticizing this paradigm in general and its outcomes in consumer behaviour studies. For example, the modal model of memory was criticized for disregarding the role of the body in building mental representations (Malter, 1996; Friedenberg and Silverman, 2006).

In the meanwhile, emerging research has shown that the relationship between body and mind is not a one direction relationship as once assumed. The above raised challenges to the modal model of memory paradigm and have encouraged consumer behaviour scholars to start shifting towards the embodied cognition view as a new and more complex paradigm (Malter, 1996). Unlike the modal model of memory embodied cognition adopts a mind-to-body relationship view. This relationship describes a two way relationship where the body has an influential role in shaping thoughts and building representations (Barsalou, 2008; Hung and Labroo, 2011).

The embodied cognition paradigm postulates that memories are composed of experiences that are multimodal. This assumption indicates that experience has two components: 1) cognition that exists in the mind, and 2) an entire group of perceptions, movements, and sensations that exist in in the body (Hung and Labroo, 2011). Therefore, when faced with a stimulus the person will recall the experience from two sources; his/her memory and his/her body.

Embodied cognition has been applied to decision making research. For example, Rosa and Malter (2003) described the relationship between the pre-existing knowledge and embodied knowledge on consumer purchase decisions. The consumer has pre-existing knowledge saved in his/her memory; this pre-existing knowledge is a result of his/her previous experience. Pre-existing knowledge is supported by embodied knowledge, which is composed by information generated by the five senses, movement, and other sensorimotor mechanisms, and which combines with pre-existing knowledge in consumer thinking (Rosa and Malter, 2003). Consequently when the consumer interacts with a certain product in addition to his/her pre-existing knowledge, the stimuli received through the five senses will be stored in the form of an embodied knowledge about this product (Friedenberg and Silverman, 2006). According to the embodied cognition paradigm when the customer is faced with any external stimuli or internal stimuli that is

linked to the product, his/her pre-existing knowledge will be activated along with some embodied knowledge and will result in receiving a certain understanding of the product whether it exists physically or not (Rosa and Malter, 2003). This point has a very important implication for e-commerce, specifically for marketing and selling experiential goods.

It is easy to assume that it is simple to market and sell low involvement goods and services such as airline tickets or some FMCG using a 2D interface, However, marketing and selling high involvement products which are linked to a high level of physical interaction and sensorimotor inputs (e.g., touch) like apparel and cars will not be as easy (Rosa and Malter, 2003). Parkin (2009) has given an example of "*Next*", a big name in fashion retailing, yet facing a big problem with its online sales revenue. In his explanation, Parkin (2009) assigned this failure to the poorly presented 2D interface that does not meet consumer expectations and provides no level of interaction with the customer except with some text explaining the product features (Parkin, 2009).

Parasurman and Grewal (2000) mentioned that selling experiential goods — like apparel — through 2D interface websites is only possible to experienced customers who can envision consumption regardless of the poor inputs the website provides (Parasurman and Grewal, 2000). On the other hand, marketing and selling experiential products to less experienced customers represents an adequate challenge. Parasurman and Grewal (2000) proposed that to overcome the problem of selling experiential goods to less experienced customers and to reach less knowledgeable customers through online channels, marketers are encouraged to strengthen the customer-technology link through a multi dimension interface website (Parasurman and Grewal, 2000; Rosa and Malter, 2003).

2.2.2.2 **User Experience Elements**

Emerging technologies associated with the concept of Web 2.0 have increased the opportunity to create an integrated UX through an interactive environment. This interactive environment entails a high sensory Web interface with vivid images (O'Reilly, 2005). The interactive environment is also known as the virtual reality.

Virtual Reality (VR) "refers to a computer simulated environment with and within which people can interact" (Riva, 2008, p.9). Within this definition, VR is viewed as an environment that allowed people to feel as if they are a part of the computer mediated environment. This proposition is offering a new perspective in the computer-human interaction sphere, by moving individuals from being in the position of observers to be in the position of an active part of the VR environment. It also allows for describing VR in terms of human experience using the concept of telepresence (Riva, 1997; Riva, 2007; Riva, 2008).

Telepresence is discussed from the point of view of different disciplines including artificial intelligence and human-computer interaction. Despite the differences in disciplines, telepresence's definition indicated the elimination of the mediation between person's reality and the communication channel (Lombard and Ditton, 1997; Mennecke et al., 2010).

In the human-computer interaction discipline, telepresence refers to a psychological phenomenon and a state of experience where individuals' real surrounding and the technology mediated environment merge into one reality (Lombard and Ditton, 1997). Algharabat and Dennis (2010) has proposed Authenticity as "a psychological state in which virtual objects presented in 3D in a computer-mediated environment are perceived as actual objects in a sensory way" (Algharabat and Dennis, 2010, p.6). In Algharabat and Dennis (2010) argument a 3D virtual experience should be an authentic representation of the direct (offline) experience.

The present study's main focus is on the relationship between senses engagement and the embodied knowledge that is retrieved through the interaction with the visual environment .Schuemie et al. (1999) has proposed that "the bodily and cognitive activity of the user and his/her interaction with the virtual world on various levels is the true source of telepresence" (Schuemie et al., 1999, p.2). Therefore, the present study will use the concept of telepresence.

Lombard and Ditton (1997) mentioned six factors of telepresence. Firstly, the degree of the media's ability to transmit the information which users will use to decode the message. Secondly, the realistic presentation of the medium, and its ability to produce a reliable sensory input to media user. Thirdly, the media's ability to create a sense of transport; this indicates that the media gives the user a sense of either going to a different place or had the object brought him. Fourthly, the ability of the media to immerse the user within the space represented through the channel either physically using a device, or psychologically through creating a sense of being in a specific space (Mennecke et al., 2010). Fifthly, the user's ability to consider an actor in the medium as a social actor, regardless of the user's ability to interact with this character or control it. And finally, the tendency of people to treat inanimate objects that do not resemble human actors in a socially sound manner (Mennecke et al., 2010).

The definition and factors of telepresence suggests that telepresence is triggered and motivated by user's wish to go beyond the boundaries of his/her body, and to extend these senses through technology (i.e., embodiment) (Biocca, 1997). Based on the definition of VR it is possible to conclude that interactivity has a major impact on creating telepresence.

Polanyi (1967) states "the body is the ultimate instrument of all our external knowledge, whether intellectual or practical experience is always in terms of the world to which we are attending from our body" (Polanyi, 1967, p15). Riva (2008) proposed that cognition

is no longer a group of abstract symbols and formal process, but rather they are situated embodied activities; where "on one side, the characteristic of human perceptual and motor system play a key role in concept definition and rational interface. On the other side, practical activity play role in giving meaning to the practical experience of, and the representations generated by a given individual agent" (Riva, 2008, p.7). Bilda et al. (2007) suggested that the body plays a vital role in building perceptual and mental processes and the interactions with the environment itself.

The definition of UX indicates that it has sensational and cognitive (Brakus, 2009). Based on the previous UX is broken down into two factors a cognitive factor and a sensational factor. Following Bilda (2007) and Riva (2008) the present study will adopt an embodied cognitive perspective. Embodied cognition viewpoint commits to the idea that "the mind must be understood in the context of its relationship to a physical body that interacts with the world" (Wilson, 2002, p. 625). This indicates that cognitive activities consist of direct online interaction with the environment (Bilda, 2007).

The second factor of experience is the sensational factor. UX with a website is created within a computer simulated environment (i.e., in VR) (Riva, 2008). VR was given a role in reproducing the real world with its entire embodiment stimuli, which results in generating a feeling of being part of the computer mediated environment (Riva, 2008). The generated feeling of being part of the VR creates a state of telepresence (Lombard and Ditton, 1997). Schubert et al. (2001) suggested that the sense of presence is a product or a direct function of engagement. As a result, the more vivid the virtual environment is the higher the degree of presence (Slater and Wilbur, 1997).

Vividness which was defined by Steuer (1992) as "the representational richness of a mediated environment as defined by its formal features, that is, the way in which an environment presents information to the senses" (Steuer, 1992, p.11) was presented as a key property of media technologies that effects their ability to create a sense of presence.

Therefore it is expected that a vivid image of the mediated environment will result in a better experience the more vivid the better is the quality of the experience.

2.3 Theoretical Background

There are two main themes in relation to the present research topic, shopping motives and user acceptance of new technology. While shopping motives were discussed in the previous section of this chapter, user acceptance of new technology is illustrated in the theoretical background section of this chapter. The present research is built on two pre-existing theories: 1) the Unified Theory of Acceptance and Use of Technology (UTAUT), and 2) the theory of flow.

2.3.1 Users' Acceptance of New Technology

The literature on users' acceptance of new technology is divided into two streams. The first stream, focuses on implementation success at the organizational level and task technology fit (e.g., Leonard-Barton and Deschamps 1988; Goodhue and Thompson 1995), whilst the second stream focuses on individual acceptance of technology by using intention or usage as a dependent variable (e.g., Davis et al., 1989; Venkatesh, 2003; Venkatesh, 2012). The present study belongs to the latter stream of research.

Different theories and models were developed with the intention to understand user acceptance of technology. These theories and models were implied in different studies and different contexts (See Table 2-1 for a list of some user acceptance theories and their main constructs and constructs' definitions).

Table 2-1: A List of Some User Acceptance Theories and Their Main Constructs and Constructs' Definitions (Adapted from Venkatesh et al., 2003)

Theory	Core Constructs	Definition
Theory of Reasoned Action (TRA)	Attitude toward a behaviour	"An individual's positive or negative feelings (evaluative affect) about performing the target behaviour (Fishben and Ajzen, 1975, p. 216).

	Subjective norms	The person's perception that most people who are important to him think he should or should not perform the behaviour in question (Fishben and Ajzen 1975, p.320)
Technology acceptance model (TAM)	Perceived usefulness	"The degree to which a person believes that using a particular system would enhance his or her job the job performance" (Davis 1989, p. 320).
	Perceived ease of use	"The degree to which a person believes that using a particular system would be free of effort" (Davis 1989, p. 320).
	Subjective norms	The person's perception that most people who are important to him think he should or should not perform the behaviour in question (Fishben and Ajzen 1975, p.320)
	Attitude toward behaviour	"An individual's positive or negative feelings (evaluative affect) about performing the target behaviour (Fishben and Ajzen 1975, p. 216).
Motivational model (MM)	Extrinsic motivation	The perception that users will want to perform an activity "because it is perceived to be instrumental in achieving valued outcomes that are distinct from the activity itself, such as improved job performance, pay, or promotions" fundamental (Davis et al., 1992, p. 1112).
	Intrinsic motivation	The perception that users will want to perform an activity " for no apparent reinforcement other than the process of performing the activity per se" Davis et al., 1992, p.12)

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Theory of planed behaviour (TPB)	Attitude toward behaviour	"An individual's positive or negative feelings (evaluative affect) about performing the target behaviour (Fishben and Ajzen 1975, p. 216).
	Subjective norms	The person's perception that most people who are important to him think he should or should not perform the behaviour in question (Fishben and Ajzen 1975, p.320)
	Perceived behaviour control	"The perceived ease or difficulty of performing the behaviour" (Ajzen,1991,p.188)
Combined TAM and TPB (C-TAM-TPB	Attitude toward behaviour	"An individual's positive or negative feelings (evaluative affect) about performing the target behaviour (Fishben and Ajzen 1975, p. 216).
	Subjective norms	The person's perception that most people who are important to him think he should or should not perform the behaviour in question (Fishben and Ajzen 1975, p.320)
	Perceived behaviour control	"The perceived ease or difficulty of performing the behaviour" (Ajzen,1991,p.188)
	Perceived usefulness	"The degree to which a person believes that using a particular system would enhance his or her job the job performance" (Davis 1989, p. 320).
Model of PC utilization (MPCU)	Job-fit	"The extent to which an individual believes that using a technology can enhance the performance of his or her job (Thompson et al., 1991, p. 129).

	Complexity	Based on Rogers and Shoemaker (1971), "the degree to which an innovation is perceived as relatively difficult to understand and use" (Thompson et al., 1991, p. 128).
	Long-term Consequences	Outcomes that have a pay-off in the future" (Thompson et al., 1991, p. 129).
	Affect Towards Use	Based on Triandis, affect toward use is "feelings of joy elation, or pleasure, or depression, disgust, displeasure or hate associated by an individual with a particular act"(Thompson et al., 1991, p. 127)
	Social factors	Derived from Triandis, social factors are "the individual's internalization of the reference group's subjective culture, and specific interpersonal agreements that the individual has made with others, in specific social situations" (Thompson et al., 1991, p. 126).
	Facilitating conditions	Objective factors in the environment that observers agree make an act easy to accomplish. For example, returning items purchased online is facilitated when no fee is charged to return the item. In an IS context, "provision of support for users of PCs may be one type of facilitating condition that can influence system utilization" (Thompson et al., 1991, p. 129).
Innovation Diffusion theory (IDT)	Relative advantage	"The degree to which an innovation is perceived as being better than its precursor" (Moore and Benbasat 1991, p. 195).
	Ease of use	"The degree to which an innovation is perceived as being difficult to use" (Moore and Benbasat 1991, p. 195).

	Image	"The degree to which use of an innovation is perceived to enhance one's image or status in one's social system"(Moore and Benbasat 1991, p. 195).
	Visibility	The degree to which one can see others using the system in the organization (adapted from (Moore and Benbasat, 1991).
	Compatibility	"The degree to which an innovation is perceived as being consistent with the existing values, needs, and past experiences of potential adopters" (Moore and Benbasat 1991, p. 195).
	Results demonstrability	"The tangibility of the results of using the innovation, including their observability and communicability" (Moore and Benbasat, 1991, p. 203).
	Voluntariness of use	"The degree to which use of the innovation is perceived as being voluntary or of free will" (Moore and Benbasat, 1991, p. 195).
Social cognitive theory (SCT)	Outcome expectations performance	The performance-related consequences of the behaviour. Specifically, performance expectations deal with job- related outcomes. (Compeau and Higgins, 1995; (Venkatesh et al. 2003).
	Outcome expectations-personal	The personal consequences of the behaviour. Specifically, expectations deal with the individual esteem and sense of accomplishment (Compeau and Higgins, 1995; (Venkatesh et al. 2003)
	Self-efficacy	"Judgment of one's ability to use a technology (e.g., computer) to accomplish a particular job or task." (Venkatesh et al. 2003)

	Affect	"An individual likes for a particular behaviour (e.g., computer use)." (Venkatesh et al. 2003)
	Anxiety	"Evoking anxious or emotional reactions when it comes to performing a behaviour (e.g., using a computer)." (Venkatesh et al. 2003)

Although all of these model were well established TAM was reported as the most referenced model in the literature on technology acceptance (Venkatesh et al., 2003; Heijden, 2004). TAM is a specially tailored model used to predict and explain user adoption of new technology (Venkatesh, 2000). It was adapted from Fishbein and Ajzen's (1975) TRA and its extension TPB to explain consumer adoption of new technologies (Davis, 1989).

2.3.1.1 **Theory of Reasoned Action and Theory of Planned Behaviour**

TRA is a theory that focuses on explaining behaviour in general. The TRA~~'s~~ is built on the assumption that humans are rational beings whom refer to all available information and consider all the possibilities in order to maximise benefit (Fishbein and Ajzen, 1975; Ajzen, 1991). TRA proposes that the main indicator of behaviour is the intention to perform the behaviour. TAM also suggests that intention is a function of two variables; attitude held towards behaviours and subjective norms (Fishbein and Ajzen, 1975).

Ajzen and Fishbein defined attitude as a, person's general feeling of favourableness or unfavourableness for that behaviour (Fishbein and Ajzen, 1975; Ajzen and Fishbein 1980). Attitude, as Ajzen and Feshrbein explained, is a construct directed by behavioural beliefs about the possible outcomes of the behaviour and the assessments of these outcomes. These beliefs produce a positive or negative attitude toward the behaviour (Fishbein and Ajzen, 1975; Ajzen and Fishbein, 1980). Thus, individuals attitude is shaped through classical conditioning, whereby they associate their beliefs to

information; through instrumental conditioning, where the positive or negative outcomes of consuming attitude are reinforced or undermined; or in a more complicated cognitive process, where the individual builds a positive or negative attitude based on intrinsic benefiting certain aspects, such as joy and social acceptance (Solomon et al., 2006; Qasem, 2008).

Ajzen and Fishbein defined subjective norms as the, "perception that most people who are important to the individual think he/she should or should not perform the behaviour in question" (Ajzen and Fishbein, 1980, p.19).TRA acknowledged that humans are social being who are keen to be a part of a society. Therefore TRA suggested that people who are important to individual like family members friends and other humans who live at the same society create subjective norms that influence the individual's attitudes and beliefs (Chang, 1998).

TRA was deficient in predicting behaviour; specifically in situations in which individuals lack the ability to fully control his/her behaviour (Shepard et al., 1988). To overcome this limitation, Ajzen incorporated the variable perceived control — which was defined as "the perceived ease or difficulty of performing the behaviour" (Ajzen, 1991, p.188) and introduced TPB. In conclusion, TPB proposed that attitude, subjective norms and perceived control are three factors that predict individuals' adopting of a particular behaviour (Conner and McMillan, 1999). "The more favourable the attitude and subjective norms, and the greater the perceived control, the stronger should be the persons' intention to perform the behaviour in question" (Ajzen, 2002, p.1).

2.3.1.2 **Technology Acceptance Model**

The basic assumption of TAM is that intention is a major determinant of behaviour. It also introduces PU and PEOU as the two most important external factors that influence attitudes and predict intention and usage (Teo, 2001; Legris et al., 2003). Davis et al. (1989) defines and PU "the degree to which a person believes that using a particular

system could enhance his or her job performance" (Davis et al., 1989, p.320) and PEOU as the "degree to which a person believes that using a particular system would be free from effort (Davis et al., 1989, p.320). Unlike TPB, TAM assumes a very low effect of subjective norms on attitude and intention to adopt a technology.

TAM went through four evolution phases, spanning the period between 1986 and 2003. These four phases signify the development of this model and reinforced its existence in the field of consumer behaviour technology and information systems. The first phase was the introductory phase, during which scholars' main objective was to test TAM's applicability towards different types of technology to prove the model's robustness and to make a comparison between the TAM and TRA. Such a test was required in order to defend the need to shift from the TRA and TPB towards the new model (Lee et al., 2003). Several replication studies of the TAM were conducted between the years 1989 and 1995. Adams et al. (1992), and Sambamurthy and Chin (1994) are both examples of these studies which reported results supporting TAM's robustness. These studies examined applications such as graphics, word processors, text, spreadsheets, editors' emails, and voice mails. The results of these studies reported very similar and consistent results of TAM with (R^2 =0.36) (Lee et al., 2003).

The second phase of TAM's evolution was the model validation period. During this phase scholars focused on measurement validation under different technologies, conditions, and tasks (Lee et al., 2003). For example, reliability and validity of the PEOU and PU constructs were tested in studies by Adams et al. (1992), Hendrickson et al. (1993) Hendrickson et al. (1996) among others.

Following the first two phases which proved TAM's robustness, attention was turned towards extending the model and testing the effects of adding new constructs and construct antecedents to its already existing external variables, PEOU and PU. However, all these trials were focussed on identifying boundary conditions. For instance, Gefen

and Straub (1997) explored the effects of gender on TAM by testing its effect on information systems acceptance. Their findings concluded that gender significantly moderates the effects of PEOU, where PU has a stronger effect on males and PEOU on female (Gefen and Straub, 1997).

Another study by Gefen and Straub examined the effect of task in the WWW context. In their research, Gefen and Straub (2000) suggested that there are two types of task performed on the internet, information search and product and service purchase. Results of their study have concluded that PEOU significantly predicts online usage for purchase related tasks, but it did not predict information searching tasks (Gefen and Straub, 2000). Moon and Kim (2001) on the other hand focused on online tasks and applications. They reported two types of tasks; entertainment tasks and the work related tasks. Their results matched the results from Gefen and Straub (2000), and they stated that task type will affect internet usage, which is considered a computer related technology (Moon and Kim, 2001).

The final stage of TAM's evolution was the phase between the years (2000-2003). This phase signified the elaboration on the theory. During this period TAM has obtained a very robust status in the field of information systems as a theory that can explain technology usage and adoption (Straub et al., 2003). However, the emergence of Web 2.0 and all the technological capabilities that came along with it called for a revision of TAM. To accommodate for technology advancement TAM2 was introduced to the literature (Venkatesh and Davis, 2000; Lee et al., 2003).

TAM2 introduced several external variables that affect PU. These variables were divided between subjective norms, voluntariness, image, and cognitive instrumental processes (Lee et al, 2003). However, subjective norms were not a new variable; it was first incorporated in the TPB, and tested on TAMs original proposal where it was assumed to have a very low effect on intention (Davis, 1986).

TAM and TAM2's success in explaining technology acceptance and adoption behaviour along with other theories and models encouraged scholars to find a more holistic model. Venkatesh et al. (2003) for example introduced UTAUT as a holistic theory that tested variables from the eight theories and models which explains consumer adoption of behaviour. The present study will adopt UTAUT as its main theory. The reason behind choosing UTAUT over TAM is due to the importance of UTAUT's concept which integrates eight key theories and models; in addition the model was tested using a significantly large real world data set (Im et al., 2011). In addition to the previous reason UTAUT is considered very similar to TAM and was referred to as the newest form of TAM (Bouwman, 2011).

2.3.2 Unified Theory of Acceptance and Use of Technology

UTAUT is a technology acceptance model formulated by Venkatesh and others to provide an explanation to user acceptance of technology and user intention to use new technology. Eight models were aggregated to develop UTAUT. These theories were TRA, TAM, MM, TPB, SCT, MM, C- TAM-TPB, IDT, and MPCU. All of the aggregated models share the same basic conceptual framework and focus on individual acceptance of technology by using intention or usage as a dependent variable.

UTAUT claims that three key constructs — namely performance expectancy, effort expectancy and social influence — directly cause intention. Also, facilitating conditions, "the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system" (Venkatesh et al., 2003, p.453), is found to directly cause behaviour. Age, gender, voluntariness of use, and experience with the system are suggested to moderate the effect of the four key constructs (Venkatesh et al., 2003).

The key constructs in the model were conceptualised and connected to similar variables in the eight models. Performance expectancy is "the degree to which an individual

believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al, 2003, p447). Performance expectancy definition suggests it resembles relative advantage (DOI), extrinsic motivation (MM), perceived usefulness (TAM, and combined TAM-TPB), job-fit (MPCU), and outcome expectancy (SCT). Effort expectancy (EE) is "the degree of ease associated with the use of the system" (Venkatesh et al., 2003, p.450). Effort expectancy definition suggests it resembles complexity (DOI and MPCU) and perceived ease of use (TAM). Social influence is "the degree to which an individual perceives that important others believe he or she should use the new system" (Venkatesh et al, 2003, p.450).Social influence definition suggests it resembles social factors (MPCU), image (DOI) and subjective norms (TRA, TAM2, TPB/DTPB, and combined TAM-TPB). Facilitating conditions are defined as "the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Venkatesh et al, 2003, p.453). The facilitating conditions definition suggests it resembles social factors facilitating conditions (MPCU), compatibility (DOI) and perceived behavioural control (TPB/DTPB and combined TAM-TPB).

To formulate the unified model Venkatesh and others conducted four longitudinal empirical studies. These studies were conducted in organizational contexts. Participants on these studies were users of new technology in the workplace. The studies were conducted in four different organizations over three points in time labelled as "post training (T1), one month after implementation (T2), and three months after implementation (T3)" (Venkatesh et al., 2003).

Generalizability and robustness of the model were achieved through adapting well-established scales. Also heterogeneity across technologies, organizations, industries business functions, and nature of use (voluntary vs. mandatory) was achieved through collecting samples from four different industries; two representing voluntary use of

technology (entertainment and telecom service) and two representing a mandatory level of technology use (banking and public administration) (Venkatesh et al, 2003).

The longitudinal study results showed that seven constructs (performance expectancy, effort expectancy, attitude toward using technology, social influence, facilitating conditions, self-efficacy, and anxiety) appeared to be significant direct determinants of intention or usage in one or more of the individual models (Venkatesh et al, 2003; Sundaravej, 2010). However, four of these constructs (performance expectancy, effort expectancy, social influence, and facilitating conditions) were found direct determinants of user acceptance and usage behaviour.

To validate the model further, the result of two data sets — the original data and a new set of data from two new organizations — were compared. In both cases the results of the UTAUT outperformed the eight individual models. While the eight models explained between 17% and 53 % of the variance in user intentions to use information technology (R2 = 17%-53%), UTAUT explained 69% of the variance in user intentions to use information technology (R2 = 69%) and when the new data was run the results were very similar (R2 = 70%) (Venkatesh et al., 2003).

UTAUT was originally developed to determine technology adoption in the involuntary working context. Since it was introduced the theory was utilised by different studies and provided an understanding to technology acceptance in various context. However, there is still a gap in theorizing UTAUT and its application in the consumer context (Venkatesh et al., 2012). With the increased usage of the internet, which is serving a multitude of different purposes including utilitarian aspects like work and hedonic aspects like online shopping, comes a need to review salient factors that would apply to consumer technology use context (Venkatesh 2012).

2.3.3 The Theory of Flow

The concept of "flow" was first introduced by Csíkszentmihályis (1975). The literature on intrinsic motivation and "play", led to the introduction of the theory of flow; which states that an individual is in a state of flow when he/she is performing an activity for the sake of enjoying the activity itself. The theory of flow suggests that being in a state of flow will create an intrinsic satisfaction. As a result, the individual will want to repeat the activity to live this experience again (Csikszentmihalyi, 1988; Choi et al., 2007). However, the flow experience is believed to occur when there is a balance between one's skill levels and the challenge level. This balance of challenge and skill is fragile, and when disrupted state of flow is replaced with apathy, anxiety or boredom. This relationship between challenges and skills is known as the "flow four channel model" (Csikszentmihalyi and Csikszentmihalyi, 1988; Mathwick and Rigdon, 2004).

Flow was defined as "the holistic sensation that people feel when they act with total involvement" (Csikszentmihalyi, 1975, p.36). Kowal and Fortier (1999) have suggested that when an individual is experiencing flow, he/she will completely engage and concentrate on achieving the goal of the activity. This will result in a loss of connection with the individual's surroundings and a loss of time tracking (Kowal and Fortier, 1999). In the past few years the theory of flow has seen its way to consumer behaviour and human-computer interaction field (Finneran and Zhang, 2003).

Numerous studies proposed that creating a state of flow is the key to achieve compelling experiences in the virtual environment (Hoffman and Novak, 1996; Novak et al., 2000; Novak et al., 2003). This proposition was supported by findings suggesting that when experiencing a state of flow, individual will experience an increase in their communication and exploratory behaviour (Finneran and Zhang, 2003).

Hoffman and Novak (1996) conceptualized flow on the Web as a cognitive state that occurs during online navigation "which is characterized by a seamless sequence of

responses facilitated by machine interactivity, intrinsically enjoyable, accompanied by a loss of self-consciousness, and self-reinforcing" (Novak et al., 1996, p. 5-6). In their argument, Hoffman and Novak (1996) proposed that special features of the Web allow creating a flexible, easy to control, and sense simulating environment. These special features include network navigation and acceptable level of interactivity. As a result of dealing with the web environment user will experience telepresence, which is a state in which individual feels that he/she is a part of the computer mediated environment (Steuer, 1992).

In a subsequent work, Novak et al. (2000) investigated the factors that create flow while using the WWW interface. The authors developed a structural model built on their earlier conceptual model to measure flow empirically. To develop the model they put together thirteen constructs — Web usage, arousal, challenge, control, exploratory behaviour, flow, focused attention, speed, playfulness, positive effects, telepresence, and time distortion— which they assumed to create the compelling online experience. To measure these constructs scales from different previous studies were adapted in three web usage variables. The variables included areas related to when the respondents started to use the web, the time respondents spend daily on the web, and respondents' expectations of how much time they expect to spend on the Web. However these three variables were not part of the base model (Novak et al., 2000). The authors suggested that the importance of variables is altered over time. For example, while results revealed an increase in skill levels with web experience, it showed a decrease in telepresence, flow and exploratory behaviour.

Building on Hoffman and Novak (1996) conceptualization of flow Korzaan (2003) investigated the effect of flow on online shopping. The author hypothesized that flow has an influence on attitude directly and indirectly through exploratory behaviour. And also focused on the importance of creating an experience for online shoppers, and

investigated its effect on intention towards behaviour. Korzaan (2003) treated flow as an independent belief that affects attitude. To check the validity of the factor model, and to evaluate the causal relationship of 'flow' and 'exploratory behaviour' —individual's act of surfing the web and clicking the link out of curiosity (Korzaan, 2003) — on attitude the author conduct a confirmatory factor analysis using the two steps approach.

Korzaan (2003) reported that the direct effect of flow was $\beta = .2$ and the indirect effect was $\beta = .04$, indicating that if a certain commercial website succeeded in creating a state of flow for its customers, then the customers' attitude towards this website will be positively influenced and their intention to buy through this website will increase (Korzaan, 2003). Korzaan' also brought attention to other variable that might hinder flow, for example, broken links, error messages and slow response time. Korzaan suggested that if the WWW user encountered these variables he/she will not reach a state of flow; as a result the user will develop a negative attitude towards the website (Korzaan, 2003). The findings of this study pointed out the importance of website characteristics as elements that will lead to a state of flow.

A limitation of Novak et al. (2000) and Korzaan (2003) studies was ignoring product specifications and their relationship with flow. Smith and Sivakumar (2004) investigated flow from a contingency perspective. They suggested that in order to gain the most of flow, resulting in actual purchasing behaviour change, flow must be managed while taking into consideration the individual, the product and task characteristics. Thus, different levels of flow duration and intensity will influence different types of online activities, such as searching for information, one-time purchasing and repeated purchasing. Thus, different levels of flow duration and intensity will influence different types of online activities, such as searching for information, one-time purchasing and repeated purchasing.

Their vision was translated into a conceptual model that investigates the effect of flow on internet shopping behaviour. In their model, Smith and Sivakumar (2004) proposed that the relationship between flow and behaviour is moderated by external factors like product type, type of purchase (planned vs. impulse purchase) and internal factors like self-confidence and perceived risk. They have argued that these variables influence the effect of flow and determine the required level of flow to produce a specific shopping behaviour.

Smith and Sivakumar (2004) study has only provided propositions without having them tested, which limited their study's ability to bridge the theoretical gap in the literature; nevertheless, their findings have opened up the opportunity for more research where product specifications are given more attention.

The above reviewed articles on consumer online behaviour have focused on the nature and importance of creating a compelling Web experience that is able to create flow. The authors argued that the flow experience will attract customers and positively influence their attitude and behaviour (Hoffman and Novak, 1996; Novak et al., 2000; Mathwick and Rigdon, 2004).

2.3.3.1 **The Theory of Flow and Hedonic Motives**

The literature on flow agrees that being in a state of flow facilitates creating a compelling experience for consumers while shopping online. However, mixed findings were reported about when does flow occur, what variables results in experiencing a greater flow, and whether flow is associated with experiential directed consumption (hedonic consumption) or goal-directed consumption (utilitarian consumption), results in experiencing greater flow (Mathwick and Rigdon, 2004).

Senecal et al. (2002) and Huang (2003) reported that flow experience is related to both the hedonic and utilitarian components of Web site. Similarly, Novak et al. (2003) investigated whether flow appears during both experiential and goal directed

consumption. The result of Novak et al.'s (2003) study showed that although flow occurs in both cases; it is more dominant in the case of goal-directed consumption.

In their study Bridges and Florsheim (2008) suggested that some features of flow, like control and effective interaction, may upsurge the utilitarian value of the online shopping experience. Hence, they recommended focusing on website characteristics that serve utilitarian goals rather than hedonic value to satisfy customers and achieve higher purchase rates.

The fact that these studies' results oppose expectations creates an opportunity for more research in order to understand why the results conflicted with the theory, and emphasises the importance of flow in computer mediated environments.

In the same stream of research, Chang and Wang (2009) studied the influence of online "communication tools' interactivity on users' external beliefs and internal motivation towards the attitude and use of IT" (Chang and Wang, 2009, p.1). In this study Chang and Wang (2009) combined TAM with the theory of flow and proposed a model to measure users' perception of interactivity. The results of this study showed a relationship between interactivity and flow experience, and a significant relationship between flow and individuals' attitude toward adopting technology. Chang and Wang (2009) explained that this relationship suggests that intrinsic motives have higher effect on individuals' attitude to adopt a technology than extrinsic motives. As a result of the latter conclusion, they suggested that there is a need to promote entertainment oriented factors of computer mediated environment and to give it more attention in different models related to technology acceptance and adoption. In sum, these contradictions in findings raise questions regarding the antecedents, consequences, and even the definition of flow.

2.3.4 Perceived Playfulness

Flow was found important in studying technology acceptance and user behaviour. However, it is perceived as a broad and ill-defined concept because it encompasses many

concepts (Choi et al., 2007). Therefore, in the present study the researcher is introducing perceived playfulness as hedonic dimension and a well-defined construct that is based on flow.

Perceived playfulness was defined as "the strength of one's belief that interacting with the WWW will fulfil the user's intrinsic motives" (Moon and Kim, 2001, p.222). Moon and Kim (2001) incorporated perceived playfulness into TAM and introduced it as an intrinsic motive and a hedonic construct.

Perceived playfulness was assumed to be shaped by individual experience with the virtual environment, in this case the WWW. As a result the more playful the individual describes his experience with dealing with the WWW the more positive his attitude towards the process and the greater is his intention to adopt the behaviour of online shopping (Moon and Kim, 2001). Perceived playfulness was linked to the theory of flow. Moon and Kim (2001) argued that when in a playfulness state, WWW users will focus on the activity they are performing (i.e., interacting with the website), and their focus will be devoted to a limited number of stimuli. Thus, users will give their full attention to interaction with the website (Moon and Kim, 2001). To support their assumption Moon and Kim (2001) found empirical support for their proposed model by conducting a study on 152 business graduate students who had a previous experience in using the WWW. They also overcame weaknesses associated with this form of research by firstly developing the construct measurements after a thorough revision of the literature, secondly, conducting a pre-test, and finally by completing a pilot study (Moon and Kim, 2001).

Perceived playfulness was described as a construct that reflects customers' perception and intrinsic feelings of fun and joy towards interacting with the website (Ahn et al., 2007). Therefore, Perceived playfulness was incorporated in TAM and was position as a hedonic construct that affect consumers' technology acceptance behaviour.

Beside perceived playfulness's effect on consumer acceptance of the WWW, its role was also tested in other contexts. Chen et al. (2002) reported perceived playfulness to be significantly motivating customers to use a virtual store. Moreover, in the context of mobile Internet services, perceived playfulness was reported as a factor that determines user acceptance of these services (Nysveen et al., 2005).

Chung and Tan (2004) suggested that there are many antecedents for perceived playfulness, for example, individual skills, control, challenge, focused attention and speed, content, and ease of use, which are mostly the same antecedents as those for flow. They also suggested that flow antecedents are either cognitive (i.e., related to users' internal feelings) or related to the website features. However, their research had many limitations. For example, the participants were asked to fill the questionnaire based on their experience with a website of their own choice. This indicates that some important aspects were not controlled for, such as internet speed, task orientation of online search and environmental aspects. Another limitation related to the same point is the chosen websites (search engines) by participants. While 52% chose google.com and 23% chose yahoo.com, 25% of participants chose random websites. This indicates that 25% of the sample chose random websites (search engines) that might vary in quality.

2.4 Chapter Summary

This chapter analytically reviewed the literature in relation to the present study's topic. Firstly, general retail shopping motives literature was reviewed followed by a review to the literature on online shopping motives. The first part of the literature review offered an understanding to the nature of the research problem. Secondly, the significant theories which addressed the research problems — UTAUT and the theory of flow — were reviewed with the aim to create the overall research framework. UTAUT was adopted as the baseline to describe the variables which will be adopted to represent the utilitarian dimension of the present study. On the other hand, the flow theory was adopted to

represent the platform for the hedonic dimension. The reviewed literature is utilised in the next chapter where it will present the foundation of the proposed attitudinal model

3 Conceptual Model Development

3.1 Chapter Overview

This chapter is dedicated to exhibiting and explaining the process of building the conceptual model. The model is derived from different literatures including technology acceptance, human-computer interaction, and consumer shopping behaviour.

This chapter will provide an explanation of the rationale behind integrating constructs adopted from UTAUT and the theory of flow in the proposed model and additionally discuss the expected direction of relationships between these constructs. Relationships will be proposed in the form of hypotheses showing the expected relationships between different constructs which create the model. The proposed integrated model will be tested against these hypotheses in a subsequent chapter to show how different constructs are expected to influence online purchase intentions.

3.2 Model Construction

The utilitarian aspects of technology have been considered the most important determinants of users' acceptance and use of technology. UTAUT has introduced performance expectancy and effort expectancy as an equivalent to PU and PEOU; which are TAMs main constructs (Davis, 1989; Venkatesh et al, 2003). However, to extend UTAUT to the consumer context the present research is proposing incorporating a hedonic dimension.

The present study is proposing a model to extend UTAUT to the consumer context. In the proposed model attitude is reintroduces as an important construct in predicting purchase intention. Also, a hedonic dimension is incorporated to the original theory and links to intention through attitude. Perceived playfulness is proposed as hedonic dimension; which itself has two first-order latent antecedents — vividness and embodied cognition. The main focus is on perceived playfulness's positive effect on users' attitude towards a specific website. Also, on UX which is segregated in to two construct;

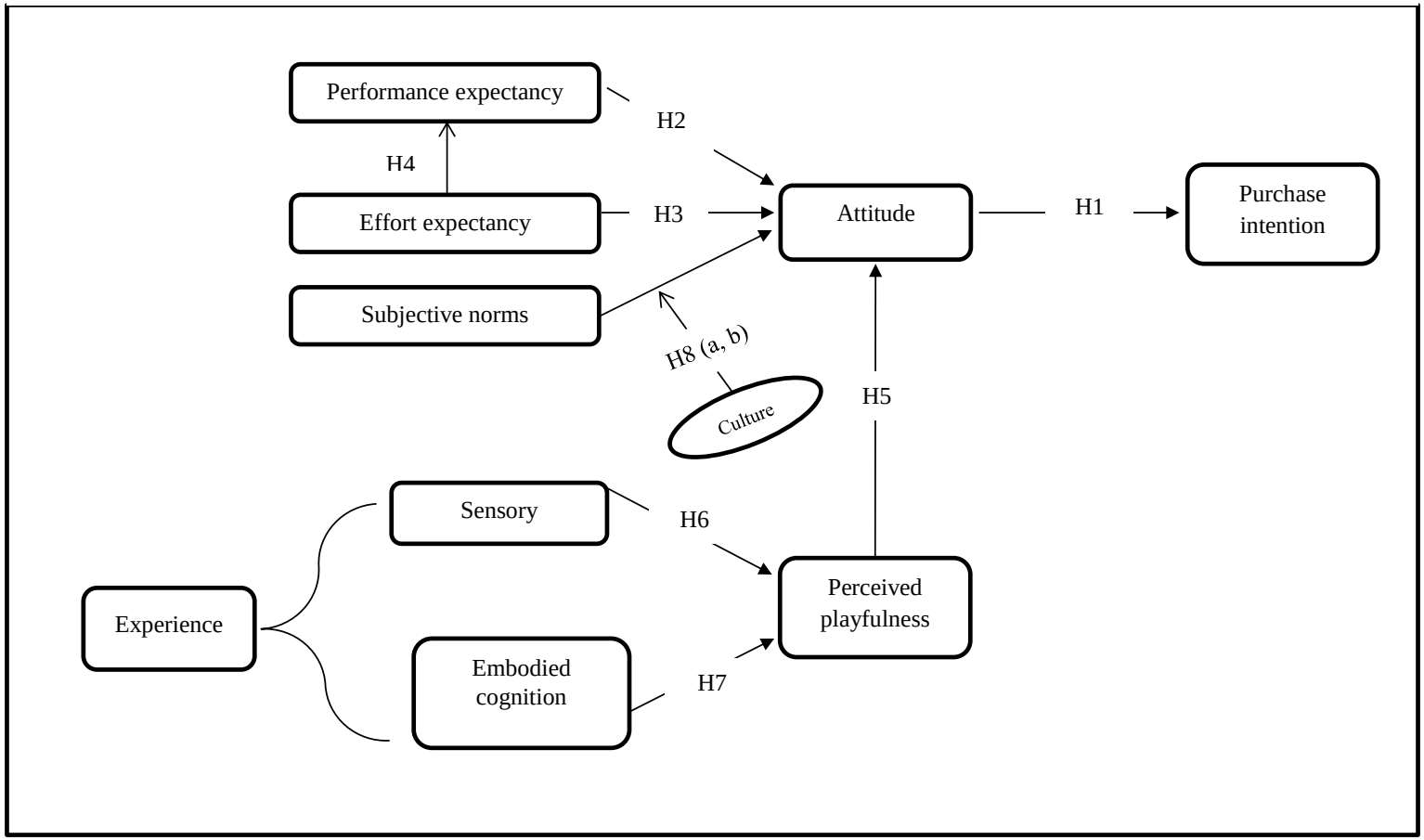
vividness and embodied cognition which are hypothesized to be antecedents of perceived playfulness.

The first set of hypotheses is related to the original constructs of UTAUT. However, they are linked to purchase intention through attitude. Therefore, the first set hypothesis is examining the link between attitude and purchase intention. The second and third hypotheses link performance expectancy and effort expectancy to attitude. Finally the fourth hypothesis links effort expectancy to performance expectancy.

The second set of hypotheses is related to the hedonic dimension. The fifth hypothesis is hypothesizing a link between the proposed hedonic construct perceived playfulness and attitude. As mentioned earlier, UX is broken down in to two constructs vividness and embodied cognition. vividness is linked to the perceived playfulness as an antecedent related to website qualities and embodied cognition is linked to perceived playfulness as an antecedent related to cognition and internal process happening in the mind of the user. Thus, the sixth hypothesis assumed a positive relationship between vividness and perceived playfulness. Also, a positive relationship between embodied cognition and perceived playfulness was hypothesized in the seventh hypothesis.

Finally, social influence is one of UTAUT original constructs. This relationship is expected to be affected by cultural individualistic level. The present research proposes that in high individualistic culture, members of the society are not influenced by other society member opinions therefore; social influence on attitude is hypothesised to be insignificant. On the contrary, members of the low individualistic culture are influenced by others opinions therefore social influence is hypothesised to positively influence attitude in low individualistic culture. Figure (3-1) represents the proposed model.

Figure 3-1: The Proposed Model



3.2.1 Attitude-Intention Relationship Based On UTAUT and Shopping Motives

The UTAUT, which is the most recent form of TAM, was developed to explain users' technology acceptance (Venkatesh et al., 2003; Bouwman, 2011). In the original study of Venkatesh et al. (2003) the results suggested that performance expectancy, effort expectancy and social influence have direct effects on intention. Their results also showed that person's attitude did not significantly affect intention. However, Being developed in the involuntary task oriented work context suggests that applying UTAUT in a different context like the voluntary task and hedonic oriented online shopping context may result in different relationships between the constructs (Alvesson and Kärreman, 2007; Venkatesh et al., 2012). The present study is introducing an attitudinal model; where attitude is reintroduced to the UTAUT and the significance of the relationship between attitude and intention is re-evaluated.

In the present study, attitudes effect on purchase intention is hypothesised to be positive and significant. This hypothesis is attributed to the relevance of attitudinal beliefs in consumer behavioural contexts. UTAUT was originally developed to explain technology adoption in the work place which is, as mentioned earlier, an involuntary task oriented environment. This difference in contexts suggests a possibility of different attitude- intention relationship than the one suggested by UTAUT. Attitude was defined as "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question." (Ajzen, 1991, p.188). In the involuntary work place environment individual does not have the freedom to choose whether to use the system or not therefore person's negative or positive attitude towards the technology is not expected to affect his intention to use the system. On the other hand, a positive relationship was found between attitude and behavioural intention in a voluntary context (Davis et al., 1989). Pavlou and Fygenson (2006), also, reported, a positive relationship between attitude and purchase intention in the

consumer context in relation to online shopping. Finally, in similar studies to the present study, which used a manipulated experiment that included using a mock-up website, it was found that asking participants to report their attitude towards the website provided more realistic answers than asking participants to report their intention to use the website (Hassanein and Head, 2007). Therefore, the researcher hypothesizes that:

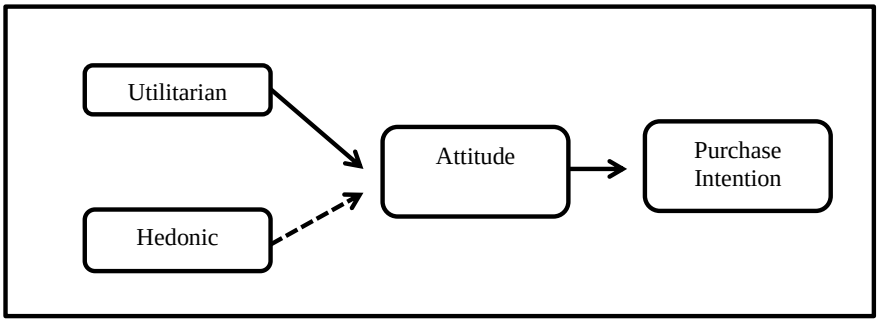
H1: There is a positive relationship between attitude towards the website and intention to purchase.

The literature on attitude distinguished between different types of attitudes related to online-shopping. Mainly two types of attitudes kept showing in the literature; attitude towards shopping online and attitude toward a specific online store. The latter — attitude toward a specific online store — stands for consumers' belief that shopping at a specific online store is appealing (Li and Zhang, 2002). The present study focuses on the second type of attitude; attitude towards a specific online store, specifically websites with a high interactivity level. Taking into consideration that interactivity in this study refers to the degree to which the website allows the participant to interact with the items.

The literature divides consumers based on their shopping motives into two categories; task (utilitarian) oriented and hedonic oriented consumers (Holbrook and Hirschman, 1982). However, technology acceptance models in general, and UTAUT specifically, gave website's utilitarian functions more weight in explaining consumers' acceptance of a specific website.

Bridge and Florsheim (2008) suggested that online shoppers' attitude toward a website contains both utilitarian and hedonic dimensions, and that both dimensions should be given at least an equal importance in shaping consumers' attitude towards retailers' website. Therefore, the researcher is proposing to incorporate a hedonic path in the model as follows (see figure 3-2).

Figure 3-2: The Utilitarian and Hedonic Dimensions of Attitude



Following the figure 3-2 the next part of this chapter is divided in to two subsections. The first subsection is hypothesising the relationships between performance expectancy, effort expectancy, and attitude; which represent the utilitarian path of the proposed attitudinal model. And the second subsection is hypothesizing the relationships between the hedonic construct perceived playfulness and its proposed antecedents vividness and embodied cognition.

3.2.2 The Utilitarian Path

3.2.2.1 Performance Expectancy, Effort Expectancy, and Attitude Relationship

Performance expectancy was defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al, 2003, p.447), and effort expectancy was defined as "the degree of ease associated with the use of the system" (Venkatesh et al, 2003, p.450) definitions of these two constructs suggest that they resembles different constructs from the aggregated models including PU and PEOU which are constructs of TAM. In different studies PU and PEOU were connected to attitude. The present study hypothesizes a positive relationship between performance expectancy and attitude, and a positive relationship between effort expectancy and attitude. The present study assumes that the more the website is perceived to perform the expected job efficiently, the more positive is users' perception of it. Also, if the users perceive the

website as effortless, the more he/she is accepting it and forming a positive attitude towards the website.

H2: There is a positive relationship between performance expectancy and attitude towards the website.

H3: There is a positive relationship between effort expectancy and attitude towards the website.

The literature on TAM, which is the backbone of UTAUT, reports a significant relationship between PU and PEOU. This relationship was empirically supported in different studies. For example, Moon and Kim (2001) reported a significant relationship PEOU and PU, Ramayah and Ignatius (2005), also, found that PEOU is an essential determinant of PU. Nevertheless, the relationship between performance expectancy and effort expectancy was not discussed in UTAUT. The present study suggests a need to examine the relationship between performance expectancy and effort expectancy in the context of online shopping. Therefore, the present study hypothesises that there is a relationship between performance expectancy and effort expectancy. The proposed relationship is attributed to the expectation that an effortless purchase through the internet is supposed to be perceived as useful and well performed (Ramayah and Ignatius, 2005).

H4: There is a positive relationship between effort expectancy and performance expectancy.

3.2.3 The Hedonic Path

3.2.3.1 Perceived Playfulness and Attitude

Moon and Kim (2001) defined perceived playfulness as “the strength of one's belief that interacting with the World Wide Web will fulfil the user's intrinsic motives” (Moon and Kim, 2001, p.222). Perceived playfulness is an intrinsic motive and a hedonic construct derived from the theory of flow. The theory of flow states that the person is in a state of flow when he/she is performing an activity for the sake of enjoying the activity itself, which

will lead him/her to a level of satisfaction. As a result, the person will want to repeat the activity to live the experience again (Csikszentmihalyi, 1988; Choi et al., 2007).

In previous research playful experience was reported to generate attitudinal outcomes such as pleasure and satisfaction. For example, playfulness was found to highly correlate with the user's positive attitudes (Webster et al., 1990; Moon and Kim, 2001). The present research is also hypothesising a positive relationship between perceived playfulness and attitude; based on the assumption that when the user perceives the website as playful and emotionally satisfying, the user will develop a positive feeling towards using the website.

H5: There is a positive relationship between perceived playfulness and attitudes towards the website.

3.2.3.2 **Elements of User Experience**

UX was defined as "the classic definition of beauty, hedonic, affective or experiential aspects of technology use" (Hassenzahl and Tractinsky, 2006, p.91). Brakus et al. (2009) proposed that experience consists of "sensations, feelings, cognitions, and behavioural responses evoked by stimuli that are part of a product design and identity, packaging, communications, and environments" (Brakus et al, 2009, p: 52).

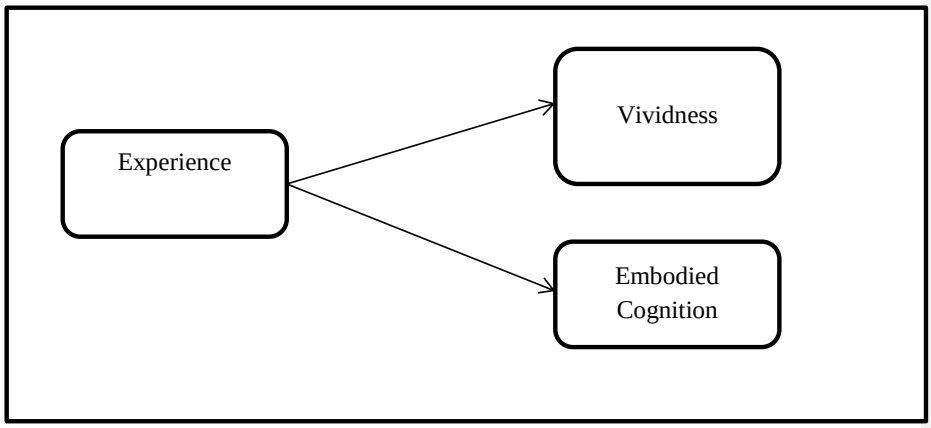
The engaging nature of UX suggests that more than one sense is involved in the process of navigating a website, and will result in stimulating cognition and increase experience traceability in memory (Brakus et al., 2009). Therefore, a compiling website experience is essential to create a profound UX.

The present research suggests that UX in the context of online shopping, which is a computer mediated VR context, mainly consists of two factors. First factor is the cognitive aspect of experience which describes the relationship between the embodied knowledge – the knowledge generated by vision, touch, kinaesthetic posture and movement, and other

sensorimotor mechanisms – and pre-existing knowledge saved in users' memory (Rosa and Malter, 2003). This factor will be referred to as the embodied cognition.

The second factor is the vividness of the mediated environment and the way it represents information to the senses (O'Reilly, 2005). UX with a website is created within a computer simulated environment (i.e., in VR) (Riva, 2008). VR was given a role in reproducing the real world with its entire embodiment stimuli, which results in generating a feeling of being part of the computer mediated environment (Riva, 2008). The generated feeling of being part of the VR creates a state of telepresence — a psychological phenomenon and a state of experience where individuals' real surrounding and the technology mediated environment merge into one reality (Lombard and Ditton, 1997). Therefore it is expected that a vivid image of the mediated environment will result in a better experience the more vivid the better is the quality of the experience.

Figure 3-3: User Experience Elements



3.2.3.3 **Vividness, Embodied Cognition and Perceived Playfulness Relationship**

Identification of perceived playfulness antecedent is vital in order to understand what factors determine this construct. Chung and Tan (2003) divided perceived playfulness's

antecedents into two categories: 1) antecedents relating to website characteristics, and 2) cognitive antecedents.

The previous section has introduced two elements of experience. First, Vividness, which describes the vividness of the mediated environment and the way it represents information to the senses (O'Reilly, 2005). The description of vividness links this element to the antecedents related to website characteristics. Second, embodied cognition, which describes the relationship between an embodied knowledge generated by vision, touch, kinaesthetic posture and movement, and other sensorimotor mechanisms and pre-existing knowledge saved in users' memory (Rosa and Malter, 2003) , The description of embodied cognition is describing an internal and cognitive process and links embodied cognition to the cognitive antecedent . Therefore, mental vividness and embodied cognition fit the criteria of perceived playfulness antecedents.

H6: There is a positive relationship between embodied cognition and perceived playfulness

H7: There is a positive relationship between mental vividness and perceived playfulness.

3.2.4 Social Influence and Attitude Relationship

Social influence was defined as "the degree to which an individual perceives the importance of others beliefs of whether he or she should use the new system" (Venkatesh et al, 2003, p.450). Originally UTAUT tested the relationship between social influence and intention; and found a positive relationship between these two constructs (Venkatesh et al., 2003). However, the present research assumes that the nature of the online environment, which was described as private, comfortable, and facilitates information access (Çelik, 2011) allows a space for user to form an attitude using the messages he receives from the community. Therefore, a relationship between social influence and attitude is expected to exist.

Different studies suggested that cultural rules are likely to influence the adoption of using the internet to shop online (e.g., Park and Jun, 2003; Brashear et al., 2009; Tong, 2010). Therefore, the present study is expecting that the relationship between social influence and attitude would differ according to cultures perceived level of individuality. Participants from the highly individualistic culture are expected to care less for the opinion of others in forming attitude and rather rely on individual opinion; on the other hand, participants from the low individualistic culture are expected to care more for others opinions when forming an opinion. Therefore the present study suggests that significance of the link between social influence and attitude in the proposed model will not be the same in western country and non-western countries were social influence strength varies depending on the level of a culture's individuality. In another words culture is expected to increase (or decrease) the impact of the effect of social influence on attitude towards a website

H8: Culture will moderate the effect of social influence on attitude towards a website

3.3 Chapter Summary

The literature review chapter highlighted two drawbacks of UTAUT which might hinder its application in consumer context. The first drawback is related to the original design of UTAUT. Initially, UTAUT was designed to test technology acceptance within the work place environment. Unlike the voluntary online purchase environment, which is the interest in this thesis, work place environment is considered an involuntary environment. The online shopping voluntary environment is expected to challenge some findings of UTAUT (Venkatesh, 2003); for example, the insignificant role of attitude in influencing purchases intention. While UTAUT reported an insignificant effect of attitude on intention to adopt a new technology in the involuntary work environment, attitude was found to have a significant influence on intention to in the voluntary consumer behavioural context which online shopping belongs to (Hassanein and Head, 2007). Therefore, some discrepancies in

the relationship between attitude and intention are expected to show when the model is considered within the voluntary environment of the online shopping context.

The second drawback is that UTAUT is dominated by utilitarian aspects such as performance expectancy. The literature on online consumer behaviour which used to view online shoppers as task oriented customers is changing. The notion to shift from the existing utilitarian oriented paradigm to a more hedonic oriented paradigm was supported by the advent of new technology which offers a dynamic environment and allows a high level of interactivity (Novak et al., 1996). Having these features, new technology enriched the virtual environment with elements that allowed the presence of a state of telepresence, a state in which the person feels that he/she is a part of the computer mediated environment (Steuer, 1992). Being in a state of telepresence is linked to the theory of flow, where persons report that when they are in a state of telepresence they do not feel the time and are not aware of their physical surrounding, but rather feel as if they are part of the virtual environment. The development in the virtual environment made it vital to consider a more hedonic model of UTAUT when applying it to the online shopping context. Based on the previous assumption of the need to incorporate a hedonic dimension to UTAUT, the researcher proposed an attitudinal model that incorporated both utilitarian and hedonic dimensions to explain online consumer purchase intention.

The proposed model incorporated perceived playfulness as a hedonic construct and investigated its relationship with attitude. Also, two antecedents of perceived playfulness — vividness and embodied cognition– were proposed. In addition the original utilitarian constructs of UTAUT — performance expectancy and effort expectancy — relationship with attitude were hypothesised to be positive. Finally, social influence relationship with attitude was discussed in light of the differences between the western and non-western cultures. Table (3-1) summarizes the eight hypotheses of the present study.

Table 3-1: Summary of Proposed Hypotheses

	Hypotheses
H1	There is a positive relationship between attitude towards the website and intention to purchase.
H2	There is a positive relationship between performance expectancy and attitude towards the website.
H3	There is a positive relationship between effort expectancy and attitude towards the website.
H4	There is a positive relationship between effort expectancy and performance expectancy.
H5	There is a positive relationship between perceived playfulness and attitude towards the website.
H6	There is a positive relationship between embodied cognition and perceived playfulness.
H7	There is a positive relationship between sensory aspects (vividness) and perceived playfulness.
H8	H8a: There is a positive relationship between social influence and a person's attitude towards using a specific website in a low individualistic context. H8b: There is no relationship between social influence and a person's attitude towards using a specific website in a high individualistic context.

4 Methodology

4.1 Chapter Overview

This chapter introduces the implemented research methods to achieve the study's goals, and explains the rational for choosing these methods. The chapter starts with an insight into the philosophical justification behind choosing the research methods applied in this study. Then it explains the research design and sampling procedure. An experiment and a questionnaire were applied in this study as the means of collecting data. A section explaining and describing both experiment design and questionnaire design follows the research design and sampling procedure section. The final section of this chapter will explain the statistical methods applied to analyse the gathered data.

4.2 Research Methods Philosophical Justification

Consumer behaviour research has seen a long debate about the philosophical paradigm that "represents common assumptions among researchers about the nature of reality, utilizing common methodologies and dealing with the same problems" (Thomson et al., 1989, p. 133). In spite of this debate, it is clear that logical positivism is still in the lead as the most dominant methodological philosophy in the consumer behaviour discipline (Anderson, 1983; Deshpande, 1983; Hunt, 1991).

The logical positivistic view of reality is driven by empiricism. Logical positivism adopts the view that the physical world is unchangeable, and that there are social worlds that exist independently from the individual's perception of this world (Hudson and Ozzan, 1988). Logical positivism views these independent social worlds as objective realities that are fragmented into parts, which when put together create whole realities. Logical positivism anticipates that the ability to break the system into parts and to study each part separately is what makes it possible to measure and observe the social world (Bagozi, 1980). "Thus, it is possible to claim that best understanding of this reality is a result of controlled laboratory

based experiments where uncertain variables can be controlled and different variables can be introduced to individuals and their solo effect can be measured" (Calder et al., 1981 in Qasem, 2011, p.6).

On the epistemological level, which is the part interested in the study of knowledge and justified belief (DeRose, 2005); logical positivism's aim is creating general rules. Therefore logical positivism was linked to the notion of causality, in which it is assumed that for event B to happen event A is likely to happen first (Hudson and Ozzan, 1988).

The present research is predominantly based on UTUAT, TAM, the theory of flow and cognitive science. These models and theories are borrowed and adapted from behavioural psychology, which has a well-established philosophical background of logical positivism (Wilk, 2001; Murray et al., 2002; Piercy, 2002; Erasmus et al., 2001; Davis and Fitchet 2005). UTAUT, TAM, the theory of flow and cognitive science are all concerned with studying causal effects of certain variables on consumer decision making. Based on the anticipated relationship between the present research's main theories and behavioural science, the researcher will adopt logical positivist point of view in this research. Hence, an experimental quantitative research methodology will be used in the present research.

4.3 Research Design

Churchill (1999) defined research design as "the framework or plan for a study, used as a guide in collecting and analysing data" (Churchill, 1999, p.99). The literature on consumer behaviour research suggests three types of research designs for researchers to adopt: exploratory research, descriptive research, and causal research.

Exploratory research is a method used to clarify the understanding of a problem and to seek a new insights by applying one of three main techniques;1) conducting focus group interviews, 2) interviewing 'experts' in the subject, and 3) the literature review (Robson 2002). Furthermore, exploratory research plays a major role in defining a problem that has

not been clearly defined in prior work, and leads to determining potential gaps in the literature. Conducting exploratory research will lead to a better understanding of the research topic and can break large and vague problem statements into smaller, more precise statements which can then take the form of hypotheses (Bush et al., 2003; Churchill and Iacobucci, 2005).

Descriptive research is a theory-led research. Robson (2002) has stated that the "object of descriptive research is 'to portray an accurate profile of persons, events or situations' (Robson, 2002, p.59). It is very important to have a clear and thorough understanding of the phenomenon under investigation before collecting the data in order to meet the objectives of descriptive research (Saunders et al., 2009).

Causal research is a research mainly concerned with finding casual effect relationships (Churchill and Iacobucci, 2005). The focus of causal research is directed at studying a problem and aiming at explaining the relationships between variables (Saunders et al., 2009). The main strength of this type of research is its ability to test cause-effect claims. Such claims refer to the ability of the research to study the causal relationship between two events (A and B), giving an indication of changes needed to happen to event A to cause changes to event B. The extant literature states that the most recognized method of studying causal relationships is the controlled experiment method (Bush et al., 2003; Churchill and Iacobucci, 2005).

Lehman (1995) defined experiments as "a systematic investigation of the relationship between two or more variables" (Lehman, 1995, p. 19). This type of investigation, which takes a form of an action or a series of actions, is usually conducted to answer a question, which might be a very simple question or a very complicated question, in the form of a hypothesis (Cunningham and Wallraven, 2011). Lehman's (1995) definition of experiments indicates two main aspects. The first is that an "experiment is defined by three things; an

independent variable which is a manipulated environmental stimulus dimension, a dependent variable which is a behavioural dimension that reflects the influence of the independent, and finally the control of an extraneous variable which is an organism-variable representing some dimension (e.g., sex, race) of more or less stable characteristics of the organism" (Lehman, 1995, p. 20). The second aspect of an experiment is the presence of manipulation; which is a purposeful change made in a system by a researcher.

Taking into consideration the presence of different research types, the present research can be categorised as a causal research conducted in the form of an experiment. The present study aims to test causal relationships between UX and perceived playfulness in the one hand, and perceived playfulness and purchase intention on the other. The decision to choose a causal research design was also supported by the philosophical justification of this research which suggested that causal research is the most suitable type of research for studies where theories with a psychology background is utilised in consumer behaviour study. To meet the requirements of causal research, an experiment was designed with different levels of interactivity as a manipulation, and was tested on two different groups where one of them was marked as a control group and the second group was marked as the experiment group. In addition, a self-reporting questionnaire survey was developed to capture the experiment's effect on participants' development of embodied cognition. Both experiment and questionnaire developments were developed based on the literature review and aimed at fulfilling the main objectives of the present study.

4.4 Data Collection Methods

Data resources may be divided into two types; secondary data and primary data. According to Kumar et al. (2001), secondary data is "data that has been collected for some purpose other than the problem at hand" (David et al, 2001, p.85). Kumar et al. (2003) also defined

primary data as “data originated by the researcher specifically to address the research problem” (David et al., 2003, p85).

4.4.1 Secondary Data Collection Strategy

In the present study different resources were reviewed to collect secondary data, these resources included previous studies that addressed a similar topic in academic journals, specialized books and the internet which provided a very rich source of easily accessed data through online catalogues and digital journals, (Saunders et al., 2009). In addition to the previous resources the researcher used Hofstede’s cultural dimensions index to report the cultural differences between the two countries which are under investigation in this study and the published studies by the Jordan Bureau of Statistics and the British Bureau of Statistics to defined different technological similarities and differences between Jordan and UK. The main purpose for collecting secondary data was to extend knowledge and enhance the understanding of different aspects associated with different models and theories of technology adoption. Importantly, technology acceptance work is dispersed across two different disciplines, consumer behaviour and human computer interaction. As such, a holistic understanding of both the topic and the circumstances surrounding the field of consumer online shopping and technology acceptance, helped in identifying the gap in the mentioned field. Explicating the gap between utilitarian driven technology acceptance theories and models and hedonic driven consumer online shopping behaviour work, led to the creation of the proposed model.

In order to collect secondary data, literature on online consumer behaviour and human computer interaction was reviewed. Here, the focus was on online shopping, the evolution of UTAUT and its main variables, perceived playfulness, and UX. (See Table 4-1 for a sample of the reviewed literature).

Table 4-1: A Sample of the Reviewed Literature

Source	Research Method	Topic
Venkatesh, V. Morris, M. Davis, G. Davis, F. 2003. User acceptance of information technology: toward a unified view. MIS Quartirly.**27** (3). Pp: 425-478.	Quantitative research	UTAUT
Venkatesh, V. Thong,Y. Xu, X.2012. Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. MIS quarterly **36** (1).Pp: 157-178.	Quantitative research	UTAUT
Davis, F. D. Bagozzi, R. P. Warshaw, P. R. (1989). User Acceptance of Computer Technology: A Comparison of Two Theoretical Models, Management Science. **35**. Pp 982–1003.	Experiment quantitative research	TAM
Davis, F.D. Bagozzi. P. Warshaw.R. 1992. Extrinsic and Intrinsic Motivation to Use Computers In the Workplace. *Journal of Applied Social Psychology*. **22**. Pp: 1111-1132.	Quantitative research	TAM
Adams, D.Nelson, R. Todd.P. 1992 Perceived usefulness, ease of use and usage of information technology: a replication. *MIS quarterly*. **16**(2).Pp.227.	Quantitative research	TAM
Viswanath Venkatesh, V. 2000.Determinants of Perceived Ease of Use: Integrating Control, Intrinsic Motivation, and Emotion into the Technology Acceptance Model. *Information system research*. **11**(4).Pp. 342–365.	Longitudinal quantitative research	TAM
Venkatesh, V. Davis, F. D. 2000. A Theoretical Extension of The Technology Acceptance model: Four Longitudinal Field Studies. *Management Science*. **46**(2). pp 186–204.	Longitudinal quantitative research	TAM
Moon, J. Kim,Y. 2001. Extending the TAM for a World-Wide-Web Context. *Information and Management*. **38**. Pp217-230.	Quantitative research	TAM
Koufaris, M. 2002 Applying the Technology Acceptance Model and Flow theory to Online Consumer Behaviour. *Information Systems Research* **13** (2).Pp: 205-223.	Experiment quantitative research	TAM
Lee, Y. Kozar, K.A. and Larsen, K.R.T. (2003). The Technology Acceptance Model: Past, Present, and the Future. Communications of Association for Information Systems. **12** (50). Pp: 752-780.	Literature review	TAM

Legris, P. Ingham,J. Collerette, P.2003. Why Do People Use Information Technology? A Critical Review of The Technology Acceptance Model. *Information and Management.* **40**. Pp: 191–204.	Quantitative meta-analysis of previous research on the TAM	TAM
Venkatesh, V. Morris, M. Davis, G. 2003. User Acceptance of Information Technology: Toward A Unified View. *MIS Quarterly*. 27(3). Pp: 425-478.	Literature review/ Quantitative research	TAM
Heijden, V.2004. User Acceptance of Hedonic information systems1 By: *MIS Quarterly*. **28** (4). Pp: 695-704.	Quantitative research	TAM
Schepers, J. Wetzels, M. 2007. A Meta-Analysis of The Technology Acceptance Model: Investigating Subjective Norm and Moderation Effects. *Information and Management*. **44**. Pp: 90–103.	Quantitative meta-analysis of previous research on the TAM	TAM
Ha, S.Stoel, L.2008.Consumer E-Shopping Acceptance: Antecedents in a Technology Acceptance Model. *Journal of Business Research.***62**(5).Pp: 565-571.	Quantitative research	TAM
Wua,J. Wang C. Tsai,H. 2010. Falling in Love With Online Games: The Uses and Gratifications Perspective *Computers in Human Behaviour*. **26**(6). Pp: 1862-1871.	Quantitative research	TAM
Agarwal,R. Karahanna,E.2000. Time Flies When You're Having Fun: Cognitive Absorption and Beliefs about Information Technology Usage. *MIS Quarterly*. **24**(4). Pp: 665-694.	Quantitative research	TAM/the theory of flow
Hoffman, D. Novak T. 1996. Marketing in Hypermedia Computer Mediated Environments: Conceptual Foundations. *Journal of Marketing*. **60**. Pp: 50–68.	Conceptual paper	The theory of flow /online environment
Novak, T. Hoffman, D and Yung, Y. 2000. Measuring the Customer Experience in Online Environments: A Structural Modeling Approach. *Marketing Science*. 19 (1).Pp: 22–42.	Quantitative research	The theory of flow /online environment
Hung, M. 2003.Designing Website Attributes to Induce Experiential Encounters. *Computers in Human Behaviour*. **19**. Pp: 425–442	Quantitative research	The theory of flow / Hedonic and utilitarian motives
Finneran, C.M. Zhang. P. 2003. A Person-Artefact-Task (PAT) Model of Flow Antecedents in Computer-Mediated Environments. *International Journal of Human-Computer*	Critical literature review	The theory of flow /online environment

Studies **4** (59). Pp: 475-496.		
Mathwick, C. Rigdon, E. 2004. Play, Flow, and the Online Search Experience. *Journal of Consumer Research*. **31**(2). Pp: 324-332.	Quantitative research	The theory of flow /online environment
Pace, S.2004. A grounded Theory of The Flow Experiences of Web Users *Int. J. Human-Computer Studies.* 60. Pp: 327–363.	Conceptual paper	The theory of flow /online environment
Smith, D. Sivakumar, K. 2004. Flow and Internet shopping behavior A conceptual model and research propositions. *Journal of Business Research.* **57**. Pp:1199– 1208.	Conceptual paper	The theory of flow /online environment
Choi, D. Kim, J. Kim, S. 2007. ERP Training With a Web-Based Electronic Learning System: The Flow Theory Perspective. Int. J. Human-Computer Studies. **65**. Pp: 223–243.	Quantitative research	The theory of flow
Arnold, M. Reynolds, K. Ponder. Lueg, J. Customer. 2005 Delight in a Retail Context: Investigating Delightful and Terrible Shopping Experiences. *Journal of Business Research.* **58**. Pp: 1132– 1145.	Quantitative research	Experience
Bloemer, J.M.M. Kasper H.D.P. 1995.The complex relationship between consumer satisfaction and brand loyalty. *Journal of Economic Psychology.* **16**. Pp 311-329.	Quantitative research	Experience
Brakus, J.Schmitt,B. Zarantonello,L. 2009.Brand Experience: What Is It? How Is It Measured? Does It Affect Loyalty? *Journal of Marketing*. **73**. Pp: 52–68.	Mixed methods	Experience
Dick, S. Basu, K. 1994. Customer loyalty: toward an integrated conceptual framework. *Journal of the academy of marketing science*. **22**(2). Pp:99-113.	Quantitative research	Experience
Hoch, J.S 2002.Product Experience Is Seductive. *Journal of consumer research*. **29**(December). Pp: 448-454.	Conceptual paper	Experience
Oliver, R. 1999. Whence Consumer Loyalty? *Journal of Marketing.* 63 (Special Issue 1999). Pp 33-44.	Quantitative research	Experience
Schlosser, Ann E. (2003), Experiencing products in a virtual world: the role of goals and imagery in influencing attitudes versus intentions. Journal of consumer research, **30** (3).Pp:184–98.	Experiment/ Quantitative research	Experience

Riva, G, ed. 1997.Virtual reality in neuro-psycho-physiology: *Cognitive, clinical and methodological issues in assessment and rehabilitation.* **44.** IOS press.	
Riva, G. 2007. Virtual reality and telepresence. Science. 318(5854).Pp: 1240-1242.	Virtual reality
Riva, G. 2008. From Virtual to Real Body: Virtual Reality as Embodied Technology. Journal of Cyber Therapy and Rehabilitation. **1**(1). Pp: 7-22.	Virtual reality

The second step after collecting secondary data was collecting the primary data. The secondary data suggested the existence of potential gaps in the literature. However, the main focus of this study is on understanding of the effect of perceived playfulness on shaping consumers purchase intention, and the effect of UX on creating perceived playfulness. Hence, collecting primary data was essential for this research (Malhotra and Birks, 2007).

4.5 Experiment Design and Development

This experiment was based on the concept of objective interactivity, and is designed to fulfil research goals. Objective interactivity stands for the ability to manipulate an object in the virtual world by causing a change in graphics (Schlosser, 2003). It is reported that object interactivity gives user a very similar feeling of experiencing the event in the physical world. The previous is attributed to persons' feeling that the barriers between persons' virtual and physical worlds are blurred. This leads to the creation of an experience similar to the theatrical experience (Schlosser, 2003). In the theatrical experience the audience real world and the world created by the theatre are merged, leading the persons to mentally feel as if the real world and the world created by the theatre are part of the world created by the theatre although they physically exist in the real world (Biocca, 1992; Schlosser, 2003). Another feature related to object interactivity is its ability to create a vivid mental imagery (Schlosser, 2003). Vivid imagery was defined by Richardson (1969) as all the "quasi-

sensory and quasi-perceptual experiences of which individual is self-consciously aware off, and which exist in the absence of those stimulus conditions that are known to produce their genuine sensory or perceptual counterparts, and which may be expected to have different consequences from their sensory or perceptual counterparts" (Richardson, 1969, p. 2–3).

Two mock-up websites were developed with two different levels of interactivity. The websites were not put on line but rather were shown to participants in a laboratory. The reason behind choosing not to put the website online was to control the elements that might interfere with the browsing process and thus affect subject answers; this includes speed of the internet, and quality of the device used during the process. The level of interactivity was defined by the level each website allows the participant to manipulate product image. These differences are summarised as follows:

a) Zero interactive website (ZIW): ZIW represents the classical catalogue like website. Participant was not allowed any interaction. The images were static and no information beside item price was exposed. Participants who viewed this basic website were considered the control group for this experiment.
b) High interactive website (HIW): while ZIW offered participants a very basic level of interactivity, HIW offered participants a noticeably higher degree of interactivity compared to ZIW. A higher interactivity level was reflected with browser ability to zoom in and out on the item image, to rotate the item, and to see it from different angles. In addition to that HIW offered the ability to view the item on different body types. This feature made it possible for participant to see how the item will look on their bodies before deciding on adding it to the cart.

In order to create the look and feel of the websites a professional designer and developer were hired. Their expertise was used in creating the look and feel of a regular and simple website. To control for website design effect on participants concentration on the main

mission, the designer has advised to use pastel colour with very simple and obscure pattern. The same design was applied to the websites to confirm that all participants are exposed to similar effect and that design itself had no effect on participants' decisions and later their answers.

The websites were built to sell male and female casual clothes, for example, every day tops and jeans. The items were chosen randomly from the average person wardrobe. To control for the effect of brand perception the website was given a very generic name "Fashion shop". And to control for price perception the items were tagged with prices of similar items from high street brands (See appendix A).

Participants in this study were asked to view and browse through a mock-up clothes selling website and to make a purchase from the available collection. A clear note was made that they will not need to spend any of their own money while taking this experiment. They were advised that their task is very similar to buying on a functioning websites. The website had two functioning sections: a section for men clothes and a section for women clothes. Participants were advised to freely browse either one of these two sections or both of them. They were allowed by the main screen to choose the sections they would like to start with and by the inside screen to move between the sections using the bar at the top of the page. They were encouraged to take as much time as they need to browse the website. Finally they have been informed that once they have finalised the experiment and see the word "done" they were ready to start answering the questionnaire which they were provided with.

4.6 Questionnaire Development

Questionnaires are a method widely used to collect information related to peoples' attitudes, beliefs and preferences (Brace, 2008). In this study a questionnaire was developed to measure the difference between two groups, whom were exposed to websites with different

levels of interactivity. To attain precise information from respondents, both the questionnaire's layout and content were carefully dealt with (Leung, 2001).

4.6.1 Questionnaire Layout

"Questionnaire layout represents the method in which the questionnaire is presented or structured" (Machika, no date, p.7). An attractive, easy to understand and easy to complete questionnaire layout plays a crucial role in helping participants to understand the questionnaire content, which will lead to reliable results. To achieve this goal, several procedures were followed in structuring the questionnaire's layout. For example, simple and clear vocabulary was used to articulate the questions, which were also kept short. The questionnaire was paper based, and printed on a white paper with no colors or images to avoid distracting the participants (Machika, no date). Additionally, items measuring the same construct were grouped together, to ensure smoothness of the answering process.

Questionnaires, in general, contain open format questions, closed format questions or both these formats. The open format questions "are questions where the range of possible answers is not suggested in the question and which respondents are expected to answer in their own words" (Brace, 2008, p.55). On the other hand, closed format questions describe "questions with clear and specific predetermined set of answers" (Brace, 2008, p.55). Likert scale questions are the most recognized and used forms of closed format questions (Brace, 2008). Likert scales present "a set of items, composed of approximately an equal number of favourable and unfavourable statements concerning the attitude object, is given to a group of subjects and typically, they are instructed to select one of five or seven responses" (Gliem and Gliem, 2003, p.82).

The present study's questionnaire consists of closed type of questions mainly. Seven point Likert scale questions are utilised to measure the variables that create the model, and pre-coded questions are used to collect information related to experience with using the internet

in general, experience with using the internet for shopping purposes, and demographic information like age and gender. Hence, the questionnaire was divided into ten sections. Eight sections are measuring variables related to the proposed model and two sections collecting sample demographic, gender identity and information about participants experience with the internet and online shipping. (See appendix B).

4.6.2 Scale Development

The proposed model consists of three main parts. The first part includes the original constructs of UTAUT: performance expectancy, effort expectancy, and social influence.

Due to the nature of this study, which is measuring performance expectancy, effort expectancy, and social influence in a voluntary environment and not related to work the environment, the researcher is adopting scales that resemble the context of this study and not adopting the original scales from Venkatesh et al. (2003)

The second part includes the hedonic dimension constructs vividness, embodied cognition, and perceived playfulness. The third part includes attitude and purchase intention. As mentioned in the previous section, each construct was measured using scales adapted from the literature, and items of each scale were clustered together. Next is a summary of each scale.

4.6.2.1 **Performance Expectancy**

Taken into consideration that performance expectancy (PE) resembles difference constructs of the aggregated model including PU; the performance expectancy scale was adapted from Page and Uncles (2000). The scale included six items based on a seven point Likert scale. In many studies this construct was measured using scales adopted from Davis et al. (1989) (eg., Lederer et al., 2000; Venkatesh and Davis, 2000). However, due to the nature of this study, which is measuring performance expectancy in a voluntary environment and not related to work the environment, Page and Uncles (2000) scale is more appropriate as it

resembles the context of this study. As a result, a four item seven point Likert scale was adapted from Page and Uncles (2000) to measure this construct. (See Table 4-2).

Table 4-2: Performance Expectancy Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Performance expectancy	I was able to decide quickly whether I would buy a particular item or not I think that using this website to purchase clothes would save me time I think that this website is useful for purchasing clothes I think that using this website to purchase clothes is efficient	7-point Likert scale	0.924	Page and Uncles(2000)

4.6.2.2 **Effort Expectancy**

Taken into consideration that effort expectancy (EE) resembles difference constructs of the aggregated model including PEOU; the performance expectancy scale was adapted from Koufaris (2002) because it resembles the context of this study. A five item seven point Likert scale was adapted to measure this construct. (See Table 4-3).

Table 4-3: Effort Expectancy Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Effort expectancy	Learning to use this website was easy for me Interaction with this website was clear and understandable to me It would be easy for me to become skilful at using this website It is difficult to learn how to use this website It takes too long a time to learn	7-point Likert scale	0.927	Koufaris (2002)

	how to use this website

4.6.2.3 **Social Influence**

Due to the obvious cultural differences between the two countries under study it was very important to measure this construct using a reliable scale. The literature suggests that in many studies involving technology acceptance the scale adopted from Taylor and Todd (1995) is widely used to measure this subjective norms (e.g.,Venkatesh and Davis, 2000). Taken into consideration that social influence resembles difference constructs of the aggregated model, the scale from Taylor and Todd (1995) was adapted in this study to measure social influence (SI) which . The scale included six questions and was based on a seven point Likert scale (see Table 4-4).

Table 4-4: Social Influence Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Social influence	Most people who are important to me approve of my shopping online Most people like me shop online Most people who are important to me encourage me to shop online Most people who are important to me think that I should avoid shopping online Most people who are important to me prefer if I shop online Most people who are important to me support my shopping online	7-point Likert scale	.94	Taylor and Todd (1995)

4.6.2.4 **Attitude**

To measure attitude (AT) a four item based on a seven point Likert scale was adopted from Suh and Han (2003). The scale they have adopted was specifically used to measure customers' attitude towards websites performing e-commerce; therefore, it was a very suitable scale for this study (see Table 4-5).

Table 4-5: Attitude Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Attitude	The thought of buying a product from this website is appealing to me I like the idea of buying clothes on this website Using this website to buy clothes at this on-line store would be a good ide I would have positive feelings towards buying a product from this website	7-point Likert scale	.95	Suh and Han (2003)

4.6.2.5 **Purchase Intention**

Pavalou (2003) has used a scale to measure online purchase intention (PI) in particular. Specifying the type of purchase intention suggests that this scale is the most appropriate scale to be used in this study. Pavalou's (2003) scale was adapted to this study and a three item scale based on a seven point Likert scale was used to measure online purchase intention. (See Table 4-6).

Table 4-6: Purchase Intention Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Purchase intention	Given the chance, I intend to use this retailer's website Given the chance, I predict I should use this retailer's website in the future Given the chance, it is likely that I would transact with this retailer's website in the near future	7-point Likert scale	.87	Pavlou (2003)

4.6.2.6 **Vividness**

The literature suggested that a sensory factor represented by vividness of the mediated environment and the way it represents information to the senses is a main component of UX

(Steuer, 1992; O'Reilly, 2005). In the present study vividness (V) was measured using a four item scale adapted from Dean and Morris's (2003) and Argyriou (2012). (See Table 4-7).

Table 4-7: vividness Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
vividness	I found images of products on this website vivid I have a concrete picture of items on this website in my mind I have a clear image of the items on this website in my mind It is easy for me to evoke a picture of the item in my mind right now	7-point Likert scale	.93	Argyriou 2012 And Dean and Morris's (2003)

4.6.2.7 **Embodied Cognition**

Embodied cognition (EC) describes the relationship between pre-existing knowledge saved in users' memory and embodied knowledge, "specifically composed of basic or primitive elements generated by vision, touch, kinaesthetic posture, movement and other sensorimotor mechanisms, and which combines with pre-existing knowledge in consumer thinking" (Rosa and Malter, 2003, p. 64). The present study adapts Brakus et al. (2009) behavioural experience scales which included a three items scale including the following "I engage in physical actions and behaviours when I use this brand" "This brand results in bodily Experience and "This brand is not action oriented".

These items were adapted to measure factors related to the experiment. Five items were introduced to simulate Brakus et al. (2009) scale of measuring behavioural experience and explaining these items in more details (See Table 4-8). To verify these items a reliability test and factor analysis were conducted. As a result the following items were represented as an adaptation from Brakus et al. (2009) to measure embodied cognition.

Table 4-8: Embodied Cognition Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Embodied cognition	I was able to closely examine the items I was able to examine the items from multiple viewpoints I was able to move and manipulate the items on the website I found the virtual presentation of the items compelling My interaction with the items on this website seemed consistent with the real world experience	7-point Likert scale	.76	Brakus et al. (2009)

4.6.2.8 **Perceived Playfulness**

Deciding on the scale used to measure perceived playfulness (PP) was very important for the present study. This is due to the complex nature of this concept. A fourteen question seven point Likert scale based on Moon and Kim (2001) and Heijden (2004) was adapted to measure perceived playfulness, because their definition of the concept of perceived playfulness was very similar to the way perceived playfulness is defined in this study. (See Table 4-9).

Table 4-9: Perceived Playfulness Scale

Construct	Measurement	Measurement Scale	Reported Reliability	Sources
Perceived playfulness	I found my visit to this website enjoyable I found my visit to this website exciting I found my visit to this website fun I found my visit to this website pleasant I found my visit to this website	7-point Likert scale	.96	Moon and Kim (2001) Heijden (2004)

	interesting	
	While browsing this website, I was not thinking about time v	
	While browsing this website, I was not aware of any background noise	
	Using this website makes shopping enjoyable	
	Using this website makes shopping fun	
	Using this website stimulates my curiosity about the other items available on the web site	
	Using this website leads to exploring options for fun	
	Using this website stimulates my imaginative thinking (ie. the ability to mentally imagine yourself wearing a specific item)	
	When interacting with this website, I did not keep thinking of the time	
	I found my experience on this website to be engaging	

4.6.2.9 **Gender Identity**

The Bem Sex Role Inventory (BSRI), which is a widely used instrument in measuring gender identity, was implemented in this questionnaire to measure gender identity (Holt and Ellis, 1998). "The BSRI enables researchers to obtain a measure of psychological androgyny, or high levels of both masculinity and femininity" (Holt and Ellis, 1998, p72). The BSRI contains three types of attributes; masculine, feminine and neutral. (See Table 4-10).

Table 4-10: BSRI Scale

Masculine attributes	Feminine attributes	Neutral attributes
self-reliant	Yielding	Helpful
defends own beliefs	Cheerful	Moody
independent	Shy	Conscientious
Athletic	Affectionate	Theatrical
Assertive	Flatterable	Happy
strong personality	Loyal	Unpredictable
Forceful	Feminine	Reliable
analytical	Sympathetic	Jealous
has leadership abilities	sensitive to the needs of others	Truthful
willing to take risks	Understanding	Secretive
makes decisions easily	Compassionate	Sincere
self-sufficient	eager to soothe hurt feelings	Conceited
Dominant	soft-spoken	Likable
masculine	Warm	Solemn
willing to take a stand	Tender	Friendly
aggressive	Gullible	Inefficient
acts as a leader	Childlike	Adaptable
individualistic	does not use harsh language	Unsystematic
competitive	loves children	Tactful

4.6.2.10 **Participant Profile**

Finally, the questionnaire has a group of questions aimed at gathering information related to participants' age, gender and experience in using the internet and their experience with

online-shopping in general. A pre-coded scale was adopted from Argyriou (2012) to measure experience with online-shopping in general

Table 4-11: Participants Profile

Construct	Measurement		Source
Experience with using the internet	I started using the internet to shop	Never less than one year ago Over 1 year and less than 3 years ago Over 3 years and less than 5 years ago Over 5 years and less than 7 years ago Over 7 years and less than 10 years ago Over 10 years and less than 12 years ago Over 12 years ago	Argyriou 2012
Experience with online shopping	How frequently do you shop online	Never Once a year Once a month Twice a month About once a week About 2-3 times a week About 4-6 times a week About once a day More than once a day	Argyriou 2012

4.7 Translation

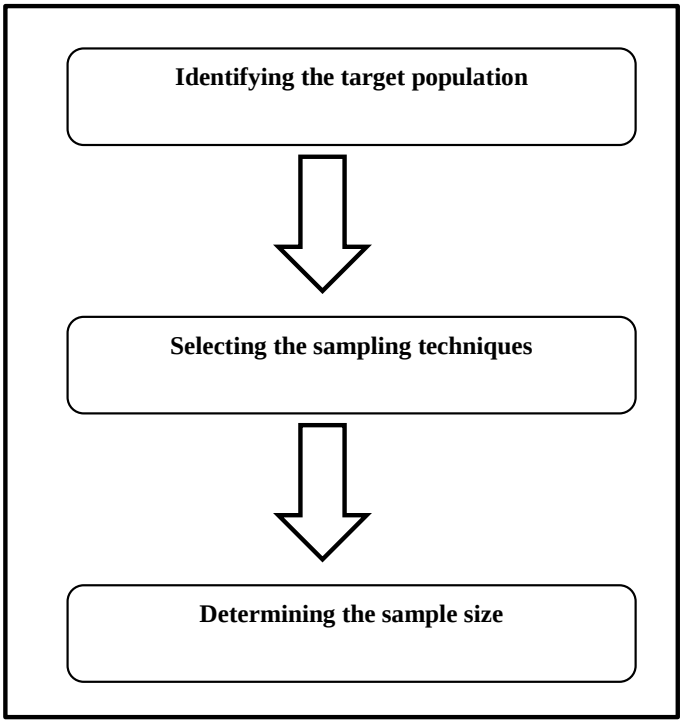
Translation has an important role in multilingual studies. Wrong translation will not only produce invalid data, but will prevent collecting comparable data too. Therefore, the

researcher devoted a lot of attention to the translation process. The English version of the questionnaire was translated to Arabic using a professional translation agency—AbuGhazaleh for translation. To verify the accuracy of the translated questionnaire; a translation and back translation procedure was followed (Chapman and Carter, 1979). In this procedure, the questionnaire was translated into Arabic by one translator at the agency; the resulting questionnaire was then translated back into English by a second language expert at the agency (Chapman and Carter, 1979). Items that showed apparent discrepancies were modified, and a second back translation was conducted (Chapman and Carter, 1979).

4.8 Sampling Strategy

Sampling stands for the process of selecting a representative portion of the population (Zikmund et al., 2010). Due to limitation in time and resources it is considered unreasonable to conduct the research on the entire population (Shukla, 2008). Sampling, however, provides different techniques to reduce the data researcher needs to collect. Nevertheless, sample representation of the target population is a major issue that researcher needs to address. To overcome the concern of sample representation researcher in the present study is applying a sampling design process adopted from Shukla (2008) and Zikmund et al. (2010) which is represented in (Figure 4-1).

Figure 4-1: Sampling Design Process



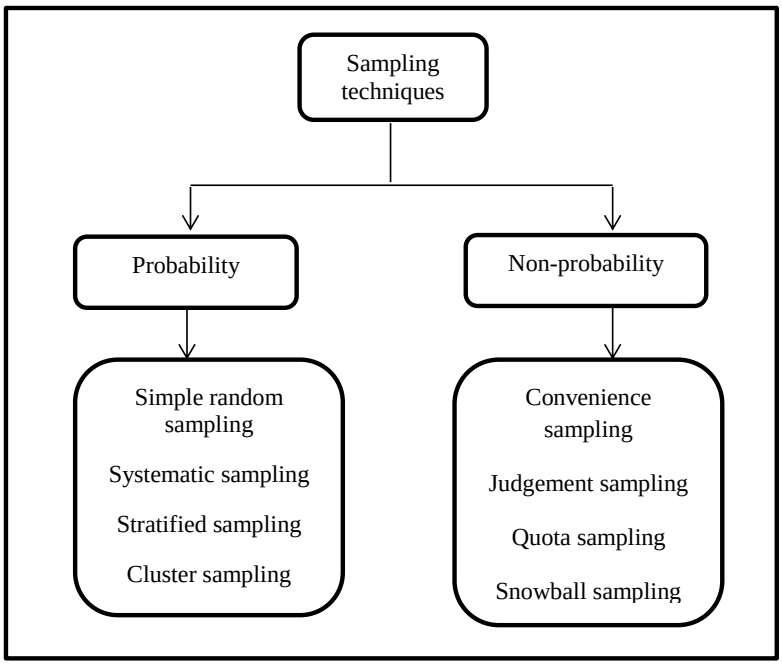
Undergraduate students were chosen as the target population to participate in the present study which is common in many marketing and consumer behaviour experimental studies (Ok et al., 2008). However, the decision to choose undergraduate students came after thorough investigation of the literature on consumer behaviour, which is still seeing a debate about the validity of using students in consumer behaviour experiments (Ok et al., 2008). The basis of this debate is related to the adequacy of generalization of results generated by samples based on university students, and whether university students are representative of the general population (Burnett and Dunne, 1986). University students were reported as a highly unified group (Ok et al., 2008), "therefore, they are expected to show less variation within a scale and more consistency across scales when compared to non-student groups" (Peterson, 2001, p. 454). As a result less extraneous variation is associated with university student compared to non-students groups (Peterson, 2001; Ok et al., 2008). Firstly, it is reported that in behavioural studies students have shown similar information-processing behaviour and decisions to non-students (Burnett and Dunne, 1986). The decision to choose university students in the present study is further supported by reports which states that they are actual users of the internet and customers who perform online purchasing (Department of Statistics-Jordan, 2012; Internet Advertising Bureau UK, 2013). Additionally, with two countries being investigated, it was important to maintain a high level of uniformity in aspects like age, education, and expected years of experience with using the internet (Hennigs et al., 2012). Therefore, university students are considered a very compatible sample for the present study.

Selecting the most appropriate sampling technique is crucial to obtain a representative sample (Saunders et al., 2009). There are two types of sampling techniques the probability and the non-probability. Both of these sampling techniques can be divided into sub-techniques (see figure 4-2) choosing the suitable sampling technique, the probability or non-

probability, depends on several aspects including the nature of research, inconsistency in population, statistical consideration, and available financial resources (Shukla, 2008). The present research recruited participants using a non-probability convenience sampling technique. However, random sampling technique, "in which every unit in the population has an equal and known chance" (Zikmund et al., 2010, p.69) was applied in recruiting participants the control- group and the experiment- group.

Different factors determine the minimum required sample size for a study, for example, data analysis method, number of the variables, and the nature of the research (Saunders et al., 2003). The present study is using structural equation modelling technique (SEM) to analyse the data, which requires a special attention to the sample size (Byrne, 2013). Following the recommendation of Hoelter (1983) and Kenny (2014) the adequate sample size for this study was determined by at least 200 participants.

Figure 4-2: Sampling Techniques



4.9 Data Collection Procedure

4.9.1 The HKJ Data Collection

The study was first conducted in the HKJ. The marketing division at the University of Jordan provided the researcher with access to the University of Jordan and allowed communication with university students. No ethical approval was required by the University of Jordan to conduct the research; however, the researcher was guaranteed ethical approval from Leeds University to conduct this research in Jordan. Students from the University of Jordan-Amman were approached to participate in this experiment during the period August 2012 until October 2012. All students who have participated were Jordanian students. The experiment was advertised throughout the campus using different communication forms including emails, approaching students on campus and social media, for example, students' Facebook groups. Participants were offered no incentives to participate. In order to collect the data a room was booked at the University of Jordan business school and five laptops were put for participants who would like to take the experiment. The data was collected over a period of two months. A total of 258 questionnaires were included in the present study which represent the Jordanian sample.

4.9.2 The UK Data Collection

Next, the study was conducted in the UK. The British data was collected in two stages. The first stage was in the period between November 2012 and April 2013. In this stage the researcher tried to duplicate the Jordanian data collection process and to advertise for the study on campus, via social media and approaching students in common areas around the campus. During this period very few students replied to the advertisement or applied to participate. Two reasons were thought to cause low response rates. The first reason was related to the period which the experiment was conducted in: which was during exam revision around the Christmas break. The second reason is the lack of incentives offered.

Offering small incentives is a common practice in social science research, in the UK, and may be viewed a requirement for participation (Dillman et al., 2008). Prepaid incentives were found to have higher effect on the respondents' rate than promised incentives (Couper, 2008). Taking the previously mentioned reasons believed to affect the response rate, the researcher recollected the data in the beginning of the new academic year (i.e., a teaching semester) where more students were available on the campus and offered participants an incentive of a Starbucks coffee voucher to compensate for their time (Brakus et al., 2009; Dillmam et al., 2008). To avoid any bias the participants from the first stage were ruled out. And only participants who received vouchers were included in this study. A total of 222 questionnaires were included in the present study which represent British sample.

4.10 Data Analysis Methods

Data analysis is "the process of evaluating data using analytical and logical reasoning to examine each component of the data provided" (Bhatta, 2013, p.61). There are two types of data generated in this study: data which deals with participants' demographic information and data which reflects participants' perceptions regarding different variables that compose the model. Each type of the gathered data needs to be reviewed and analyzed based on its nature.

4.10.1 Data Description

The first step in the present study's data analysis is to provide a description and summary of the collected data's main features (Mann, 1995). This summary is based on analysing descriptive data using measures of central tendency like mean, median and mode, and measures of dispersion including; standard deviation, the minimum and maximum values of the variables, kurtosis and skewness (Healey, 2009). This analysis will be performed using SPSS pack (19) which is a Windows based analytical program.

4.10.2 Scales Validation and Manipulation Check

The researcher will use the software SPSS to perform an exploratory factor analysis (EFA) to determine underlying factors (Field, 2012). The researcher will use the same software to perform a one-way ANOVA test of manipulation success.

4.10.3 Hypothesis Testing

The present study has proposed eight hypotheses derived from two main theories; the UTAUT and the theory of flow. To test the proposed hypotheses and to determine the causal relationships between different observed and unobserved variables the researcher is applying the structural equation modelling (SEM) (Wa and Wu, 2007). The use of SEM is supported by its definition as "a statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory (hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon" (Byrne, 2013, Chapter1, Section 1, para. 1). SEM permits both confirmatory and exploratory modelling. Therefore, the technique is appropriate to test and developing a theory. Also the causal assumptions can be tested against the data using the SEM technique (Bollen et al, 1993).

There are two classes of variables in SEM, known as the latent variable and the observed variables. Latent variables, also referred to as factors, are hypothetical explanatory variables that cannot be observed directly (Kline, 2011). The latent variables cannot be measured directly, but they are inferred by responses to a number of indicators. Observed variables are those indicators used as an indirect measure of the latent variables (Wa and Wu, 2007; Kline, 2011). The present study included eight latent variables, these are: performance expectancy, effort expectancy, social influence, perceived playfulness, vividness, embodied cognition, attitude, and purchase intention. Each latent variable consisted of different number of observed variables. Both latent and observed variables were developed from the literature of technology acceptance and the literature of human computer interaction.

SEM includes the assessment of two models: a measurement model and a structural model (Wa and Wu, 2007). The measurement model in SEM is that part which relates observed variables to latent variables. Confirmatory factor analysis (CFA) is the statistical technique used to assess the competence of observed variables as measurements for the latent variables they are supposed to measure (Wa and Wu, 2007). CFA factor structures are empirically verified. Hence, running an EFA was a must before running the CFA. The second model included in SEM is the structural model. The structural model is the part that relates the hypothesised model latent variables to each other (Byrne, 2013). Accordingly, it suggests the way in which specific latent variables are directly or indirectly affected by or cause changes to other latent variables in the model (Byrne, 2013).

There are different versions of SEM software used in the field of consumer behaviour research (e.g., AMOS, Lisrel and EQS). To analyse the data of this study the researcher used EQS (6.2). EQS has the ability to conduct a full range of SEMs, CFA, structural analysis, and many other statistical analysis tools. Combining this ability with its graphical face within the Windows interface environment, which for example, allows creating a structural and path diagrams using "Diagrammer" feature among other features, makes this software a very strong, yet simple and user friendly program (Bentler, 2000; Byrne, 2013).

4.11 Research Biases

Occurrence of common method variance (CMV) is a potential issue in consumer behaviour research. CMV is a measurement error (i.e., "attributed to the measurement method rather than to the constructs the measures represent" (Podsakoff et al., 2003, p. 879). Different sources are reported to cause CMV, for example, poorly designed questionnaires, response styles, processing errors, and respondent bias. The occurrence of CMV is a reason to doubt the validity of conclusions about relationships between measures. Therefore it is very important to apply different techniques to eliminate CMV effect. To avoid CMV the

researcher followed several procedures. Firstly, question formulation was carefully administrated to eliminate ambiguity and vagueness by amending any unfamiliar or leading terms. Secondly, to ensure the smoothness of the answering process, all items relating to the same variable were grouped together. Moreover, items within the same variable were carefully mixed to test participant's focus, such as through the addition of negatively worded questions (Chang et al., 2010). Thirdly, scales were adapted from different and well established studies. Fourthly, a random sample technique was followed to collect the data, and the experiment followed a between-group design. Between-subjects method was applied in this study to avoid boredom and demand effects, which refers to a phenomena in which participants interpret the purpose of the experiment and change their behaviour unconsciously (Rosenthal and Rosnow , 2009). Therefore, participants were only allowed to participate in one level of this experiment. Finally, different tests were applied to insure internal consistency and validity of measurement scales including the Cronbach's alpha reliability test, EFA, composite reliability test (CR), and average variance extracted (AVE) test.

4.12 Chapter Summary

This chapter illustrated the applied research methods. The first section of this chapter explained the rational and the philosophical justification of this study. Following from this, secondary and primary data strategies were reported. The secondary data collection strategy was explicated, which included reviewing previous studies from different fields. The primary data collection strategy included experiment and questionnaire design, was provided. Further to that, the chapter illustrated the different measurement scales applied to measure different constructs. This study is a cross cultural study, between HKJ and UK. The cultural differences, like individualism level and power distance, and technological similarities that led to choosing these two countries were summarized. Finally, sampling

methods and techniques used to avoid CMV were summarized. The next chapter will present the process of validating the measurement scales using different tests including eternal consistency tests, EFA and CFA.

5 Sample Description and Measurement Model Development and Assessment

5.1 Chapter Overview

This chapter represents the first stage of the present study's data analysis. This chapter begins with providing an insight into the samples' demographic data which includes elements of age, gender distribution, and the length of participants' experiences in shopping online. This is then followed by examining the success of the experiment manipulation using one-way ANOVA test (Schloesser, 2000). Next an EFA is performed.

As it was mentioned in the previous chapter, the present study uses SEM technique to test the proposed hypotheses. SEM consists of two parts: the measurement model and the structural model (Byrne, 2013). While the structural model will be discussed thoroughly in the sixth chapter, this chapter is dedicated to developing and assessing the measurement model. The process of developing the measurement model will include performing CFA (Norris and Lecavalier, 2010). Finally the measurement model is complemented by performing Cronbach's alpha test, CR test, and AVE test.

5.2 Summary of Sample Descriptions

5.2.1 Demographic Characteristics

This section provides the results generated from descriptive data analysis. The total number of the British participants was 222 students divided into two groups: the control group which viewed the ZIW and the experiment group which viewed the HIW. The control group consisted of 110 participates and the experiment group consisted of 112 participant. Thirty-seven percent of the total British sample was males and 62.6 percent were females. On the Jordanian side the total number of participants was 258 students. Similar to the British data the participants were divided into two groups: control group which viewed the ZIW and experiment group which viewed the HIW. The control group consisted of 141 participates

and the experiment group consisted of 117 participant. 44.6 %of the Jordanian sample was males and 55.4 % were females. (See Table 5-1 for a summary of participants' demographic characteristics).

Table 5-1: Participants Demographic Characteristics

	Demographic Information	Classification	Frequency	Valid Percent (%)
UK	**Gender**			
		Male	83	37.4
		Female	139	62.6
		Total	222	100
	Age			
		17-19	117	52.7
		20-22	94	42.3
		23-25	11	5
		26-28	0	0
		Total	222	100
	Demographic Information	**Classification**	**Frequency**	**Valid Percent (%)**
HKJ	**Gender**			
		Male	115	44.6
		Female	143	55.4
		Total	258	100
	Age			
		17-19	79	30.6
		20-22	165	64
		23-25	12	4.7
		26-28	2	.8

	Total	258	100

5.2.2 Experience in Using the Internet to Shop Online

This section presents the results data related to participants' experience with using the internet and shopping online. Table 5-2 and table 5-3 reports the frequencies of two questions used to measure participants' experience with shopping online and the frequency of shopping online.

Result shows that the majority of the British sample (39.2%) has three to five years of experience with shopping online and (47.7%) of participants shop online at least once a month. On the other hand the majority of the Jordanian sample (40.7%) has less than one year experience with shopping online and (35.3%) of participants shop online at least once a month. The results suggest that participants from both samples have knowledge and experience with shopping online. However, participants of the Jordanian sample are not as experienced as the participants of the British sample.

Table 5-2: British Participants' Experience with Using the Internet to Shop Online

Q1.I started using the internet to shop?		**Frequency (N=222)**	**Valid Percent (%)**	**Cumulative Percent (%)**
UK	Never	5	2.3	2.3
	less than one year ago	13	5.9	8.1
	Over 1 year and less than 3 years ago	48	21.6	29.7
	Over 3 years and less than 5 years ago	87	39.2	68.9

	Over 5 years and less than 7 years ago	44	19.8	88.7
	Over 7 years and less than 10 years ago	17	7.7	96.4
	Over 10 years and less than 12 years ago	6	2.7	99.1
	Over 12 years ago	2	.9	100.0
How frequently do you shop online?		**Frequency (N=222)**	**Valid Percent (%)**	**Cumulative Percent (%)**
UK	Never	5	2.3	2.3
	Once a year	18	8.1	10.4
	Once a month	106	47.7	58.1
	Twice a month	58	26.1	84.2
	About once a week	24	10.8	95.0
	About 2-3 times a week	8	3.6	98.6
	About 4-6 times a week	3	1.4	100.0
	About once a day	0	0	
	More than once a day	0	0	

Table 5-3: Jordanian Participants' Experience with Using the Internet to Shopping Online

I started using the internet to shop?		Frequency (N=222)	Valid Percent (%)	Cumulative Percent (%)
HKJ	Never	58	22.5	22.5
	less than one year ago	105	40.7	63.2
	Over 1 year and less than 3 years ago	55	21.3	84.5
	Over 3 years and less than 5 years ago	24	9.3	93.8
	Over 5 years and less than 7 years ago	7	2.7	96.5
	Over 7 years and less than 10 years ago	8	3.1	99.6
	Over 10 years and less than 12 years ago	1	.4	100.0
How frequently do you shop online?		**Frequency (N=258)**	**Valid Percent (%)**	**Cumulative Percent (%)**
HKJ	Never	108	41.9	41.9
	Once a year	91	35.3	77.1
	Once a month	41	15.9	93.0
	Twice a month	9	3.5	96.5

	About once a week	3	1.2	97.7
	About 2-3 times a week	3	1.2	98.8
	About 4-6 times a week	2	.8	99.6
	About once a day	1	.4	100.0
	More than once a day	0	0	

5.3 Manipulation Check

Success of manipulations is a vital element when conducting experimental research. Therefore it is essential to check manipulations success before going any further (Schloesser, 2000). The experiment designed for this study manipulated interactivity level. A one-way ANOVA test was performed to evaluate the manipulation success (Schloesser, 2000).

Starting with the British sample, the researcher tested variance homogeneity before performing one-way ANOVA test. Results from the Levene's test were insignificant at ($P > .05$) which proves variance homogeneity and approves the use of a one-way ANOVA test (Schloesser, 2000). The results from the one-way ANOVA ($F(1, 220) = 70.08$, $P \leq .00$) suggests that the manipulation was successful among the British participants, and indicates that subjects of the experiment group ($M = 4.09$) associated HIW with a higher level of embodied cognition, while the subjects of the control group ($M = 2.71$) associated ZIW with a lower level of embodied cognition. (See Appendix C for full results).

Following from this, the manipulation success from the Jordanian sample was tested. Results from Leven's test were insignificant at ($P > .05$) which proves variance homogeneity and approves the use of a one-way ANOVA test (Schloesser, 2000). The

results from the one-way ANOVA (F (1, 256) = 3.94, P ≤ .05) suggest that this manipulation was successful. The one-way ANOVA results indicates that subjects of the experiment group (M= 1.86) associated HIW with a higher level of embodied cognition, while the subjects of the control group (M= 1.96) associated ZIW with a lower level of embodied cognition. (See Appendix C for full results).

5.4 Exploratory Factor Analysis

EFA is a statistical method which attempts to discover the nature of the constructs influencing a set of responses (Hair et al., 2013). Moreover, EFA is performed to identify appropriate variables for subsequent application to other statistical techniques, for example, CFA (Judah, 2008; Hair et al., 2013). In the present research EFA is performed prior to conducting the CFA test; to define individual constructs that will comprise the measurement model and to decide on the scales used to measure them.

Before performing EFA the researcher checked for sample size adequacy to perform the best. The sample size from both countries (222 from the UK and 258 from the HKJ) suggests an adequate sample size based on Hair et al.'s (2013) suggestion that the suitable sample size to perform EFA is 100 or greater. The principle component analysis (PCA) technique was applied in this study to create the minimum number of factors. This technique was found to be suitable for this study because all scales used to measure the proposed model constructs were adapted from well-established pre-existing scales (Hair et al., 2013). Prior to factor extraction, the suitability of the respondent data for EFA was assessed using the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and Bartlett's test of sphericity (Williams et al., 2010). A factor loading of (.5) was chosen as a minimum value to attain an appropriate scale robustness level (Judah, 2008). To achieve a proper illustration of results, EFA was run in four subsets. The first subset included performance expectancy, effort expectancy and social influence. The second subset

included attitude and purchase intention. The third subset included embodied cognition and vividness. And finally, perceived playfulness was run as a separate subset because it is expected to have two factors.

First, EFA was performed on items measuring constructs performance expectancy, effort expectancy and social influence. The analysis was performed on nine items for the British sample and on ten items for the Jordanian sample. The results of the KMO measure of sampling adequacy for both the Jordanian and British sample were very close at KMO= .73 for the British sample and KMO= .77 for the Jordanian sample. Results of Bartlett's test of sphericity were significant ($p \leq .00$) for all factors on both samples. Taken together, these scales indicate that the respondent data for factor analysis was adequate (Neil, 2008; Field, 2012). All values at the communalities table were higher than (.3) for both samples, which shows that an acceptable amount of variance was explained. One item of performance expectancy was found problematic where it loaded at less than the acceptable loading of (.5). Thus, it was eliminated from both the British and the Jordanian samples (I was able to decide quickly whether I would buy a particular item or not). (Table 5-4 and table 5-5 provide a summary of PE, EE, and SI EFA results). (See appendix C for full results).

Table 5-4:Summary of PE, EE, and SI EFA Results

UK	Items	PE	EE	SI
	I think that using this website to purchase clothes would save me time.	.732		
	I think that this website is useful for purchasing clothes.	.892		
	I think that using this website to purchase clothes is efficient.	.775		
	Learning to use this website was easy for me.		.875	
	Interaction with this website was clear and understandable to me.		.901	
	It would be easy for me to become skilful at using this website.		.750	
	Most people who are important to me encourage me to shop online.			.675
	Most people who are important to me prefer if I shop			.845

	online.	
	Most people who are important to me support my shopping online.	.836
	KMO: .73 Bartlett's test: 742.204 (p≤ .00)	

Table 5-5: Summary of PP, PE, and SI EFA Results

HKJ	Items	PE	EE	SI
	I think that using this website to purchase clothes would save me time	.792		
	I think that this website is useful for purchasing clothes	.860		
	I think that using this website to purchase clothes is efficient	.807		
	Learning to use this website was easy for me		.847	
	Interaction with this website was clear and understandable to me		.844	
	It would be easy for me to become skilful at using this website		.719	
	Most people who are important to me approve of my shopping online			.801
	Most people like me to shop online			.859
	Most people who are important to me encourage me to shop online			.823
	Most people who are important to me prefer if I shop online			.714
	KMO: .77 Bartlett's test: 1003.99 (p ≤ .00)			

Second, the EFA was performed on items measuring the constructs: attitude and purchase intention. Starting with the results of the KMO measure of sampling adequacy, results for both the British and Jordanian samples were accepted at KMO = .91 for the British sample and KMO = .88 for the Jordanian sample. The results of Bartlett's test of sphericity were significant ($p \leq .00$) for all factors in both samples. These measures indicate that the respondent data for the factor analysis was adequate (Neil, 2008; Field, 2012). Furthermore, all values at the communalities table were higher than (.3) for both samples, showing that an acceptable amount of variance was explained. All items showed an acceptable loading of at

least (.5), therefore, all items from both the British and the Jordanian samples were accepted (Table 5-6 and table 5-7 provide a summary of attitude and PI EFA results). (See appendix C for full results).

Table 5-6: Summary of ATT and PI EFA Results

	Items	AT	PI
UK	The thought of buying a product from this website is appealing to me	.844	
	I like the idea of buying clothes on this website	.855	
	Using this website to buy clothes at this on-line store would be a good idea	.791	
	I would have positive feelings towards buying a product from this website	.851	
	Given the chance, I intend to use this retailer's website		.888
	Given the chance, I predict I should use this retailer's website in the future		.877
	Given the chance, it is likely that I would transact with this retailer's website in the near future		.827
	KMO: .91 Bartlett's test: 1941.569 ($p \leq .00$)		

Table 5-7: Summary of ATT and PI EFA Results

	Items	AT	PI
HKJ	The thought of buying a product from this website is appealing to me	.848	
	I like the idea of buying clothes on this website	.858	
	Using this website to buy clothes at this on-line store would be a good idea	.839	
	I would have positive feelings towards buying a product from this website	.833	
	Given the chance, I intend to use this retailer's website		.869
	Given the chance, I predict I should use this retailer's website in the future		.884
	Given the chance, it is likely that I would transact with this retailer's website in the near future		.851
	KMO: .88 Bartlett's test: 1448.968 ($p \leq .00$)		

Next, the EFA was performed on items measuring the constructs: embodied cognition and vividness. Starting with the results of the KMO measure of sampling adequacy, results for both the British and the Jordanian samples were accepted at KMO = .79 for the British sample and KMO = .84 for the Jordanian sample. Results of Bartlett's test of sphericity were significant ($p \leq .00$) for all factors in both samples. These measures indicate that the respondent data for the factor analysis was adequate (Neil, 2008; Field, 2012). Furthermore, all values at the communalities table were higher than (.3) for both samples showing that an acceptable amount of variance was explained. All items showed an acceptable loading of at least (.5), therefore, all items from both the Jordanian the British samples were accepted (Table 5-8 and table 5-9 provide a summary of EC and SP EFA results). (See appendix C for full results).

Table 5-8: Summary of EC and SP EFA results

	Item	S	EC
UK	I found images of products on this website vivid	.685	
	I have a concrete picture of items on this website in my mind	.912	
	I have a clear image of the items on this website in my mind	.928	
	It is easy for me to evoke a picture of the item in my mind right now	.871	
	I was able to closely examine the items he		.810
	I was able to examine the items from multiple viewpoints		.883
	I was able to move and manipulate the items on the website		.918
	I found the virtual presentation of the items compelling		.713
	KMO: .79 Bartlett's test: 1154.542 ($p \leq .00$)		

Table 5-9: Summary of EC and SP EFA Results

	Item	S	EC
HKJ	I found images of products on this website vivid	.697	
	I have a concrete picture of items on this website in my mind	.884	
	I have a clear image of the items on this website in my mind	.880	
	It is easy for me to evoke a picture of the item in my mind right now	.738	
	I was able to closely examine the items he		.824
	I was able to examine the items from multiple viewpoints		.857
	I was able to move and manipulate the items on the website		.781
	I found the virtual presentation of the items compelling		.637
	KMO: .84 Bartlett's test: 1028.563 ($p \leq .00$)		

Finally, EFA was performed on items measuring the construct perceived playfulness. Starting with the results of the KMO measure of sampling adequacy, results for both the British and Jordanian samples were accepted at KMO = .89 for the British sample and KMO = .92 for the Jordanian sample. Results of Bartlett's test of sphericity were significant at ($p \leq .00$) for all factors suggesting that the respondent data for factor analysis was adequate in both samples (Neil, 2008; Field, 2012). Furthermore, all values at the communalities table were higher than (.3) for both samples showing that an acceptable amount of variance was explained. All items showed an acceptable loading of at least (.5) for both samples; therefore, all items from both the Jordanian the British data were accepted. As the literature suggests the items loaded in two factors. The first factor is related to enjoyment and the second factor is related to not feeling the time (Table 5-10 and table 5-11 provide a summary of the construct PP EFA results). (See appendix C for full results).

Table 5-10: Summary of PP EFA Results

	Items	PP	
		Enjoyment	Time
UK	I found my visit to this website enjoyable	.789	
	I found my visit to this website exciting	.845	
	I found my visit to this website fun	.809	
	I found my visit to this website pleasant	.802	
	I found my visit to this website interesting	.743	
	Using this website makes shopping enjoyable	.776	
	Using this website makes shopping fun	.816	
	While browsing this website, I was not thinking about time		.831
	While browsing this website, I was not aware of any background noise		.707
	Using this website stimulates my curiosity about the other items available on the web site		.554
	When interacting with this website, I did not keep thinking of the time		.796
	KMO: .89 Bartlett's test: 1467.230 ($p \leq .00$)		

Table 5-11: Summary of PP EFA Results

	Item	PP	
		Enjoyment	Time
HKJ	I found my visit to this website enjoyable	.808	
	I found my visit to this website exciting	.847	
	I found my visit to this website fun	.829	
	I found my visit to this website pleasant	.839	
	I found my visit to this website interesting	.773	
	Using this website makes shopping enjoyable	.634	
	Using this website makes shopping fun	.655	
	Using this website stimulates my curiosity about the other items available on the web site	.518	
	While browsing this website, I was not thinking about time		.752
	While browsing this website, I was not aware of any background noise		.781
	When interacting with this website, I did not keep thinking of the time		.782
	KMO: .92 Bartlett's test: 1862.38 ($p \leq .00$)		

5.5 Structural Equation Modelling

SEM is a "statistical methodology that takes a confirmatory (i.e., hypothesis-testing) approach to the analysis of a structural theory bearing on some phenomenon" (Byren, 2013, p.3). The main goal of SEM is to explain the relationships among multiple variables using a series of multiple regression equations. Theory plays a fundamental role in SEM. It is the main definer of the model relationships and forms the base from which to hypothesize cause and affect relationships (Hair et al., 2013). The procedure of SEM conveys that the causal relationships between constructs under investigation are represented by multiple regressions, allowing a simultaneous analysis of the entire system of variables which forms the hypothesized model and determines the hypothesised model consistency with the data (Lei and Wu, 2007; Byren, 2013).

A model is "a representation of a systematic set of relationships providing a consistent and comprehensive explanation of phenomena" (Hair et al., 2013, p.549). For a clearer conceptualization of the theory under study, SEM models are pictorially modelled in a path diagram (Lei and Wu, 2007; Byren, 2013). There are two types of variables involved in SEM: the latent variables and the observed variables. Latent variables, which are also known as factors, are hypothetical explanatory variables that cannot be observed directly (Kline, 2011). Observed variables, on the other hand, are those indicators used as an indirect measure of these latent variables (Wa and Wu, 2007; Kline, 2011).

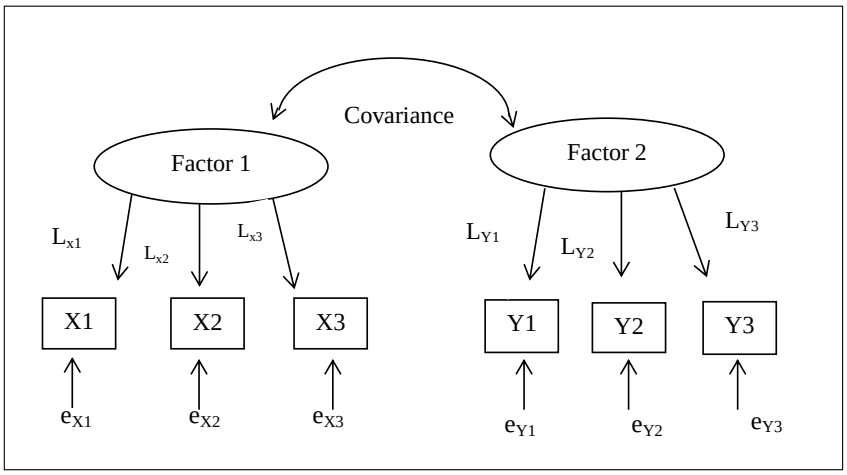
So far, older generations of multivariate procedures have been classified as either interdependence or dependence techniques. SEM, on the other hand, is considered a combination of both techniques. This assumption is attributed to the foundation of SEM which lies in two multivariate techniques: factor analysis and multiple regression analysis (Hair et al., 2013). Thus, SEM can be broken down into two sub-models: a measurement model and a structural model.

5.5.1 The Measurement Model

The measurement model is a specification of the measurement theory that shows how constructs are operationalized by sets of measured variables (Hair et al, 2013). It describes the relationships between the latent variables and the observed variables by providing the link between scores on a measuring instrument (the observed indicator variables) and the underlying constructs they are designed to measure (the unobserved latent variables) (Byren, 2013). The statistical method used to analyse these relationships between observed and latent variables is known as factor analysis.

Factor analysis "is an interdependence technique whose primary purpose is to define the underlying structure among the variables in the analysis" (Hair, 2013, p. 92). Factor analysis techniques generate sets of highly interrelated variables known as factors, which represent a dimension within the data (Hair, 2013). The factor analytic techniques are categorised in to two categories: EFA and CFA (Hair et al., 2013). While EFA attempts to discover the nature of the constructs influencing a set of responses, CFA tests whether a specified set of constructs is influencing responses in a predicted way. The Measurement theory requires that a construct first be defined, which indicates the use of a confirmatory approach to analysis. As CFA is used for exploring a pre-hypothesized relationship between observed variables and latent variables, it is the analytic tool chosen to develop and filter

Figure 5-1: A Complete Specification of a Measurement Model



the measurement model part of SEM (Jackson et al., 2009).The measurement model is usually represented using a visual diagram which shows the linkage between measured variables and their associated constructs. It also specifies the item loadings on specific constructs, the relationships among constructs, and the error terms for each indicator. Figure (5-2) gives a complete specification of a measurement model. Factor (1) and factor (2) are representatives of the latent variables. X1-X3 represents the measured indicators variable

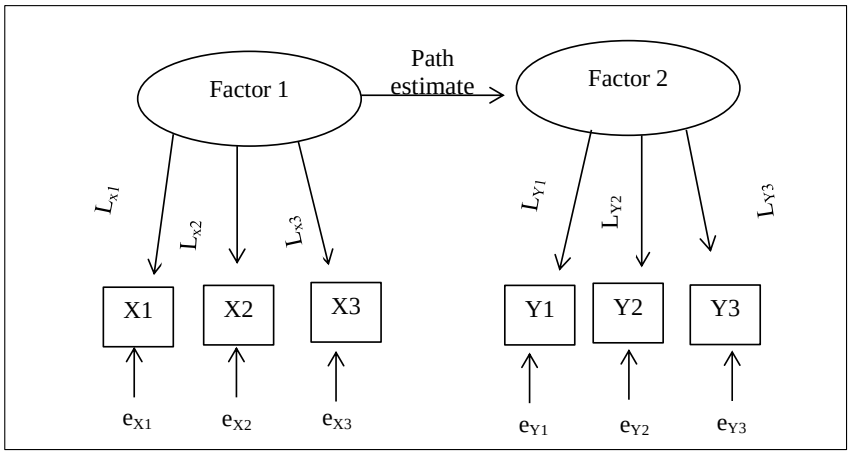
for factor (1) and Y1-Y3 represents the measured indicators variable for factor (2). L_{x1}- L_{x3} represents factor loadings, which describes the relationships between the factors and respective measured items. The associated errors with each measured item are represented by (e). And finally the correlation relationship is represented by the curved line (Hair et al, 2013).

5.5.2 The Structural Model

The structural model is a way to present the structural theory, which is a "conceptual representation of the relationships between the constructs" (Hair et al., 2013, p.64). The structural model represents the theory with a set of structural equations which represents the relationships between constructs rather than the relationship between latent constructs and measured variables.

The structural model, similar to the measurement model, can be represented visually by a diagram. The structural model diagram is a pictorial method to illustrate which constructs are related to each other and the nature of each relationship (Byren, 2013). Figure 5-2 is a visual representation of a simple structural mode. Factor (1) and factor (2) are representatives of the latent variables. And the path estimate is a representation of the relationship between the latent variables.

Figure 5-2: A Structural Modal



5.5.3 Model Fit

To determine the model fit SEM uses a series of measures that show how well the model does represents the data. This relationship is referred to as goodness-of-fit (Jackson, 2009; Byren, 2013).

To assess model's fit, measurement statistics should be evaluated. The literature on SEM does not provide a unified guideline on which fit–indices should be reported or their acceptable threshold (Kline, 2011; Barrett, 2007). However, there are common fit indices that are reported in different studies that use SEM. For example, Kline (2011) suggests that: chi-square (χ^2), Bentler and Bonett's Normed Fit Index (NFI), Incremental Fit Index (IFI), Comparative Fit Index (CFI), root mean square error of approximation (RMSEA), are the minimal set of fit indices to be reported when interpreting a model's fit.

The Chi-square (χ^2) is a null hypothesis significance test that mainly asses the level of inconsistency between the sample and fitted covariance matrices (Hooper et al., 2008). Chi-square (χ^2) is a reversed test which aims to impugn the existence of differences between model-implied population covariance and the actual observed sample covariance (Barett, 2007). Barrett (2007) suggested a threshold of (.05) is required to declare a good model fit; where the model is considered fit if the difference between the model's implied covariance and the observed sample covariance is less than the value expected, with a probability of occurrence > .05 (Barette, 2007).

Chi-square (χ^2) is considered one of the main fit statistics, however, test sensitivity of the Likelihood ratio test with its assumptions of multivariate normality and it's sensitivity to samples are considered major limitations (Byren, 2013). Sensitivity to sample size is specifically considered an issue, because the use of a smaller sample might lead to model rejection (Byren, 2013). To overcome the limitations chi-square sample size relative/normed chi-square (χ^2/df) was introduced as an alternative fit assessment indices.

The recommended threshold ratio varied between as high as 5 and as low as 1 (Barette, 2007). Going along with the recommendation of using a normed chi-square (χ^2/df), this indices is used in the present research with an acceptable indices value of ≤ 2 (Byren, 2013).

The relative fit indices are commonly reported to check for SEM model comparative improvement. The relative fit indices are "a group of indices that do not use the chi-square in its raw form but compare the chi-square value to a baseline model" (Hooper et al, 2007, p. 55). Bentler and Bonett's Normed Fit Index (NFI), Comparative Fit Index (CFI), and Incremental Fit Index (IFI) represent the most commonly reported relative indices. Bentler and Bonnet's (1980) Normed Fit Index (NFI) is a statistic that evaluates the model by comparing the χ^2 of the model and the null mode. Bentler and Bonnet (1980) recommended that the threshold to indicate that the model fit is acceptable value greater than (0.90). Due to NFI sensitivity to sample size, and its tendency to underestimate fit for samples of less than 200, it is recommended not to solely rely on this fit index to determine a model's fit (Bentler, 1990; Hooper et al., 2007). To overcome NFI's sample size sensitivity, Bentler (1990) introduced CFI, which measures the improvement in non-centrality in going from the model to the null mode (Schumacker and Lomax, 2010). Similarly to NFI, a threshold of CFI $\geq$ .90 is the criterion with which to consider the model fit (Hooper et al., 2007). IFI is also a derivative of NFI. It was developed to handle the issue of sample size sensitivity that was associated with NFI. In association with CFI a threshold of greater than (.90) is the minimum required to indicate a good fit model (Byren, 2013).

Root mean square error of approximation (RMSEA) is considered one of the most informative criteria for model fit. RMSEA provides information on "how well would the model, with unknown but optimally chosen parameter values, fit the population covariance matrix if it were available?" (Browne and Cudeck, 1993, p. 137-8). Three main reasons

support the use of RMSEA: 1) its sensitivity to model misspecification, 2) the commonly used guidelines to interpret model fit seem to produce an adequate conclusions regarding model quality, and 3) the availability of confidence intervals around RMSEA values which provide crucial information about precisions of the estimate fit (MacCallum and Austin, 2000; Byren, 2013). The threshold of RMSEA value that indicates a good fit can go as high as (.08). However, it was reduced to (.07) which is becoming the generally agreed upon threshold within the literature (Hooper et al., 2007; Byren, 2013). Table 5-12 summarises the fit indices that are reported in this study and the threshold with which the results were based.

Table 5-12: Summary of Fit Indices and Their Threshold

Level of model fit	**Over all Model fit**				
Fit measures	χ^2/df	RMSEA	NFI	CFI	IFI
Acceptable scale for model good-fit	≤ 2	≤ .07	≥ .9	≥ .9	≥ .9

To test the fit of the SEM, the researcher in the present study is following a two-step approach. In this approach SEM is tested in two steps. In the first step the fit and measurement validity of the measurement model are tested. The second step of the two-step approach is to test the structural theory (Hair et al., 2013). To apply the two-step approach the researcher is adopting a four staged process (Hair et al., 2013):

- Developing the overall measurement model based on constructs suggested by the theory.
- Assessing the measurement model validity.
- Constructs validity.
- Assessing structural model validity and hypothesis testing.

This chapter is dedicated to report the process of developing and assessing the measurement model, which includes developing the overall measurement model, assessing the measurement model validity and finally test for constructs validity.

5.6 Measurement Model Development and Assessment

5.6.1 Confirmatory Factor Analysis

CFA was performed to test the extent to which the theoretical specifications of the factors represent reality (i.e., the actual data). The researcher is relying on the modification indices (MIs) to provide guidelines on accepting the model or applying modifications which includes relating the indicator to a different factor, deleting the indicator from the model, or using correlated measurement errors (Anderson and Gerbing, 1988)

To maintain adequate sample size-to-parameter ratios, the researcher divided the measures into two subsets of theoretically related variables (Morgan et al., 2004). The first subset includes performance expectancy, effort expectancy and social influence, attitude, and purchase intention. The second subset included embodied cognition, vividness, and perceived playfulness. To ensure reliable results the elliptical reweighted least squares estimation procedure in EQS (6.2) was applied to produce unbiased estimates for multivariate normal and non-normal data (Yuan et al., 2004).

5.6.1.1 **The First Subset**

First, CFA was run using the British sample. CFA was performed on the first subset of variables which included indicators measuring: performance expectancy, effort expectancy social influence, attitude, and purchase intention. Performance expectancy was measured using three items (PE2, PE3, and PE4). Effort expectancy was measured using three items (EE1, EE2, and EE3). Social influence were measured using three items (SI3, SI5, and SI6), attitude was measured using four items (ATT 1, ATT2, ATT3, and ATT4) and finally purchase intention was measured using three items (PI 1, PI2, and PI3). The indicators

factor loadings were found to be statistically significant < .5, which supports the validity of the constructs (Anderson and Gerbing, 1988). Based on the goodness-of-fit-indices, the results of the measurement model show an appropriate fit which indicates that the model fit the data well. (Table 5-13 summarises the British first subset measurement model fit indices and items standardized loadings).

Table 5-13: The British First Subset Measurement Model Fit Indices and Items Standardized Loadings

	Construct's Measurement Items	Standardized Loading
	Performance expectancy	
	I think that using this website to purchase clothes would save me time	.59
	I think that this website is useful for purchasing clothes	.89
	I think that using this website to purchase clothes is efficient	.74
	Effort expectancy	
	Learning to use this website was easy for me	.88
	Interaction with this website was clear and understandable to me	.87
	It would be easy for me to become skilful at using this website	.67
UK	**Social influence**	
	Most people who are important to me encourage me to shop online	.50
	Most people who are important to me prefer if I shop online	.74
	Most people who are important to me support my shopping online	.81
	Attitude	
	The thought of buying a product from this website is appealing to me	.92
	I like the idea of buying clothes on this website	.94
	Using this website to buy clothes at this on-line store would be a good idea	.89
	I would have positive feelings towards buying a product from this website	.89
	Purchase intention	

	Given the chance, I intend to use this retailer's website	.94
	Given the chance, I predict I should use this retailer's website in the future	.97
	Given the chance, it is likely that I would transact with this retailer's website in the near future	.94

		Achieved fit indices				
		(X2/df)	RMSEA	N FI	CFI	IFI
	Measurement model	1.36	.04	.96	.99	.99

Next, CFA was performed using the Jordanian sample. CFA was performed on the first subset of variables which included indicators measuring: performance expectancy, effort expectancy, social influence, attitude, and purchase intention. Performance expectancy was measured using three items (PE2, PE3, and PE4). Effort expectancy was measured using three items (EE1, EE2, and EE3). Social influence were measured using five items (SI1, SI2, SI3, SI5, and SI6). Attitude was measured using four items (ATT 1, ATT2, ATT3, and ATT4). And finally purchase intention was measured using three items (PI 1, PI2, and P3). The indicators factor loadings were found to be statistically significant, which supports the validity of the constructs (Anderson and Gerbing, 1988). Based on the goodness-of-fit-indices, the results of the measurement model show an appropriate fit which indicates that the model fit the data well. (Table 5-14 summarises the British first subset measurement model fit indices and items standardized loadings).

Table 5-14: The Jordanian First Subset Measurement Model Fit Indices and Items Standardized Loadings

	Construct's Measurement Items	**Standardized Loading**
HKJ	**Performance expectancy**	
	I think that using this website to purchase clothes would save me time	.77
	I think that this website is useful for purchasing clothes	.87
	I think that using this website to purchase clothes is efficient	.68

Effort expectancy	
Learning to use this website was easy for me	.80
Interaction with this website was clear and understandable to me	.83
It would be easy for me to become skilful at using this website	.57
Social influence	
Most people who are important to me approve of my shopping online	.71
Most people like me to shop online	.82
Most people who are important to me encourage me to shop online	.79
Most people who are important to me prefer if I shop online	.65
Most people who are important to me support my shopping online	.77
Attitude	
The thought of buying a product from this website is appealing to me	.88
I like the idea of buying clothes on this website	.90
Using this website to buy clothes at this on-line store would be a good idea	.82
I would have positive feelings towards buying a product from this website	.83
Purchase intention	
Given the chance, I intend to use this retailer's website	.88
Given the chance, I predict I should use this retailer's website in the future	.94
Given the chance, it is likely that I would transact with this retailer's website in the near future	.83

Achieved fit indices

	(X2/df)	RMSEA	NFI	CFI	IFI
Measurement model	1.49	.04	.96	.99	.96

The results of the CFA have shown that the construct social influence is measured in the Jordanian sample using two more items (SI1 and SI2). In the present study these two items will be dropped and the items measuring SI will be unified. The reason behind this decision is to be able to perform a multi-group analysis and define the moderation role of culture

5.6.1.2 **Second Subset**

First, CFA was run using the British sample. CFA was performed on the second subset of variables which included indicators measuring perceived playfulness, vividness, and embodied cognition. Perceived playfulness was measured using eleven items (PP1,PP2,PP3,PP4,PP5,PP6,PP7,PP8,PP9,PP10,and PP13). Items PP3, PP4, PP5, PP6, PP7, PP10, and PP13 were found problematic and eliminated due to their low loadings. Next, vividness was measured using four items (SP1, SP2, SP3, and SP4). Item SP1 was found problematic and was eliminated due to low loading. Embodied cognition was measured using five items (EC1, EC2, EC3, EC4, and EC5). Items EC4 and EC5 were found problematic and were eliminated due to their low loadings. The final items showed significant factor loadings < .5, which supports the validity of the constructs (Anderson and Gerbing, 1988). And the results of the final measurement model show an appropriate fit which indicates that the model fit the data well (Table 5-15 summarises the British second subset measurement model fit indices and items standardized loadings).

Table 5-15: The British second Subset Measurement Model Fit Indices and Items Standardized Loadings

	Construct's Measurement Items	Standardized Loading
UK	**Perceived playfulness**	
	I found my visit to this website enjoyable	.68
	I found my visit to this website exciting	.71
	Using this website makes shopping enjoyable	.91
	Using this website makes shopping fun	.94
	Vividness	
	I have a concrete picture of items on this website in my mind	.84
	I have a clear image of the items on this website in my mind	.99
	It is easy for me to evoke a picture of the item in my mind right now	.85
	Embodied cognition	
	I was able to closely examine the items	.71

	I was able to examine the items from multiple viewpoints			.87		
	I was able to move and manipulate the items on the website			.92		
		Achieved fit indices				
		(X2/df)	RMSEA	NFI	CFI	IFI
	Measurement model	1.77	.06	.96	.98	.98

Next, CFA was run using the Jordanian sample. CFA was performed on the second subset of variables which included indicators measuring perceived playfulness, vividness, and embodied cognition. Perceived playfulness was measured using eleven items (PP1, PP2, PP3, PP4, PP5, PP6, PP, PP8, PP9, PP10, and PP13). Items, PP6, PP7, PP8, PP9, PP10, and PP13 were found problematic and eliminated due to their low loadings. Next, vividness was measured using four items (V1, V2, V3, and V4). Item SP1 was found problematic and was eliminated due to low loading. Embodied cognition was measured using five items (EC1, EC2, EC3, EC4, and EC5). Items EC4 and EC5 were found problematic and were eliminated due to their low loadings. The final items showed significant factor loadings < .5, which supports the validity of the constructs (Anderson and Gerbing, 1988). And the results of the final measurement model show an appropriate fit which indicates that the model fit the data well. (Table 5-16 summarises the Jordanian second subset measurement model fit indices and items standardized loadings).

Table 5-16: The Jordanian Second Subset Measurement Model Fit Indices and Items Standardized Loadings

	Construct's Measurement Items	**Standardized Loading**
HKJ	**Perceived playfulness**	
	I found my visit to this website enjoyable	.83
	I found my visit to this website exciting	.84
	I found my visit to this website fun	.88
	I found my visit to this website pleasant	.87
	I found my visit to this website interesting	.80
	Vividness	
	I have a concrete picture of items on this website in my mind	.85
	I have a clear image of the items on this website in my mind	.90
	It is easy for me to evoke a picture of the item in	.73

	my mind right now					
	Embodied cognition					
	I was able to closely examine the items he				.79	
	I was able to examine the items from multiple viewpoints				.87	
	I was able to move and manipulate the items on the website				.68	
		Achieved fit indices				
		X2/df	RMSEA	NFI	CFI	IFI
	Measurement model	1.77	.06	.96	.98	.98

5.6.2 Constructs Validity Assessment

Construct validity "is the extent to which a set of measured items actually reflects the theoretical latent construct those items is designed to measure" (Hair et al., 2013, p.618). To assess construct validity criteria of both convergent validity and discriminant validity should be met.

While convergent validity assesses the degree to which measures (i.e., items of the scale) measuring an intended construct are correlated, where high correlation indicates that the scale is measuring its intended concept (Hair et al., 2013). The discriminant validity is the extent to which measures of different constructs are divergent (Hair et al., 2013). In order to establish convergent validity and discriminant validity there is a need for an appropriate AVE (Fornell and Cha, 1994; Zait and Bertea, 2011).

AVE is "a summary measure of convergence among a set of items representing a latent construct. It is the average percentage of variation explained (variance extracted) among the items of a construct" (Hair et al., 2013, p. 661). AVE was performed to measure the average percentage of variation explained (variance extracted) among the items of a construct (Hair et al., 2013).

Starting with the model using the British sample in all cases the AVE was greater than the squared correlation between that construct and any other construct in the model and greater than 0.5 which indicates a high internal consistency and guarantee of discriminant validity

(Fornell and Larcker 1981; Hair et al., 2013) (See Tables 5-17 and Table 5-18 for correlation and squared correlations). Additionally, CR values were reported to be higher than AVE, which represents an indication of measurement convergent validity (See Table 5-19 which reports AVE and CR Results). To further assess discriminant validity, a chi-square difference test was applied. A chi-square test was applied to a constrained model, where the correlation is fixed to 1.0, and also to an unconstrained model where the correlation is released. The results showed that the difference between both models is significant in all cases (Zait and Bertea, 2011).

Table 5-17: Correlations and Squared Correlations

		Correlations							
		PE	EE	SN	AT	PI	S	EC	PP
UK	PE	**1**	**.190***	**.036***	**.251***	**.227***	**0.080***	**.023***	**.309***
	EE	.437	**1**	**.101***	**.020***	**.042***	**.085***	**.023***	**.136***
	SI	.191	.104	**1**	**.289***	**.048***	**.012***	**.094***	**.069***
	ATT	.501	.174	.170	**1**	**.636***	**.133***	**.189***	**.470***
	PI	.476	.207	.219	.798	**1**	**.134***	**.126***	**.450***
	S	.297	.292	.114	.366	.367	**1**	**.043***	**.155***
	EC	.153	.152	.094	.435	.355	.208	**1**	**.093***
	PP	.556	.369	.264	.686	.671	.393	.336	1
	*Squared correlation								

Table 5-18: AVE and CR Results

	Item	**AVE**	**CR**
UK	PE	0.56	.79
	EE	.66	.85
	SI	.50	.73
	ATT	.83	.95
	PI	.90	.97
	S	.81	.93
	EC	.70	.87

	PP	.67	.89

Similar results were reported with the model using the Jordanian sample. In all cases the AVE was greater than the squared correlation between that construct and any other construct in the model (See Table 5-20 and Table 5-21 for correlation and squared correlations), and greater than (.5) which indicates a high internal consistency and guarantee of discriminant validity (Fornell and Larcker, 1981; Hair et al., 2013). Additionally, CR values were reported to be higher than AVE, which represents an indication of measurement convergent validity (See Table 5-22 which reports AVE and Composite Reliability Results). To further assess discriminant validity, a chi-square difference test was applied. A Chi square test was applied to a constrained model, where the correlation is fixed to (1.0), and also to an unconstrained model where the correlation is released. The results showed that the difference between both models is significant in all cases (Zait and Bertea, 2011).

Table 5-19: Correlations and Squared Correlations

		Correlations							
		PE	EE	SN	AT	PI	S	EC	PP
HKJ	PE	**1**	**.140***	**.077***	**.350***	**.289***	**.124***	**.050***	**.309***
	EE	.375	**1**	**.007***	**.107***	**.061***	**.041***	**.052***	**.089***
	SI	.278	.086	**1**	**.126***	**.136***	**.068***	**.055***	**.072***
	ATT	.592	.327	.355	**1**	**.405***	**.306***	**.190***	**.480***
	PI	.538	.247	.396	.637	**1**	**.283***	**.157***	**.385**
	S	.353	.204	.262	.554	.532	**1**	**.227***	**.297***
	EC	.225	.052	.235	.437	.397	.476	**1**	**.115***
	PP	.556	.299	.270	.693	.621**	.545	.339	**1**
	*Squared correlation								

Table 5-20: AVE and CR Results

HKJ	**Item**	**AVE**	**CR**

	PE	.60	.82
	EE	.55	.78
	SI	.56	.87
	ATT	.74	.92
	PI	.78	.92
	S	.67	.86
	EC	.62	.82
	PP	.71	.92

5.7 Descriptive Statistics

Descriptive statistics describes the data's main features and assess the properties of the distribution scores (Mann, 1995; Field, 2013). There are some common measures used to describe a data set. For example measures of central tendency like mean, median and mode, and measures of dispersion including standard deviation, the minimum and maximum values of the variables, kurtosis and skewness (Healey, 2009). The descriptive statistics, displayed in table 5-23 and table 5-24., provide minimum and maximum scores, the means, standard deviations and skewness and kurtosis for each of the eight independent variables and the dependent variable used in the present study.

Data skenwess and kurtosis were applied to assess data normality (Field, 2013). Skewness is a measure of the symmetry of a distribution and kurtosis is Measure of the peakedness or flatness of a distribution when compared with a normal distribution (Hair et al, 2013). Starting with the British sample, the skewness and kurtosis of constructs are within the acceptable range of -1/+1 for skewness and -3/+3 for kurtosis. Except for effort expectancy is the only construct which is slightly over the acceptable range for both skewness and kurtosis. The normality test of skenwess and kurtosis for the Jordanian shows that all constructs scores are within the acceptable range of -1/+1 for skewness and -3/+3 for

kurtosis. Similar to the British sample effort expectancy was slightly over the acceptable range of skewness but within the acceptable range of Kurtosis.

Table 5-21: British Sample Descriptive Statistics

Descriptive statistics								
		N	Minimum	Maximum	Mean	Std. Deviation	Skewness Statistic	Kurtosis Statistic
UK	PE	222	1.67	7.00	4.8033	1.17706	-.560	-.164
	EE	222	1.00	7.00	6.1336	.98130	-1.830	4.888
	SI	222	1.00	7.00	3.9670	.95600	-.265	1.851
	AT	222	1.00	7.00	3.6408	1.50270	.021	-.722
	PI	222	1.00	7.00	3.4580	1.57021	.103	-.821
	PP	222	1.00	7.00	3.9189	1.18754	-.276	-.083
	S	222	1.00	7.00	4.7432	1.42330	-.743	-.064
	EC	222	1.00	7.00	3.4399	1.63765	.186	-1.023

Table 5-22: Jordanian Sample Descriptive Statistics

Descriptive statistics								
		N	Minimum	Maximum	Mean	Std. Deviation	Skewness Statistic	Kurtosis Statistic
HKJ	PE	258	1.00	7.00	5.0362	1.43831	-.813	.292
	EE	258	2.00	7.00	5.9987	1.10827	-1.278	1.120
	SI	258	1.00	7.00	3.9504	1.32149	-.194	-.320
	AT	258	1.00	7.00	4.6008	1.52174	-.437	-.448
	PI	258	1.00	7.00	4.4496	1.59015	-.469	-.471
	PP	258	1.00	7.00	4.4522	1.45834	-.418	-.327
	S	258	1.00	7.00	4.0426	1.62832	-.187	-.861
	EC	258	1.00	7.00	4.7806	1.47807	-.657	.125

5.8 Chapter Summary

This chapter represented the first data analysis stage for the present study. The first section of this chapter gave an insight into the participants' demographics. The sample size for this

study was determined by following a minimum requirement of 200 participants following the recommendations of Kenny (2014). The analysed data consisted of 222 British participants and 258 Jordanian participants. Participants from both countries were university students ranging between 17 and 26 years old. Data analysis results showed that British participants are more experienced in using the internet to shop online. This chapter also showed the success of the experiment manipulation which was tested using One-way ANOVA (Schloesser, 2000).

The third section of this chapter introduced the process of developing and evaluating the measurement model. CFA was the main technique performed to measure the model fit (Norris and Lecavalier, 2009). The required adjustments were then performed on the measurement mode. The researcher used the theory and followed the recommended guidelines to amend the measurement model. To test the measurement model robustness, the model was verified using a scale of internal consistency (reliability) test and AVE test.

As mentioned previously, SEM consists of two parts: the measurement model and the structural model (Byrne, 2013). This chapter was dedicated to the development and assessment of the measurement model. The next chapter will continue to test the hypotheses using the structural model.

6 Hypotheses Testing and Results

6.1 Chapter Overview

As mentioned previously the present study is adopting a four-stage process in applying SEM technique. The present chapter is covering the final stage: assessing structural model validity and hypothesis testing. This chapter is dedicated to illustrate the SEM techniques used to test the proposed hypotheses and to report the results of the hypotheses tests. Accordingly, this chapter includes three sections. The first section of this chapter is an introduction to structural model for hypothesis testing. The introduction is followed by an assessment of the proposed structural model validity. As this study is conducted in two countries the structural mode for each country is developed and assessed separately. The second section of this chapter is dedicated to hypotheses analysis and reporting the results. And finally, a number of post-hoc tests are reported including a post-hoc mediation analysis and interactivity and embodied cognition relationship analysis using one-way ANOVA test.

6.2 Structural Equation Modelling for Hypotheses Testing

As mentioned previously, the present study is using the SEM approach to test the proposed hypotheses and to examine the relationships between the constructs of the proposed model. There are different multivariate techniques available — notably linear regressions — which represent robust tools to test different relationships between constructs. However, the inability of regression to test across different outcome variables and cover the entire theory at one time is deemed a major limitation. The SEM technique, on the other hand, has allowed researchers to overcome this limitation and allowed the examination of a series of dependence relationships concurrently (Hair et al., 2013). As a result the SEM technique is becoming a popular and recommended approach in testing theories (Byrne, 2013).

Testing hypotheses using the SEM technique requires an emphasis on the relationship between constructs rather than the relationship between latent constructs and measured

variables. It also includes validating the model by examining its overall fit and the structural parameter estimates (Byrne, 2013). This shift of focus describes the move from a measurement model to the structural model. The main focus when using SEM to test hypothesis is directed to examining the proposed model's ability to explain the data (i.e., overall model fit) as a measure of acceptance of the proposed model, and on structural parameter estimates and their associated t-values (Hair et al, 2013). The structural model fit is assessed by using fit indices previously discussed in chapter five with the following acceptable cut-offs:

Level of model fit	**Over All Model fit**				
Fit measures	$\chi 2$/df	RMSEA	NFI	CFI	IFI
Acceptable scale for model good-fit	≤ 2	$\leq .07$	$\geq .9$	$\geq .9$	$\geq .9$

Normality of the data is one of SEM's key assumptions. In reference to the normality tests (skewness and kurtosis) — which were previously reported in chapter five — some evident of marginal data non-normality was reported in one of the constructs. However, SEM approaches are argued to be comparatively robust in the case of moderate departures from a normal distribution (Chou and Bentler, 1995). To ensure reliable results the elliptical reweighted least squares estimation procedure was applied to produce unbiased estimates for multivariate normal and non-normal data (Sharma et al., 1989; Yuan et al., 2004).

Test power is directly related to the possibility of r

ejecting the null hypothesis when there is an actual effect in the population (Kline, 2011). Sample size has a substantial effect on achieving a statistical significance (Hair et al., 2013). Therefore, deciding on the sample size is very important for any study using SEM technique.

The adequate sample size to validate a structural model is debatable. However, it is recommended that the minimum sample size in SEM should not be less than 200 participants (Barrett, 2007). Taking a ratio of sample size to number of parameters is a famous method to determine the adequate sample size when using the SEM method. According to this method different acceptable ratios were proposed. For example Tanaka (1987) proposed a ratio of 20 to 1 but this ratio is considered unrealistically high (Kenny, 2014). A more realistic ratio of 5 to 1 is considered the most common ratio (Bentler and Chou, 1987). However, a satisfactory model was obtained with a lower ratio of 3 to 1 (Bagozzi and Yi, 2012). The present study will use a 3 to 1 ratio to determine the adequate sample size.

6.2.1 Assessing Multicollinearity

The correlation among the independent variables is an important subject in multivariate statistical analysis. Multicollinearity — which arises when two or more independent variables are highly correlated with each other (Hair et al, 2013) — leads to false conclusions about test results and instability in the results. For example, the occurrence of multicollinearity can present inflated standard errors of regression coefficients, leading to a false result showing that there is no relationship between predictor variables and the criterion variable. Also the presence of multicollinearity can result in a misleading conclusion about R^2 (Whitley and Kit, 2004). For these reasons, it is very important to test for multicollinearity.

The correlation coefficients between latent variables and descriptive variables are presented in the previous chapter (Table 5-17 Table 5-18, Table 5-20, and Table 5-21). These results shows that there is no sign of multicollinearity issue in the present study because all effects on the estimation procedure occur primarily at relatively low levels of multicollinearity (less than .80) (Hair, et al., 2013).

6.3 Hypotheses Analysis Overview

The main concern of the present study is to explain consumers' acceptance of a new technology, the present study uses UTAUT as the theoretical foundation. It then proposes extending UTAUT through reintroducing attitude as an important predictor of intention, and incorporating a hedonic dimension. A set of hypotheses was developed in chapter three and these were illustrated in a framework represented by a model (see table 6-1). The proposed hypotheses are segmented into two sets. The first set of hypotheses is illustrating the relationship between UTAUT original constructs — performance expectancy, effort expectancy, and social influence — and attitude. The proposed model is hypothesizing a positive relationship between performance expectancy and attitude, also, a positive relationship between effort expectancy and attitude. In the proposed model social influence is linked to attitude. However, this relationship is expected to be affected by cultural individualistic level. The present research hypothesizes that in high individualistic culture; social influence is expected not to have a significant relationship with attitude. On the contrary, social influence is hypothesised to have a significant positively relationship with attitude in low individualistic culture.

The second set of hypotheses is hypothesising the relationships of the hedonic dimension. Playful experience was reported to generate attitudinal outcomes such as pleasure and satisfaction therefore, a positive relationships is hypothesized between perceived playfulness and attitude. As mentioned earlier, vividness and embodied cognition are hypothesized to be antecedents of perceived playfulness. vividness is linked to perceived playfulness as an antecedent related to website qualities and embodied cognition is linked to perceived playfulness as an antecedent related to cognition and internal process happening in the mind of the user. Thus, a positive relationship is hypothesized between s vividness

and perceived playfulness. Also, a positive relationship between embodied cognition and perceived playfulness is hypothesized.

The proposed hypotheses are tested in four steps. Firstly, the structural model is validated and the significant and non-significant paths between the constructs are identified. Secondly, hypotheses are tested and reported. Thirdly, a post hock mediation analysis is carried on to test mediation effect of attitude on the relationship between perceived playfulness and purchase intention. Finally, a one way ANOVA test is performed to investigate the relationship between interactivity and embodied cognition.

6.3.1 Structural Model Validation

The first step in validating the structural model is to specify the structural model by postulating relationships between the constructs. To define the structural model the researcher is visually portraying the structural model. Figure (6-1) and Figure (6-2) are representing the structural models and specifying the structural relationships between the models' constructs as replacement for the correlation relationships found in the measurement model.

The structural models are tested first for model fit. Starting with the structural model which is using the British sample, the χ^2 for the model is 491.05 with 290 degrees of freedom, which is significant at $p \leq .00$ and the normed χ^2 is 1.69. The RMSEA of the model is also significant at (.05). Table (6-1) shows the overall fit including fit indices which are all above .9. These diagnostics indicates a good overall model fit.

Table 6-1: Model Fit Indices (The British Sample)

		Achieved fit indices				
UK		(X2/df)	RMSEA	NFI	CFI	IFI
	Structural model	1.69	.05	.94	.98	.98

Next, the overall fit of the structural model using the Jordanian sample is tested. The χ^2 for the model is 659.70 with 368 degrees of freedom, which is significant at $p \leq .00$ and the normed χ^2 is 1.79. The RMSEA of the model is also significant at (.06). Table (6-2) shows the overall fit including fit indices which are all above (.9). These diagnostics indicates a good overall model fit.

Table 6-2: Model Fit Indices (the Jordanian Sample)

		Achieved fit indices				
HKJ		(X2/df)	RMSEA	NFI	CFI	IFI
	Structural model	1.79	.06	.94	.97	.97

To identify the significant and non-significant paths between the constructs, the research next reports the detailed results of SEM output. The standardized estimates path coefficient (SE), t-value, p value, and if a hypothesis is supported or not are reported (see Table 6-3 and Table 6-4) the standardised estimated path coefficient are also illustrated in the Figure (6-1) and Figure (6-2). The significance of the path coefficient between the independent and the dependent variables is assessed using the standard decision rules (t-value is equal or greater than 1.96 and p value is equal or less than .05) (Byrne, 2013).

Table 6-3: Structural Model Results (The British Sample)

		Direct effect	SE	t-value	P	Hypotheses Supported?
UK	H1	Attitude → Purchase intention	.63	8.896	00.00	Yes
	H2	Performance expectancy → Attitude	.32	3.871	00.00	Yes
	H3	Effort expectancy → Attitude	-.13	-1.745	.08	No
	H4	Effort expectancy → Performance expectancy	.45	4.598	00.00	Yes
	H5	Perceived playfulness → Attitude	.64	7.702	00.00	Yes
	H6	vividness → Perceived playfulness	.38	4.823	00.00	Yes
	H7	Embodied cognition → Perceived playfulnes	.30	3.702	00.00	Yes
	H8a	Social influence → Attitude	-.03	-.467	.64	No

Table 6-4: Structural Model Results (The Jordanian Sample)

		Direct effect	SE	t-value	P	Hypotheses Supported?
HKJ	H1	Attitude → Purchase intention	.39	4.686	00.00	Yes
	H2	Performance expectancy → Attitude	.30	4.178	00.00	Yes
	H3	Effort expectancy → Attitude	.08	1.140	.47	No
	H4	Effort expectancy → Performance expectancy	.47	5.259	00.00	Yes
	H5	Perceived playfulness → Attitude	.64	9.398	00.00	Yes
	H6	vividness → Perceived playfulness	.58	7.873	00.00	Yes
	H7	Embodied cognition → Perceived playfulnes	.15	2.233	00.03	Yes
	H8b	Social influence → Attitude	.14	2.321	00.00	No

Figure 6 - 1: Structural Model (the British Sample)

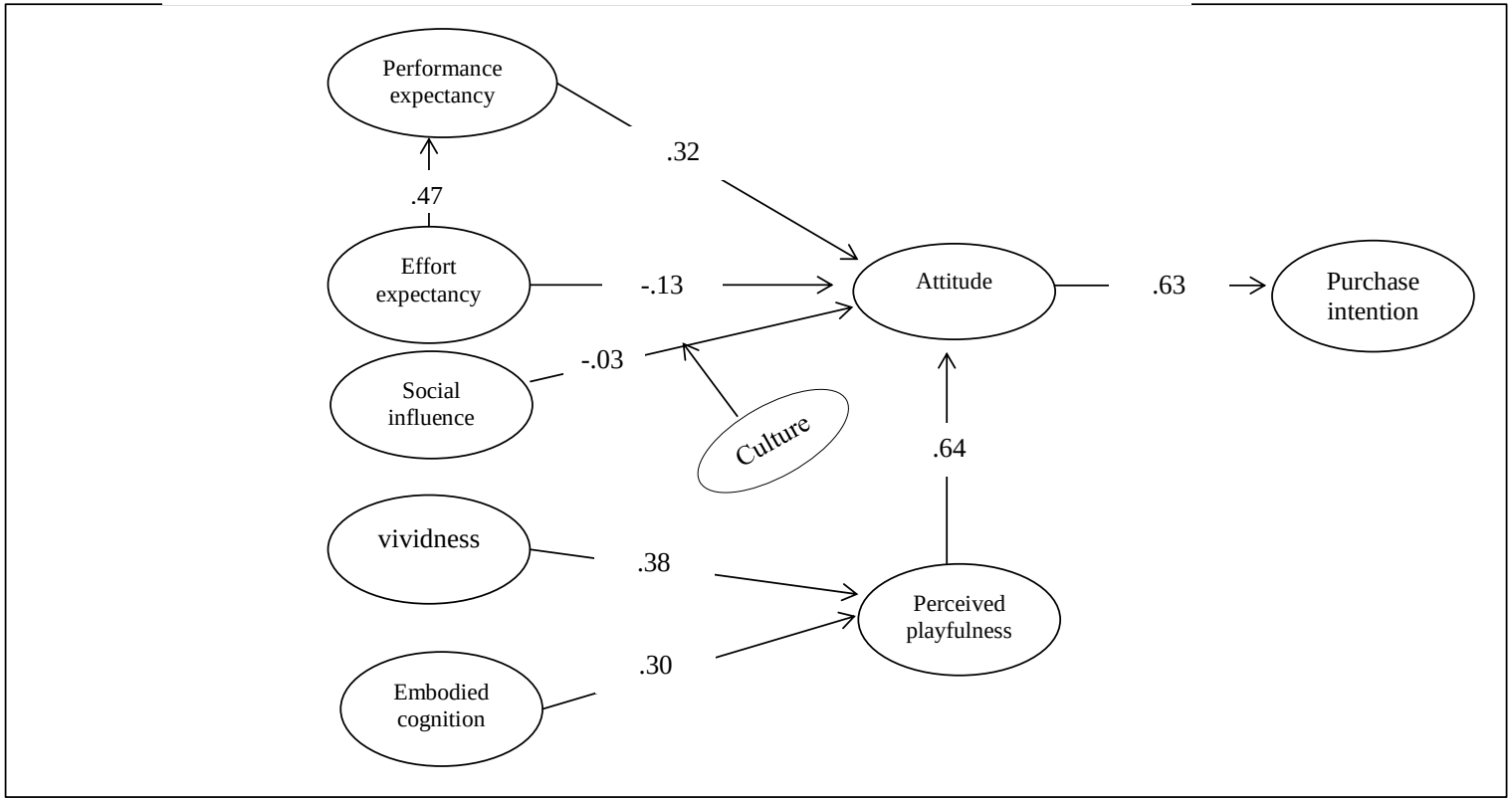
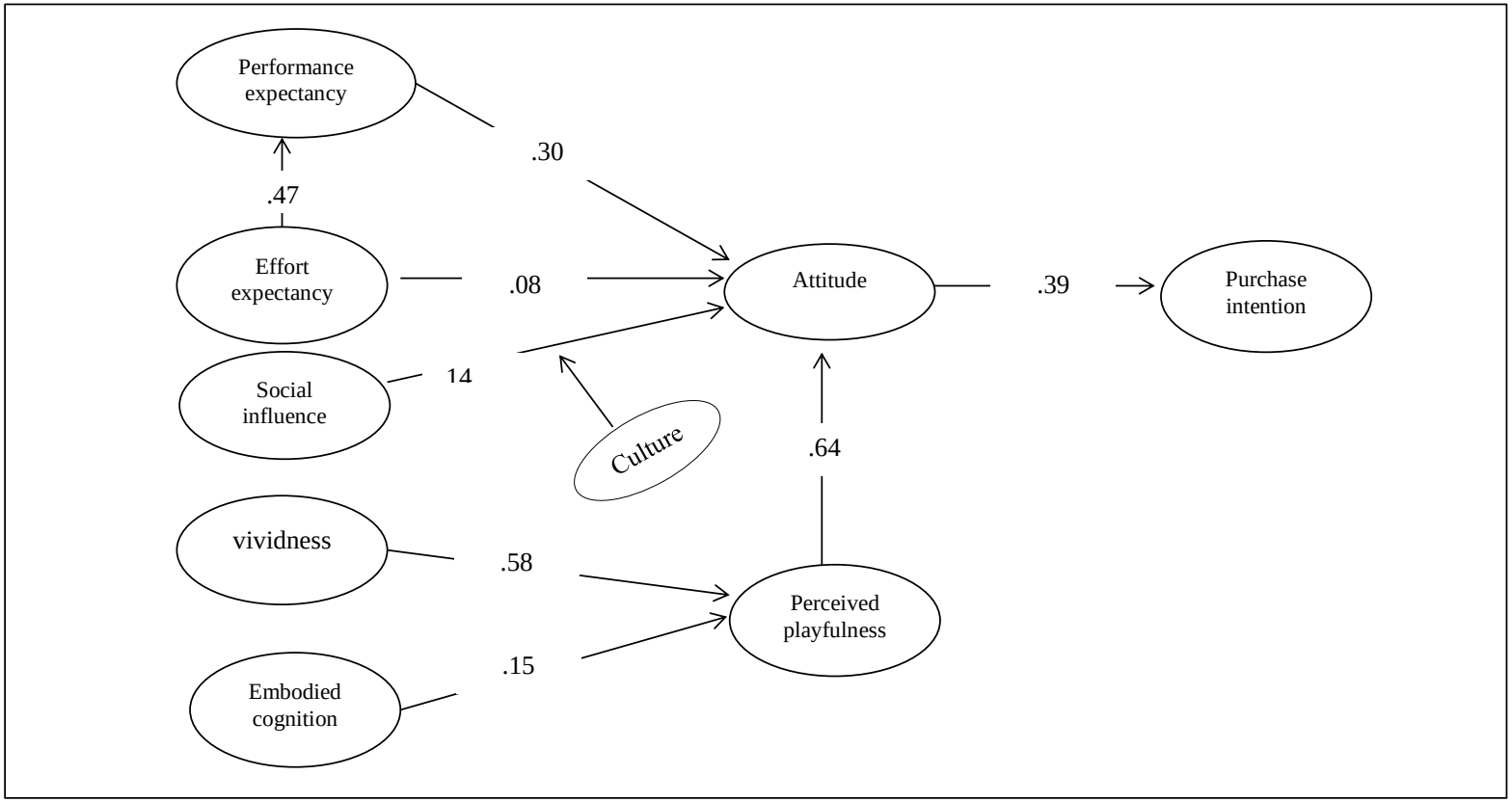


Figure 6 - 2: Structural Model (the Jordanian Sample)



6.3.2 Analysis of the Hypothesized Structural Relationships

The hypotheses developed in chapter three and tested in the previous section of this chapter are analyzed in this section using output of SEM. Table (6-3) summarised the results from SEM output using the British sample. Results showed that totally there are six hypotheses supported at $p \leq .00$ levels these are (H1, H2, H4, H5, H6 and H7). The relationship between social influence and attitude was hypothesised to be not significant in the high individualistic culture (H8b). The results showed that the relationship between SI and attitude was as hypothesised not significant at $p > .05$. However, the results from multi sample analysis showed that culture differences dose not moderate the relationship. Therefore, the hypothesis was rejected. The result also showed that hypothesis (H3) is rejected; which assumes a positive relationship between effort expectancy and attitude towards the website. The results shows that effort expectancy (standardized estimates= -.03, t-value = -1.745, $p > .05$, $R^2 = .681$) has no significant effect on attitude.

Following, table (6-4) summarized the results from SEM output using the Jordanian sample. Results showed that totally there are five hypotheses supported at $p \leq .00$ levels these are (H1, H2, H4, H5, and H6) and one hypothesis at $p \leq .05$ (H7). The relationship between SI and attitude was hypothesised to be significant in the low individualistic culture (H8a). The results showed that the relationship between social influence and attitude were as hypothesised significant at $p \leq .00$. However, the results from multi sample analysis showed that a culture difference does not moderate the relationship. Therefore, the hypothesis was rejected. The result also showed that hypothesis (H3) is rejected, which assumes a positive relationship between performance expectancy and attitude towards the website. The results shows that performance expectancy (standardized estimates=.06, t-value =.716, $p \geq .05$, $R^2 = .467$) has no significant effect on attitude.

6.3.2.1 **Attitude and Purchase Intention (H1)**

The present study hypothesized a significant positive relationship between attitude and purchase intention. The hypothesis was supported in both models using the British and the Jordanian sample. The standardised estimated path coefficient for the relationship between attitude and purchase intention using the British sample is (.63) and (t-value= 3.762, p ≤.00, R2= .681) and coefficient for the relationship between attitude and PI using the Jordanian sample is (.39) and (t-value= 4.686, p ≤.00, R2= .467) for the model using the Jordanian data.

These findings strongly support H1, and indicate a strong positive relationship between attitude and purchase intention. This is an indication that the better is online consumer attitude towards the website the more are his/her purchase intention. The original findings of UTAUT have reported a non-significant relationship between attitude and intention to adopt a new technology. However, the present study found a positive relation between these two variables.

6.3.2.2 **Performance Expectancy and Attitude (H2)**

The present study hypothesized a significant positive relationship between performance expectancy and attitude. The hypothesis was supported in both models using the British and the Jordanian sample. The standardised estimated path coefficient for the relationship between performance expectancy and attitude is (.32) and (t-value= 3.871, p ≤.00) in the model tested using the British sample. And the standardised estimated path coefficient for the relationship between performance expectancy and attitude is (.30) and (t-value= 4.178, p value ≤.00). These findings indicate a positive relationship between performance expectancy and attitude and strongly support H2.

6.3.2.3 **Effort Expectancy and Attitude (H3)**

The present study hypothesized significant positive relationship between effort expectancy and attitude. The hypothesis was rejected in both models using the British and the Jordanian sample. The standardised estimated path coefficient for the relationship between effort expectancy and attitude is (-.13) and (t-value = -1.745, $p \geq .05$) in the model using the British sample. And the standardised estimated path coefficient for the relationship between effort expectancy and attitude is (.08) and (t-value= 1.140, $p \geq .05$) in the model using the Jordanian sample. These findings indicate that there is no relationship between these two constructs in the model.

6.3.2.4 **Effort Expectancy and Performance Expectancy (H4)**

The present study hypothesized significant positive relationship between effort expectancy and performance expectancy. The hypothesis was supported in both models using the British and the Jordanian sample. The standardised estimated path coefficient for the relationship between effort expectancy and performance expectancy is (.45) and (t-value= 4.598, $p \leq .00$) the model using the British sample. And the standardised estimated path coefficient for the relationship between effort expectancy and perceived playfulness is (.47) and (t-value= 5.259, $p \leq .00$) for the model using the Jordanian sample. These findings strongly support H5, and indicate a positive relationship between effort expectancy and performance expectancy.

6.3.2.5 **Perceived Playfulness and Attitude (H5)**

The present study hypothesized significant positive relationship between perceived playfulness and attitude. The hypothesis was supported in both models using the British and the Jordanian sample. The standardised estimated path coefficient for the relationship between perceived playfulness and attitude is (.65) and (t-value= 8.677, p value $\leq .00$) in the model using the British data. And the standardised estimated path coefficient for the

relationship between perceived playfulness and attitude is (.64) and (t-value= 9.398, p value ≤.00). These findings support H5, and indicate a strong positive relationship between perceived playfulness and attitude.

6.3.2.6 Vividness and Perceived Playfulness (H6)

The present study hypothesized significant positive relationship vividness and perceived playfulness. The hypothesis was supported in both models using the British and the Jordanian sample. The standardized estimated path coefficient for the relationship between vividness and perceived playfulness is (.38) and (t-value= 4.823, p ≤.00) in the model using the British sample. And the estimated path coefficient for the relationship between vividness and perceived playfulness is (.58) and (t-value= 7.873, p value ≤.00) in the model using the Jordanian sample. These findings support H6, and indicate a positive relationship between vividness and perceived playfulness.

6.3.2.7 Embodied Cognition and Perceived Playfulness (H7)

The present study hypothesized significant positive relationship between embodied cognition and perceived playfulness. The hypothesis was supported in both models using the British and the Jordanian sample. The standardized estimated path coefficient for the relationship between embodied cognition and perceived playfulness is (.30) and (t-value= 3.702, p ≤.00) in the model using the British data. And the standardised estimated path coefficient for the relationship between embodied cognition and perceived playfulness is (.15) and (t-value= 2.233, p ≤.00). These findings support H7, and indicate a positive relationship between embodied cognition and perceived playfulness.

6.3.2.8 Social Influence and Attitude (H8)

The present study hypothesized a significant positive relationship between social influence and attitude in the low individualistic culture (H8a), and a non-significant relationship between social influence and attitude in the high individualistic culture (H8b). The

standardised estimated path coefficient for the relationship between social influence and attitude is (-.03) and (t-value= -.467, p value ≥.05) for the model using the British data and coefficient for the relationship between social influence and attitude is (.14) and (t-value= 2.321, p ≤.00) in the model using the Jordanian data.

6.3.2.9 **Multi-sample Analysis in EQS**

Multi-group analysis is used to test the potential moderation effect of culture on the relationship between social influence and attitude. The first step in running a multi group analysis was to perform a measurement invariance test. Measurement invariance is a statistical property of measurement that indicates that the same construct is being measured across some specified groups (Byrne et al., 2013)

Testing for measurement invariance consists of a series of model comparisons that define more and more stringent equality constraints (Hirschfeld and Brachel, 2014).To test for measurement invariance a set of models need to be estimated. The first step in testing for invariance is to establish that factor loadings are equal across groups. Configural invariance is established if this baseline model has a good fit and the same loadings are significant in all groups (van de Schoot et al., 2012; Hirschfeld and Brachel, 2014).

Next step in testing for measurement invariance is to develop a weak invariance model (metric invariance). To test for metric invariance the factor loadings are constrained to be equal across groups, but no other equality constraints are imposed. This model suggests that the same latent variables are being measured across groups (UNC, 2014).

Following, a strong invariance model is stablished. A model factor loadings and item intercepts are constrained to be equal is fit to the data and compared against the weak measurement invariance model (Hirschfeld and Brachel, 2014). Finally, a strict invariance model in which factor loadings, intercepts, and residual variances are constrained to be

equal is fit to the data and compared to the strong measurement invariance model (Hirschfeld and Brachel, 2014).

Following the previously described steps configural invariance was measured by looking at the baseline model fit indices (Byrne et al., 2013)

Level of model fit	**Over All Model fit**				
Fit measures	$\chi 2/df$	RMSEA	NFI	CFI	IFI
Acceptable scale for model good-fit	3	.06	.98	.98	.97

Fit indices suggested that the factor loadings are equal across groups. Thus, configural invariance is established because the baseline model has a good fit and the same loadings are significant in all groups (Schoot et al.2012; Hirschfeld and Brachel, 2014).

Following a metric invariance test was performed. A chi-square difference test was run across the model in which the factor loadings are constrained to be equal fits equally as well as the model with all parameters free to vary. The results of the difference in $\chi 2$ between the constrained model and the unconstrained model is found significant ($\Delta\chi 2 = 56.2$, $\Delta df = 20$, $p \leq .05$). This result suggests that metric invariance for this single factor model could not be demonstrated. Hence, it is not possible to test for moderation of culture effect in this model.

6.4 Post-Hoc Analysis

6.4.1 Post-Hoc Mediation Analysis

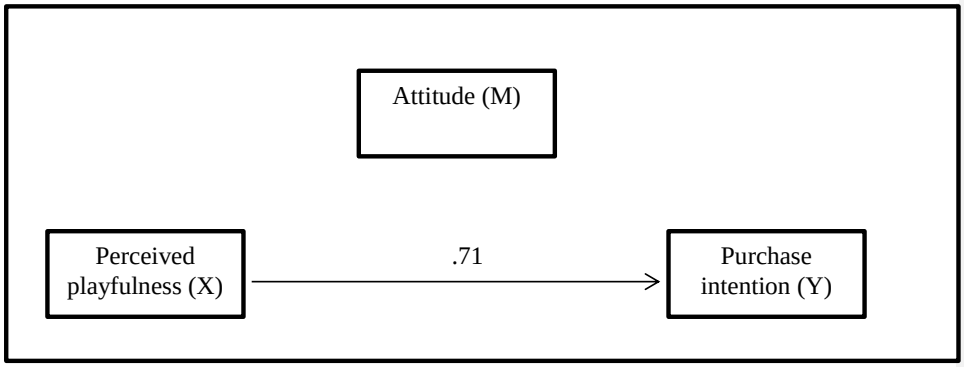
To empirically test the causal process that answer the question whether attitude or not functions as a mediator of the relationship between perceived playfulness and purchase intention; Baron and Kenny's causal steps approach was applied (Kenny, 2014). Baron and Kenny's causal steps approach is a procedure used in an attempt to identify whether the variable M function as a mediator of the relationship between variables X and Y (Hayes, 2013). Following this approach, first it must be established that there is an effect to be

mediated; therefore, evidence that variable X has an effect on variable Y must be established. Following this step, and assuming that the first condition is met, the effect of variable X on variable M must be estimated. Finally, if the first two conditions are met, then a test of variable M's effect on variable Y controlling for variable X is performed; which is the third condition. To establish that there is a full mediation relationship (i.e., variable M fully mediates the relationship between variables X and Y) the path (c'); which represents the relationship between the variables X and Y should be zero. However, if the path (c') is higher than zero and less than the original path a partial mediation is established.

6.4.1.1 **Post-Hoc Mediation Analysis Using the British Sample**

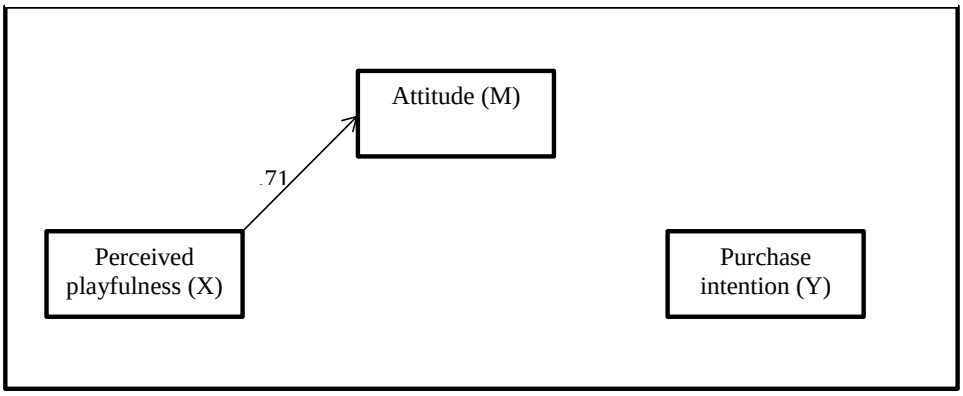
Following causal steps strategy first the existence of an effect between the independent variable perceived playfulness and the dependent variable purchase intention is established. As Figure 6-3 illustrates, the standardized path coefficient between perceived playfulness and purchase intention is found statistically significant in the model using the British sample. The standardised estimated path coefficient for the relationship between the independent and the dependent variables are (.71) and (t-value= 8.960, p value $\leq$ .00).

Figure 6-3: Mediation Model 1



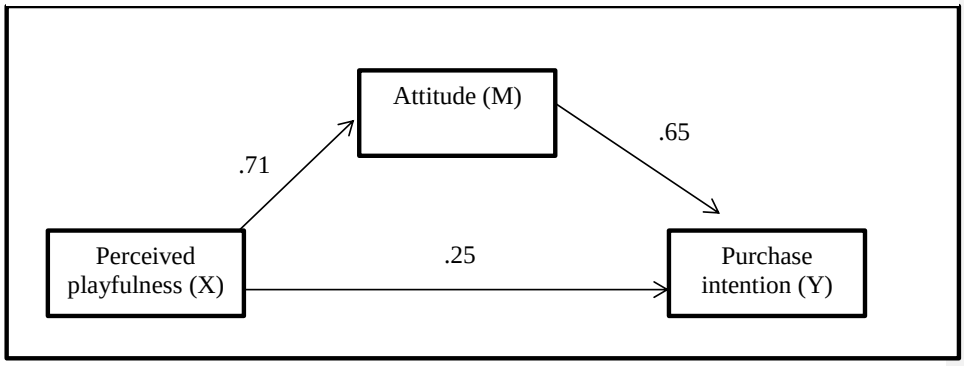
As the first criterion was met researcher moved to the second step where the effect of the independent variable perceived playfulness and the mediated variable attitude is established. As Figure 6-4 illustrates, the standardized path coefficient between independent variable perceived playfulness and the mediated variable attitude was statistically significant. The standardised estimated path coefficient for the relationship between the independent and the mediator are (.71) and (t-value= 8.145, $p \leq 0.00$).

Figure 6-4: Mediation Model 2



Finally a test for the effect of the mediator on the dependent variable is tested while controlling for the independent variable. As Figure 6-5 illustrates, the standardized path coefficient between the mediator attitude and the dependent variable purchase intention is

Figure 6-5: Mediation Model 3

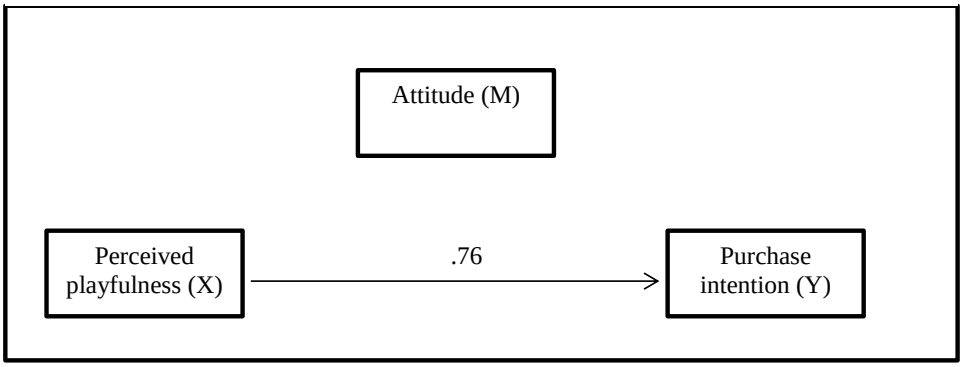


found significant while controlling for the independent variable perceived playfulness (.65) and (t-value=3.147, p value ≤.00). The standardised estimated path coefficient for the relationship between the independent variable perceived playfulness and the dependent variable purchase intention is still significant However it decreased (.25) and (t-value= 8.042, p value ≤ .00) . This result indicates that there is partial mediation, and only part of the effect of perceived playfulness on purchase intention is carried through attitude.

6.4.1.2 **Post-Hoc Mediation Analysis Using the Jordanian Sample**

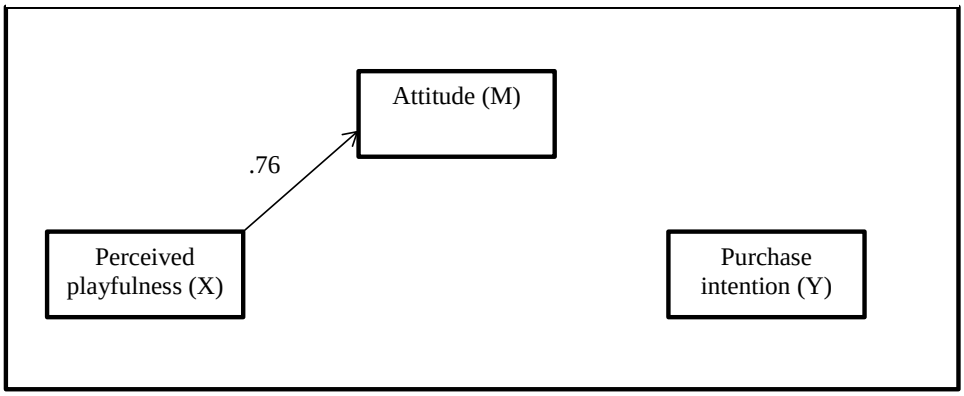
Following the causal steps strategy first the existence of an effect between the independent variable perceived playfulness and the dependent variable purchase intention is established. As Figure 6-6 illustrates, the standardized path coefficient between perceived playfulness and purchase intention is found statistically significant in the model using the British sample. The standardised estimated path coefficient for the relationship between the independent and the dependent variables are (.76) and (t-value= 8.9630, p ≤ .00).

Figure 6-6: Mediation Model 1



As the first criterion was met researcher moved to the second step where the effect of the independent variable perceived playfulness and the mediated variable attitude is established. As Figure 6-7 illustrates, the standardized path coefficient between independent variable perceived playfulness and the mediated variable attitude was statistically significant. The standardised estimated path coefficient for the relationship between the independent and the mediator are (.76) and (t-value= 10.774, p value ≤ .00).

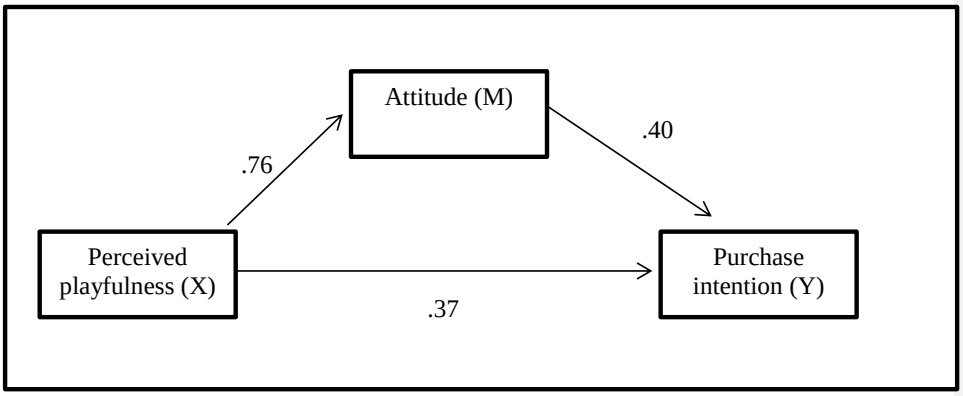
Figure 6-7: Mediation Model 2



Finally a test for the effect of the mediator on the dependent variable is tested while controlling for the independent variable. As Figure 6-8 illustrates, the standardized path

coefficient between the mediator attitude and the dependent variable purchase intention is found significant while controlling for the independent variable perceived playfulness (.40) and (t-value= 3.975, p value ≤ .00). The standardised estimated path coefficient for the relationship between the independent variable perceived playfulness and the dependent variable PI is still significant However it decreased (.37) and (t-value= 3.602, p value ≤ .00). This result indicates that there is partial mediation, and only part of the effect of perceived playfulness on purchase intention is carried through attitude.

Figure 6-8 : Mediation Model 3



In conclusion, the reported results from the model when using both the British and the Jordanian sample suggest that attitude mediates the relationship between perceived playfulness and purchase intention. However, it is a partial mediation where only part of the effect of perceived playfulness on purchase intention is carried through attitude.

6.4.2 ANOVA Analysis

Participants were randomly assigned into two groups control group viewing a static non interactive website, and an experimental group viewing a noticeably higher degree of interactivity website compared to the control group's website. To compare the effect of

website interactivity on embodied cognition, attitude, and purchase intention a one-way between subjects ANOVA was conducted.

6.4.2.1 Interactivity and Embodied Cognition

A one-way between subjects ANOVA was conducted to compare the effect of website interactivity on embodied cognition. There was a significant effect of interactivity on embodied cognition at the p ≤.05 level for the two conditions in the British sample (F (1, 220) =70.08, P≤.00). The comparison between the means score of the control group (M=2.71, SD=1.157) and the experiment group (M=4.09), SD=1.303) indicates that the difference between the two conditions is significant. Taken together, these results suggest that high level of interactivity do have an effect on creating embodied cognition in the British sample.

The results of the same experiment in the Jordanian sample shows that there was a significant effect of interactivity on embodied cognition at the p<.05 level for the two conditions (F (1, 256) =3.94, P ≤.05). However, a comparison between the means score of the control group (M=1.96, SD=.376) and the experiment group (M=1.66, SD=.375) suggests that a difference between the two conditions is detected, yet it did not significantly influence embodied cognition.

6.4.2.2 Interactivity and Attitude

A one-way between subjects ANOVA was conducted to compare the effect of website interactivity on attitude. There was a significant effect of interactivity on attitude at the p ≤.05 level for the two conditions in the British sample (F (1, 220) =6.520, P≤.05). The comparison between the means score of the control group (M=3.38, SD=1.042) and the experiment group (M=3.89, SD=1.54) indicates that the difference between the two conditions is significant. Taken together, these results suggest that level of interactivity influence attitude towards a website in the British sample.

The results of the same experiment in the Jordanian sample shows that there was not a significant effect of interactivity on attitude at the p>.05 level for the two conditions (F (1, 256) =1.755, P >.05). This result indicates that interactivity level does not influence attitude towards a website in the Jordanian sample.

6.4.2.3 Interactivity and Purchase Intention

A one-way between subjects ANOVA was conducted to compare the effect of website interactivity on purchase intention. There was a no significant effect of interactivity on purchase intention at the p >.05 level for the two conditions in the British sample (F (1, 220) =3.17, P>.05). This result indicates that interactivity level does not influence purchase intention using an interactive website in the British sample.

The results of the same experiment in the Jordanian sample shows that there was no significant effect of interactivity on attitude at the p>.05 level for the two conditions (F (1, 256) =.22, P >.05). This result indicates that interactivity level does not influence purchase intention using an interactive website in the Jordanian sample.

6.5 Chapter Summary

This chapter was a continuation to the analysis chapter. The SEM techniques used to test the proposed model were illustrated and proposed hypotheses were tested in reference to the approved structural model.

Six hypotheses (H1, H2, H4, H5, H6, and H7) were supported in both models. The results also showed that hypothesis H3— which hypothesizes a positive relationship between performance expectancy and attitude towards the website — and hypotheses (H8a, b) — which hypothesize a positive relationship between social influence and a person's attitude towards using a specific website in a low individualistic context , and a non-significant relationship between social influence and a person's attitude towards using a specific website in a high individualistic context — were rejected.

Different post-hoc analyses were conducted including a mediation post hoc analysis to study the mediation effect of attitude on the relationship between perceived playfulness and purchase intention. However, the results suggested a partial mediation. A one-way ANOVA test was also conducted to see the effect of interactivity on creating embodied cognition. Result showed that interactivity has an impact on embodied cognition in the British sample and showed no effect in the Jordanian sample.

These results are being further discussed in the next chapter where they will be compared to the theory and the literature. Also the main contribution and limitations of the present study will be presented.

7 Discussion and Conclusion

7.1 Chapter Overview

This chapter provides a conclusion for the present study by critically discussing its most important findings and suggesting both theoretical and practical contributions. The discussion is structured in reference to the hypotheses test results and research model construction. Accordingly, this chapter is organised as follows. First, the main findings of the present study are discussed and the results of post-hoc analyses are interpreted in reference to the theory and literature. Following from this, the present study's main contributions, limitations, and future and potential future research agenda are presented.

7.2 Discussion of Hypotheses Tests

The present study was initially conducted with number of objectives:

1) To gain an overall understanding of online customers' shopping behaviour for experiential products.
2) To extend UTAUT to consumer context through introducing an attitudinal model based on UTAUT and the theory of flow.
3) To emphasise the importance of creating a compelling website experience.
4) To test the compatibility of the proposed model in a highly individualistic western context and a low individualistic non-western context.

In order to meet the research objectives, an attitudinal model was proposed and the relationships between its main constructs were investigated. Two countries were chosen to be the setting of the present study; the UK and the HKJ.

The present study investigated the relationships between the model's constructs using the samples from each country separately. Based on the significance of the paths linking dependent and independent variables, the hedonic dimension was successfully incorporated into the model using both samples; the British and the Jordanian. However, the two models

structures were not identical. The impact of social influence was found to be significant in the model when using the Jordanian sample; on the other hand, its impact was found to be insignificant when using the British sample.

Next, the results of each hypothesis — which was presented in the previous chapter (see Table 6-3 and Table 6-4) — are discussed, and an explanation of these results is proposed in reference to the theory and the literature.

7.2.1 Attitude and Intention to Purchase (H1)

The relationship between attitude and purchase intention was supported in the present study when using both samples — the British and the Jordanian. Attitude was defined as "the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question" (Ajzen, 1991, p.188). Therefore, in the present study attitude refers to consumer's assessment of the desirability of using a specific website to purchase products from (Pavlou and Fygenson, 2006).

Originally, UTAUT found the relationship between attitude and purchase intention insignificant. This result could be attributed to the context in which UTAUT was developed in. UTAUT have studied the relationship between attitude and purchase intention among employees who are introduced to new technology at work place (Pavlou and Fygenson, 2006). However, in the context of consumer website use, many researchers have reported a positive significant relationship between attitude and intention (Hassanein and Head, 2007). For example, Ahn et al. (2007) reported that attitude significantly influenced purchase intention in the online shopping context.

Finding evidence of a positive significant relationship between attitude and purchase intention in the present study could be attributed to the voluntary context of online shopping (Davis et al., 1989). Being in a voluntary context is believed to allow a space for customers' beliefs and prior knowledge to influence consumers' purchase intention. This result can also

be attributed to the nature of the online environment in the sense that it allows for privacy (Hassanein and Head, 2007). As a result, customers' beliefs are not affected by other aspects in the environment and therefore attitude has a more active role in influencing purchase intention.

The results of the present study, also suggested that attitude has a bigger influence on purchase intention in the UK, than the influence it has on purchase intention in the HKJ. An explanation might lie in the difference of experience level between the British sample and the Jordanian sample. A higher correlation between attitude and purchase intention was reported amid experienced users (Yu et al., 2005). In the present study, the British sample showed a higher experience with shopping online. However, experience was not examined as a moderator.

7.2.2 Performance Expectancy and Attitude (H2)

The present research hypothesized a positive significant relationship between performance expectancy and attitude. The results of hypothesis testing supported this hypothesis in the model using both samples — the British and the Jordanian. Performance expectancy was defined in UTAUT as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003, p.447). Performance expectancy's definition suggests that it resembles different constructs from the aggregated models including PU which is a construct of TAM. In TAM PU was directly linked to attitude (Davis, 1989).

The relationship between PU and attitude is supported by previous studies found in the literature of technology acceptance and online-shopping. For example, in the field of cyber world acceptance, a positive relationship was reported between PU and attitude (Shim and Kim, 2008). Ha and Stoel (2008) also found a positive relationship between consumer perceptions of usefulness and attitude toward e-shopping.

In the present study, the positive significant relationship between performance expectancy and attitude could be attributed to user's belief that if the website help him/her to attain his goal, the more desirable the process of shopping online using this website will be. As a result, user will have a positive attitude towards the website and will want to have more interaction with the website. In accordance with the previous literature, the present study result shows that performance expectancy of the website is still a major contributor to building attitude towards the website.

7.2.3 Effort Expectancy and Attitude (H3)

The relationship between effort expectancy and attitude was hypothesized to be positive in the model for both the British and the Jordanian samples. However, the hypothesis was rejected in both samples. Effort expectancy was defined as "the degree of ease associated with the use of the system" (Venkatesh et al, 2003, p.450). The definition of effort expectancy suggests that it resembles different constructs of the aggregated models including PEOU which is a constructs of TAM. In TAM PEOU was directly linked to attitude (Davis, 1989).

Unlike PU, the direct effect of PEOU was inconsistent in the literature of technology acceptance. For example, Childers et al. (2001) reported a positive significant relationship between PEOU and attitude in the attitudinal model they proposed to explain online retail shopping behaviour. Similar results were reported by Moon and Kim (2001). On the other hand Kim and Forsythe (2008) did not find a direct relationship between PEOU and attitude in online-shopping for clothing items. The differences in results were attributed to the differences in the context of each study (Kim and Forsythe, 2008).

The participants in the study from both countries have reported a medium to high level of experience with shopping online. Therefore, the insignificant relationship between effort expectancy and attitude in the present study could be attributed to participants' high level of

experience and familiarity with fashion websites. Davis (1989) has reported a stronger relationship between PEOU and attitude in the case where users had low experience with the system; on the other hand, PEOU had less influence on attitude in the case of experienced users. Therefore, it is possible to predict a noticeable role of effort expectancy in influencing attitude in the early stages of using a technology (Marchewka and Kostiwa, 2014); which is not the case in the sample used in the present study, where in both countries the level of experience can be described as intermediate to high. Accordingly, the result of the present study highlights the question *at what level of experience with the system does the effect of effort expectancy on attitude diminish?* This question provides an opportunity for future research.

7.2.4 Effort Expectancy and Performance Expectancy (H4)

The present study hypothesised a positive relationship between performance expectancy and effort expectancy in the model when using both the British and the Jordanian sample. The results of hypothesis testing supported the significance of this relationship. Performance expectancy was defined as "the degree to which an individual believes that using the system will help him or her to attain gains in job performance" (Venkatesh et al., 2003, p.447) and effort expectancy was defined as "the degree of ease associated with the use of the system" (Venkatesh et al., 2003, p.450). The definition of these two constructs suggests that they resemble different constructs of the aggregated models including PEOU and PU which are the constructs of TAM (Davis, 1989). Therefore the significant relationship between performance expectancy and effort expectancy is comparable to the relationship reported between PEOU-PU.

The relationship between PU and PEOU was reported significant in TAM and in a number of different studies related to technology acceptance (e.g., Davis, 1989; Moon and Kim,

2001). However, the relationship between PEOU-PU has been described as pertinent in the context of online shopping specifically (Ramayah and Ignatius, 2005).

The results of the present study found a positive relationship between performance expectancy and effort expectancy. This positive relationship could be linked to the argument that an easy to learn website is perceived as a useful website (Kim and Forsythe, 2008). Therefore, an online shopper who perceives using a specific website as effortless is expected to perceive the same website as beneficial and useful to attain his goal — complete his/her shopping (Ramayah and Ignatius, 2005).

7.2.5 Perceived Playfulness and Attitude (H5)

Jayawardhena et al. (2007) suggested that consumers' purchase orientations — task and hedonic — are very similar in both off-line and online customers. Therefore, satisfying online consumers' extrinsic and intrinsic motives is a key to satisfy online customers and to create a compelling experience. The present study suggested incorporating perceived playfulness as a hedonic construct with UTAUT. Perceived playfulness was defined as "the strength of one's belief that interacting with the World Wide Web will fulfil the user's intrinsic motives" (Moon and Kim, 2001, p.222). Accordingly, the present study hypothesised a positive relationship between perceived playfulness and attitude in the model for both the British and the Jordanian samples.

The results of the present study supported the importance of adding a hedonic dimension. The results were, also, consistent with results of previous research findings; which connected playful experience to attitudinal outcomes like satisfaction and pleasure (Sandelands et al., 1983). For example, Moon and Kim (2001) reported a positive relationship between perceived playfulness and attitude towards a website. Ahn et al. (2007), also, reported a positive relationship between playfulness and attitude in online retailing.

The positive relationship between perceived playfulness and attitude could be attributed to the expectation that if the activity is intrinsically motivating, people will most probably engage in the activity for the sake of it (Csíkszentmihályis, 1975). Therefore, those who find interacting with a website a source of generating a playful experience are more absorbed and attentive in their interaction. As a result, when the interaction with a website is perceived as playful, users are expected to develop a positive attitude towards the website.

7.2.6 Vividness, Embodied Cognition and Perceived Playfulness (H6, H7)

The present study hypothesised a positive relationship between vividness and perceived playfulness in the model for both the British and the Jordanian samples. Also a positive relationship between embodied cognition and perceived playfulness was hypothesised in the model when using both the British and the Jordanian sample. Both hypotheses were accepted.

The present study presented UX in the context of online shopping as a two factored construct. These two factors are vividness — the vividness of the mediated environment and the way it represents information to the senses (O'Reilly, 2005) — and embodied cognition — which describes the relation between an embodied knowledge generated by vision, touch, kinaesthetic posture and movement, and other sensorimotor mechanisms and pre-existing knowledge saved in users' memory (Rosa and Malter, 2003).

UX with a website is created within a computer simulated environment (i.e., in a VR environment) (Riva, 2008). VR was given a role in reproducing the real world with its entire embodiment stimuli, which results in generating a feeling of being a part of the computer mediated environment (Riva, 2008). The generated feeling of being a part of the VR creates a state of telepresence.

Telepresence was linked to play, exploration and the level to which the virtual environment suppresses the perceptual system of the user (i.e., VR) attracting users' senses and blocking out stimuli from the physical world (Turkle, 1984; Biocca and Delaney, 1995). As a result, users will playfully explore the virtual world that captivates their imagination and fulfils their intrinsic motives (shih, 1998).

Telepresence was described as the "degree to which the senses are engaged in the mediated environment" (Schuemie et al., 2001, p.184), which indicates that user's willingness to go beyond the limitations of his/her body and to extend these senses through technology (i.e., embodiment) is a trigger of telepresence (Kim and Biocca, 1997). Vividness, also, is reported to be a contributor to the perception of telepresence (Steuer, 1992; Coyle and Thorson, 2001). As a result, any increase in the level of vividness and embodiment of the computer mediated environment (the website) is expected to positively influence telepresence and create a state of playfulness (Coyle and Thorson, 2001). The results of the present study are consistent with the Coyle and Thorson (2001) suggestion. The present study reported a positive relationship between embodied cognition, vividness, and perceived playfulness and suggests that to increase perceived playfulness, retailers should focus on creating a website that provides vivid representations of information for consumers' senses and creates a sense of embodiment.

7.2.7 Social Influence and Attitude (H8)

The present study expected that the relationship between social influence and attitude would differ according to that specific cultures perceived level of individuality. Social influence was hypothesised to have a relationship with attitude that is moderated by culture level of individuality. The level of a culture's individuality was proposed to be the main source of the moderation effect. The present study expected that the relationship between social influence and attitude would differ according to how cultures perceive level of

individuality. Participants from the highly individualistic culture were expected to care less for the opinion of others in forming attitude and rather rely on individual opinion; on the other hand, participants from the low individualistic culture were expected to care more for others opinions when forming their attitudes.

The results of the SEM proposed that there is a positive relationship between social influence and attitude in the low individualistic culture and a non-significant relationship between social influence and attitude in the high individualistic culture. Social influence was defined as "the degree to which an individual perceives the importance of others beliefs of whether he or she should use the new system" (Venkatesh et al, 2003, p.450). This definition of social influence suggests that it resembles different constructs of the aggregated models including subjective norms in TRA (Fishbein and Ajzen, 1975) and TPB (Ajzen, 1991).

The literature reported mixed findings regarding subjective norms, for example, Chang (1998) proposed that the opinion of people perceived as important to the user in regards to the behaviour affects the individual's preference of the behaviour in question and alters his or her attitude. On the other hand the relationship between subjective norms and attitude was found to be insignificant in TAM, TPB and TRA.

The present study expected that the relationship between social influence and attitude would differ according to that specific cultures perceived level of individuality. Participants from the highly individualistic culture were expected to care less for the opinion of others in forming attitude and rather rely on individual opinion; on the other hand, participants from the low individualistic culture were expected to care more for others opinions when forming their attitudes. However, the results of the measurement invariance test suggested that it is not possible to test for moderation of culture and its influence in this relationship. This leaves a space for future research on this topic.

7.3 Post-Hoc Research Analysis

7.3.1 The Mediating Role of Attitude

The present study predicted that participants whom perceived the website as playful are more likely to develop a positive attitude towards the website; which will influence their purchase intention. Therefore, the researcher tested for the mediation effect of attitude on the relationship between perceived playfulness and purchase intention. However, the results suggested a partial mediation of attitude both in the models using the British and the Jordanian samples. The partial mediation implies that in addition to attitude, there are other indirect effects that affect the relationship between perceived playfulness and purchase intention.

The present research is suggesting users' mood as a possible mediator. Mood was defined as "a type of affective state which is transient and particular to a specific time and situation" (Jeon, 1990, p. 24). Mood was reported to considerably affect consumer decision making (Swinyard, 1993). For example, positive mood was reported to positively influence behaviour performance which empowers the person and leads him/her to act freely (Park et al., 2005). In general, both negative and positive moods were described as key factors on determining individuals' behaviour (Park et al., 2005). Mood was also linked to playfulness. For example, Webster and Martocchio (1992) suggested that playfulness relates positively to mood. Mood relationship to consumer online behaviour is still in need for more investigation. This opens a window for future research to investigate this relationship.

7.3.2 Interactivity and Embodied Cognition

To test the effect of website interactivity on embodied cognition the present study applied a one-way ANOVA test to compare the means between the control group — the group which viewed the ZIW — and the experiment group — the group which viewed the HIW.

Different results were found when applying the test using the British sample and the Jordanian sample as follows:

7.3.2.1 Interactivity and Embodied Cognition the British Sample

A significant mean difference between control group (M=2.71, SD=1.157) and experiment group (M=4.09, SD=1.303) was reported in the British sample. This result indicates that those who were subject to HIW and could manipulate the image of the product retrieved more embodied information (i.e. information stored in their body) which indicates a higher level of embodied cognition. Results also suggest that participants of the experiment group overcame the limitation of the online-environment, which generally lacks complete sensory information in comparison with the offline world, and managed to engage with the apparel item. In the present study, the embodied cognition construct was measured using items focusing on the ability to retrieve a feeling of texture and the image of the item on the consumers' own body.

For customers who are interested in purchasing clothing items, the sensory aspects (e.g. colour, texture) and features of the item and how it fits consumer's body (Eckman et al., 1990; Geissler and Zinkhan, 1998) are key elements. Therefore, the absence of complete sensory information may be a key limitation to purchasing apparel products online. However, image interactivity was found to create an experience that provides a sense of control and more products–body interaction. For example, retailers who utilised image interactivity and provided three dimensional images that rotate and allows consumer to have a close-up image were able to help their customers to evaluate the visual and tangible qualities of the product (Fiore et al., 2005).

7.3.2.2 Interactivity and Embodied Cognition the Jordanian Sample

A non-significant mean difference between control group (M=1.96, SD=.376) and experiment group (M=1.86, SD=.375) was reported in the Jordanian sample. This result

suggests that participants who were subject to ZIW and HIW retrieved the same level of embodiment information (i.e., information stored in their body).

The literature suggests that some consumers could show resistance to interactivity in cases where interactivity put excessive pressure on cognitive processing (Liu and Shrum, 2002). This suggestion could explain the lack of relationship between the provision of interactivity provided through the website features and appreciation of interactivity (Mollen and Wilson, 2010). This means that participants in the Jordanian sample could have felt overwhelmed by the additional cognitive processing required to cope with the increased interactivity, and thus led to no improvements in embodied cognition.

In conclusion, the present study suggests that interactivity could be the best solution for online retailers of fashion and apparel products to overcome the limitations of the computer mediated environment. The results suggest that interactivity enables customers to retrieve their embodied information and thus sets off their embodied cognition. Therefore, the present study recommends creating an interactive website that allows image manipulation. However, the level of website interactivity should be given special attention to insure providing online-shoppers with product-body information and enable customers to retrieve information stored in their body as well as information stored in their mind. Retailers are encouraged to evaluate interactivity features and to focus on understanding what interactivity is, what it can do and what it cannot do (Liu and Shrum, 2002).

7.3.3 Interactivity and Attitude

To test the effect of website interactivity on attitude the present study applied a one-way ANOVA test to compare the means between the control group — the group which viewed the ZIW — and the experiment group — the group which viewed the HIW. Different results were found when applying the test using the British sample and the Jordanian sample as follows:

7.3.3.1 Interactivity and Attitude the British Sample

A significant mean difference between control group (M=3.38, SD=1.042) and experiment group (M=3.89, SD=1.54) was reported in the British sample. This result indicates that those who were subject to HIW and could manipulate the image of the product formed a better attitude towards using the website. These results show that participants form a better attitude towards retailer's website when exposed to a highly interactive presentation compared to participants exposed to a lower interactive websites.

Empirical research supports that a higher level of interactivity enhances attitude towards online retailers' websites. For example, Li et al. (2001) reported that customers had a positive attitude towards 3D visualizations of bedding, as compared to 2D graphics of the product.

7.3.3.2 Interactivity and attitude the Jordanian Sample

A non-significant mean difference between control group (M=3.59, SD=1.29) and experiment group (M=3.79, SD=1.11) was reported in the Jordanian sample. This result suggests that participants who were subject to ZIW and HIW formed the same attitude towards the website and were not influenced by the difference in interactivity level.

These results show that participants' attitude was not influenced by websites level of interactivity. This result could be explained in reference to the level of experience with online shopping. The Jordanian sample could be described as less experienced sample with shopping online in comparison to the British sample. Therefore, dealing with highly interactive website could have put excessive pressure on cognitive processing (Liu and Shrum, 2002). As a result, participants showed no appreciation of interactivity

7.3.4 Interactivity and Purchase Intention

To test the effect of website interactivity on purchase intention the present study applied a one-way ANOVA test to compare the means between the control group — the group which

viewed the ZIW — and the experiment group — the group which viewed the HIW. Different results were found when applying the test using the British sample and the Jordanian sample as follows:

7.3.4.1 Interactivity and Purchase Intention the British sample

A non-significant mean difference between control group (M=3.27, SD=1.55) and experiment group (M=3.64, SD=1.58) was reported in the British sample. This result suggests that participants who were subject to ZIW and HIW formed the same intention towards purchase using the website and were not influenced by the difference in interactivity level.

These results show that participants' intention to purchase was not influenced by websites level of interactivity. This result comes opposite to previous results reported in the literature. For example, Li et al. (2001) reported that interactivity influence purchase intention in the case where participants were exposed to 3D visualizations of bedding, as compared to 2D graphics of the product. This result provides an opportunity for future research.

7.3.4.2 Interactivity and Purchase Intention the Jordanian sample

A non-significant mean difference between control group (M=1.85, SD=.43) and experiment group (M=1.82, SD=.42) was reported in the Jordanian sample. This result suggests that participants who were subject to ZIW and HIW formed the same intention towards purchase using the website and were not influenced by the difference in interactivity level.

As it was mentioned previously the Jordanian sample could be described as less experienced sample compared British sample. Therefore, dealing with highly interactive website could have put excessive pressure on participants cognitive processing (Liu and Shrum, 2002). As a result, participants showed no appreciation of interactivity.

7.4 Research Contributions

7.4.1 Theoretical Contributions

To explain consumers' acceptance of a new technology, the present study uses the UTAUT as the theoretical foundation. It then proposed extending UTAUT through incorporating a hedonic dimension. The proposed hedonic dimension was perceived playfulness, which itself has two first-order latent antecedents; vividness and embodied cognition. vividness — visual in this case—is related to the vividness of the shopping environment as represented on-line and to what extent its visual cues stimulate consumers to form strong (as opposed to weak) mental images of the product that they seek to buy. Embodied cognition represents the relationship between the pre-existing knowledge that is saved in mind and body. The present study also reintroduces attitude to the model as an important construct in predicting purchase intention. As a result, the present study contributes to the academic literature in the following ways:

Firstly, the present study reinforces the role of the hedonic dimension in technology acceptance in the consumer context such as on-line shopping, especially where experiential products—like apparel—are involved. Furthermore, it contributes to a deeper understanding of the hedonic dimension and highlights the importance of creating a complete UX.

Secondly, the present study's main contribution is extending UTAUT to the consumer technology acceptance and use context. Previous research has mainly focused on technology acceptance in organizational context and addressed performance expectancy as the key factor that influence technology acceptance and use (Venkatesh et al., 2012). The present research, introduced perceived playfulness as a hedonic construct that influence technology acceptance in the consumer context.

Thirdly, the present research added to the knowledge of UX in the online shopping context. The present study extended understanding of UX elements. The construct embodied

cognition was introduced as one element of UX that represents users' ability to retrieve their embodied knowledge about the experiential product. As a result, it is more possible for the technology users to engage in the VR and replicate his/her experience in the real world.

Fourthly, In general, most of the technology acceptance models are developed and designed in the western countries. Therefore, they could be perceived as biased and their applicability to other cultural context might be questioned (Hill et al., 1998). The present study tested the applicability of the proposed model in western and non-western countries to overcome this problem. Findings suggested that the proposed model is applicable in both countries, however, one variable — social influence — was found to significantly influence user acceptance in the non-western country but not in the non-western countries. The present research's hypothesis that cultural individuality level — "a framework for cross-cultural communication, describing the effects of a society's culture on the values of its members, and how these values relate to behaviour" (Hofstede, 2010, no pagination) — was the reason behind these results. However, this proposition was denied. This finding opens a window for future research on what factors influence the relationship between social influence and attitude in western and non-western countries.

7.4.2 Managerial Implications

Overall, the present study provides managers and e-retailers with an overall understanding of on-line shopping, especially where experiential products — like apparel — are involved. The present research identified two main differences between shopping offline (i.e., in the physical world) and online (i.e., in the virtual world). The first difference is linked to the process of purchasing clothing item offline which is described as a fun event and results in fulfilling both a utilitarian and hedonic needs compared to the process of purchasing clothing item online which might not be able to fulfil both utilitarian and hedonic needs. The second difference is related to the individual's ability to use more than one sense while

shopping offline, and being limited to only one sense (sight) while shopping online. The present study suggests that managers and e-retailers should focus on building an experience through their websites that equally satisfies customers' utilitarian and hedonic needs through mimicking the experience of the offline clothes shopping.

Findings suggested a relationship between website interactivity level and creating a rich UX. Moreover, the present study introduced key factors that influence customer acceptance of online-shopping websites. And, provided managers and e-retailers with guidelines to different website features and provides them with a guideline to the important features that they should adopt to create a successful UX. However, findings suggests that managers and e-retailers should take customers level of experience into consideration when determining their websites interactivity level.

The present research brings attention to new technologies that allows creating telepresence, such as product visualization technologies (e.g., try-it-on technology) (Kim and Forsythe, 2008). Product visualization technologies are expected to increase the perceived playfulness associated with purchasing clothes online. The results of the present study suggested that embodied cognition and vividness positively influence perceived playfulness. Therefore, building a website that allows customers to accurately portray how selected clothing item will fit their body might be the answer to the question of how to bridge the gap between offline and online shopping experience.

7.5 Research Limitations and Future Research Direction

There are a number of limitations associated with the present study that should be taken into consideration for future research. One limitation of the present research is the use of college students for the sample. Although this sample was used in order to control for different demographic aspects between the two countries under investigation, having a more

diversified sample might increase the representation of the community and enhance the possibility of generalizing the results.

The present study has mainly focused on the direct relationships between different constructs of the model. However, the moderation role of different demographic (age, gender, experience) and psychographic (lifestyle) aspects should be investigated in future research in order to present a more robust model. Also, the moderation role of culture was only tested on the relationship between social influence and attitude only. The differences between the two cultures implies that in the low individualistic culture (Jordan) individual gives a lot of importance to what the society is expecting from him/her to do, and his actions are influenced by the opinion of other members of the society which he seeks their approval on his/her actions. On the other hand, individual of the high individualistic culture (The UK) is less influenced by the opinion of other members of the society and does not necessary seek their approval on his/her actions. As a result of the researcher focused on the influence of other society members (social influence) on shaping attitude towards online shopping. However, cultural differences could influence and moderate other relationships in the model which could be investigated in the future research.

Another limitation to address is measuring social influence towards general online shopping rather than on the website level, as the rest of the constructs. The present study used a mock-up website which was not available except for participants of this study; therefore, it was not possible to measure the influence of approving the website itself on participants' decision.

Another limitation is the limited number of products used within the experiment. The featured clothing items were described as casual high street clothes with affordable prices, which raise the question as to whether there might be different results if the items were high end fashion clothes. Also, the provided information was only perceived through sight

(Schlosser, 2003). For example, adding different sounds that might be related to the product texture and its effect on image mental vividness and embodied cognition was not monitored in the present study. Future studies replicating this experiment are advised to add more elements that might use different senses like hearing in order to measure its effect on embodied cognition.

Finally, the literature has focused on different factors related to credibility like trust, risk and security. Constructs associated with credibility were not considered in the present study due to the applied methodology. Therefore, future studies should take these constructs into consideration and measure its effect on the model.

Future research needs to replicate the present study with the aim to improve the generalizability of the proposed model. Further investigation using a more general and diversified sample is expected to enhance the results of the present study. The present study focused on only one intrinsic factor associated with the hedonic dimension — perceived playfulness — and only one of its antecedents — UX. Further examination of other antecedents is expected to enrich this research and provide a better understanding of the hedonic dimension of e-shopping. Furthermore, studying the dynamic effect of different intrinsic factors (e.g., perceived playfulness and self-gratification) on the model is expected to extend understanding of the effect of intrinsic and hedonic factors on purchase intention.

7.6 Chapter Summary

As was mentioned previously in the methodology and model construction chapters, the present study has adopted UTAUT as its base model and the theory of flow as a complement to propose a holistic attitudinal model. A set of hypotheses related to the original theories' constructs, along with a set of hypotheses associated with a new construct, referred to as the hedonic aspect and which included the independent variable perceived playfulness and its predictors embodied cognition and vividness, were proposed and tested.

The model was tested using two sample sets, separately, from two countries representing a high individualistic western country, the United Kingdom, and a low individualistic non-western country, Jordan.

The results of hypotheses testing were discussed in the present chapter in reference to the theory and the literature. In conclusion, the present study hypothesis is consistent with the literature and theory. The results also provided evidence that the hedonic aspect was accepted in the model.

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9 List of Abbreviations

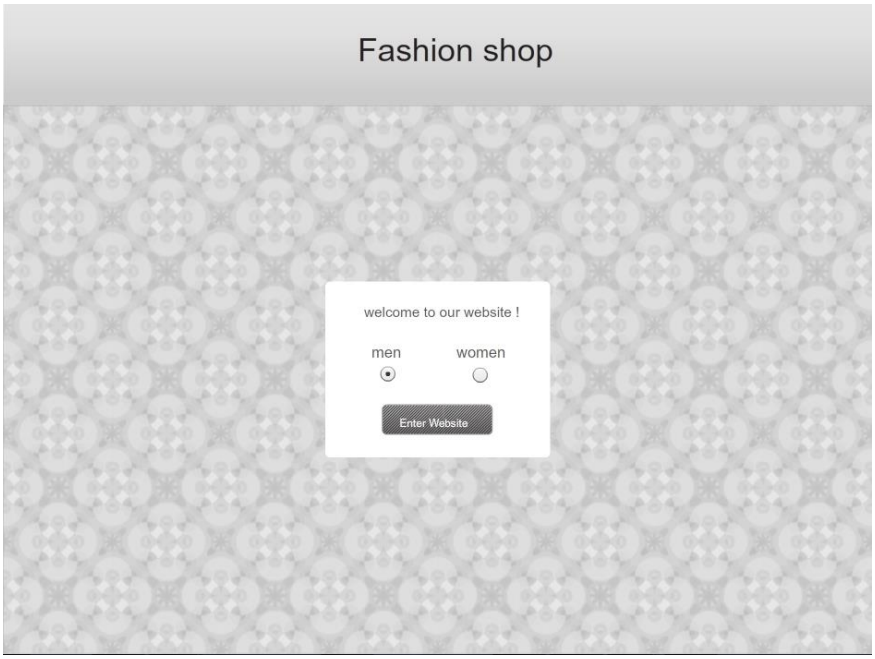
ATT	Attitude
AVE	Composite Reliability Test
BSRI	The Bem Sex Role Inventory
CFA	Confirmatory Factor Analysis
CMV	Common Method Variance
EC	Embodied Cognition
EE	Effort Expectancy
EFA	Exploratory Factor Analysis
FC	Facilitating Conditions
FMCG	Fast Moving Consumer Goods
HKJ	The Hashemite Kingdom of Jordan
HIW	High Interactive Website
IDT	Innovation Diffusion theory
MM	Motivational Model
MPCU	Model of PC Utilization
PE	Performance Expectancy
PEOU	Perceived Ease of Use
PI	Purchase Intention
PP	Perceived Playfulness
PU	Perceived Usefulness
SCT	Social Cognitive Theory
SEM	Structural Equation Modelling

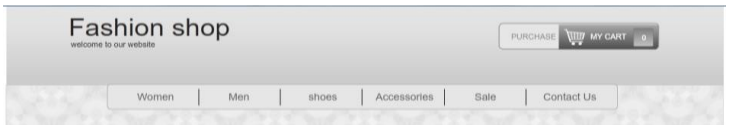
SI	Social Influence
SN	Subjective Norms
V	Vividness
TAM	Technology Acceptance Model
TAM2	Technology Acceptance Model 2
TRA	Theory of Reason Action
TPB	Theory of Planed Behaviour
UK	The United Kingdom
UTUT	The Unified Theory of Acceptance and Use of Technology
UX	User Experience
VR	Virtual Reality
WWW	World Wide Web
ZIW	Zero Interactive Website
2D	Two Dimensional
3D	Three Dimensional

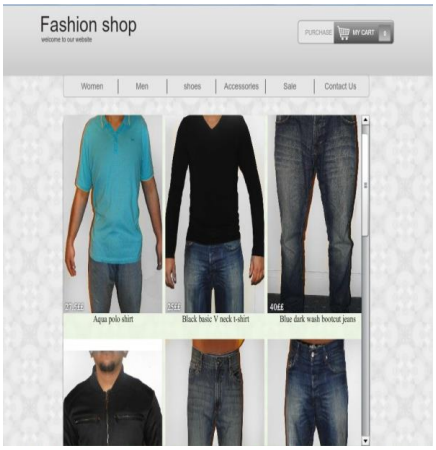
10 **Appendix**

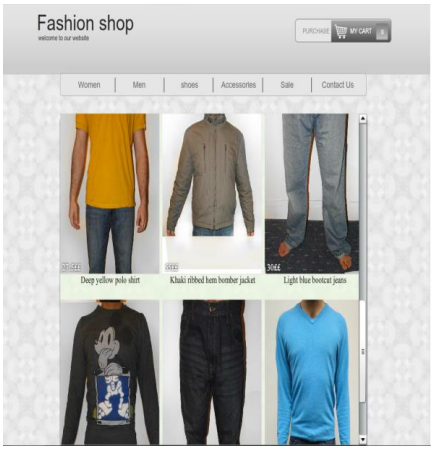
10.1 Appendix A

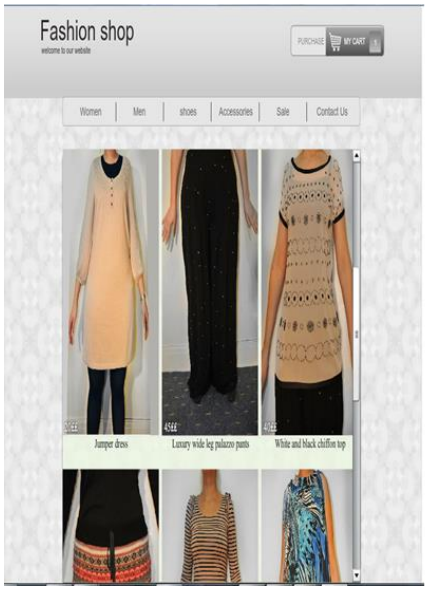
10.1.1 Zero Interactive Website



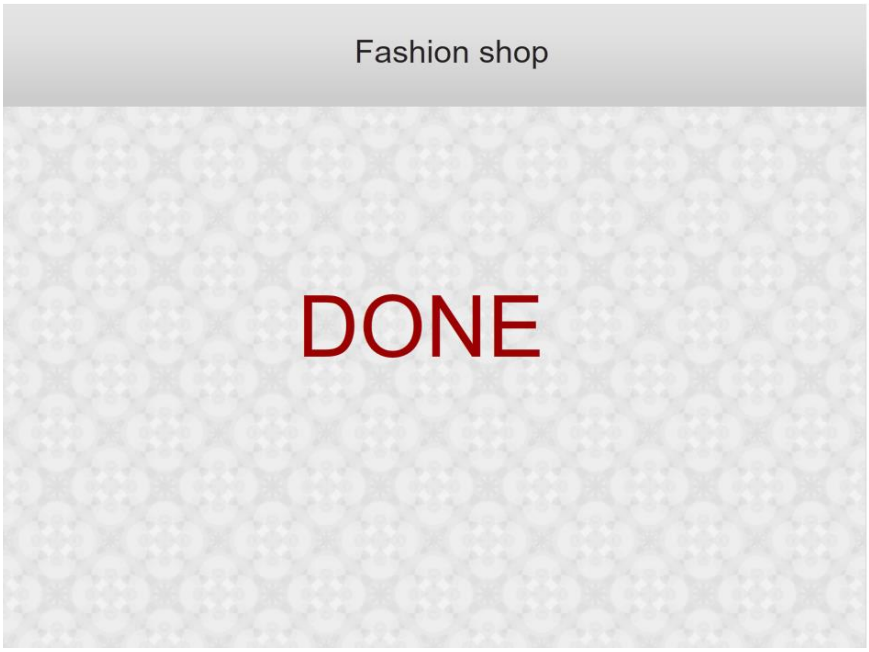

Fashion shop
welcome to our website
PURCHASE
MY CART
0
Women
Men
shoes
Accessories
Sale
Contact Us


Fashion shop
welcome to our website
PURCHASE
MY CART
Women
Men
shoes
Accessories
Sale
Contact Us
Aqua polo shirt
Black basic V neck t-shirt
Blue dark wash bootcut jeans

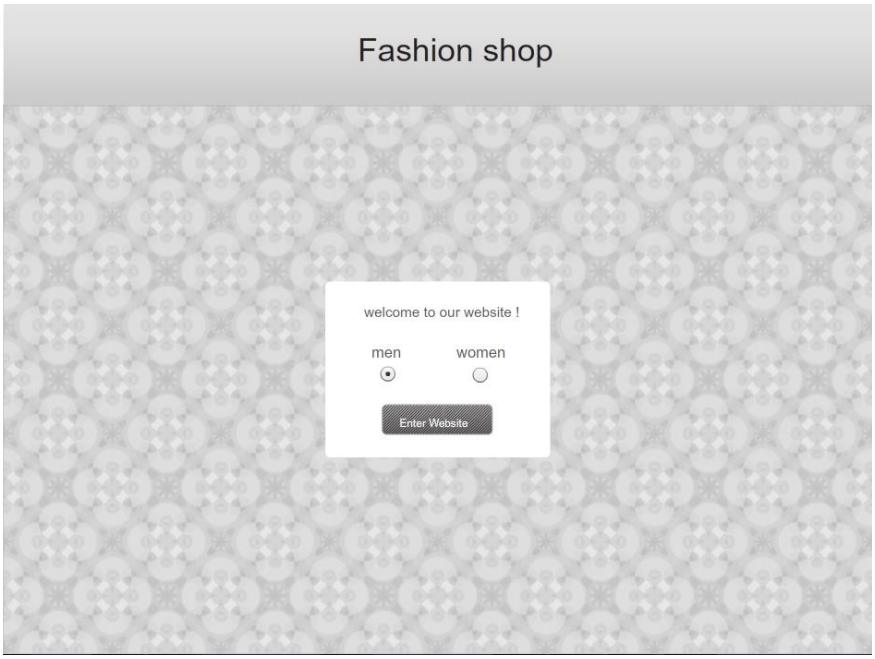

Fashion shop
welcome to our website
PURCHASE
MY CART
Women
Men
shoes
Accessories
Sale
Contact Us
Deep yellow polo shirt
Khaki ribbed hem bomber jacket
Light blue bootcat jeans

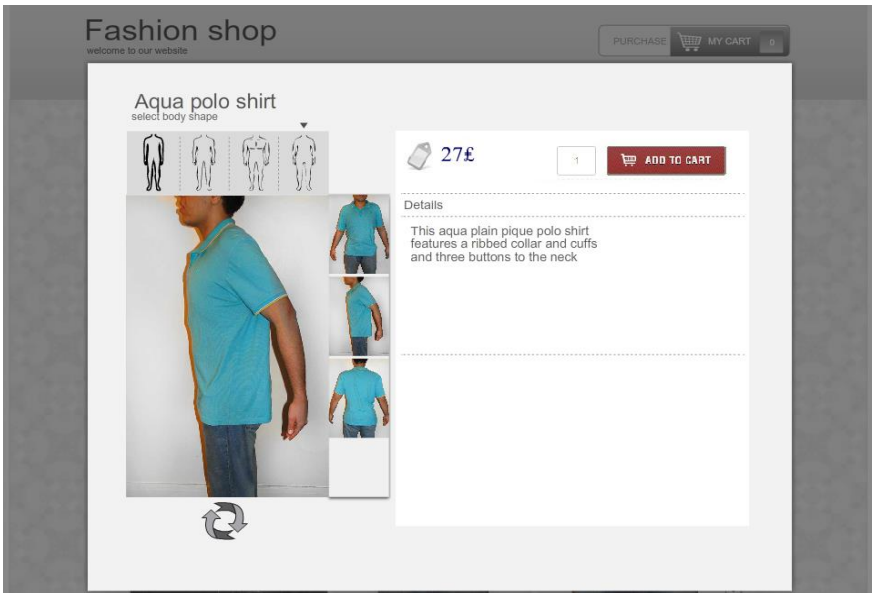

Fashion shop
welcome to our website
PURCHASE
MY CART
Women
Men
shoes
Accessories
Sale
Contact Us
Jumper dress
Luxury wide leg palazzo pants
White and black chiffon top

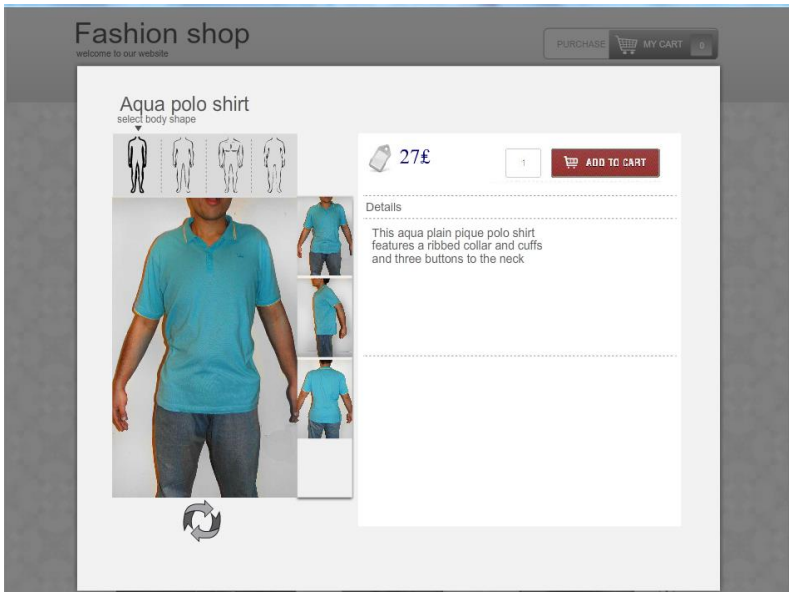

Fashion shop
Aqua polo shirt
Orange floral printed top
<<back
Purchase

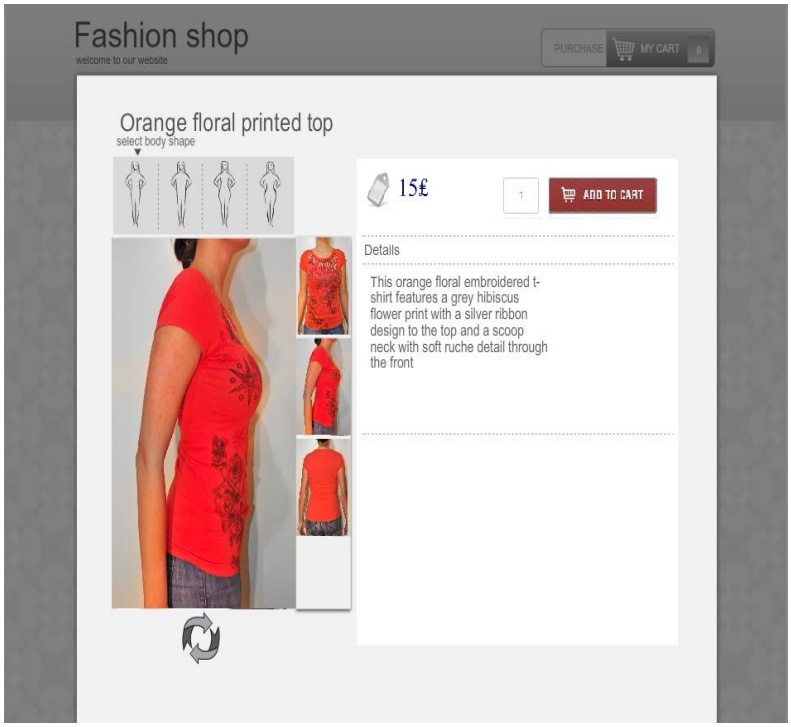

Fashion shop
DONE

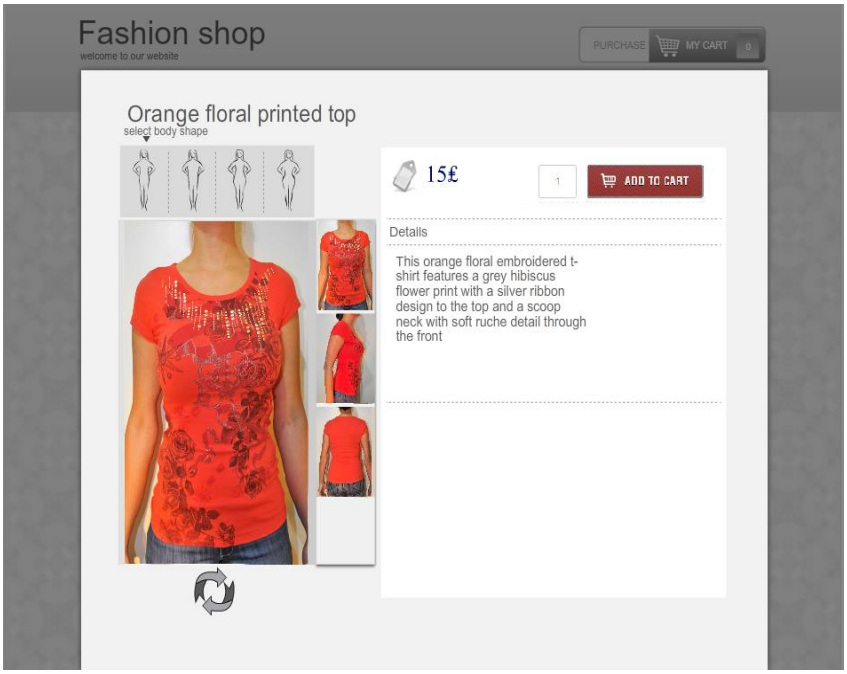
10.1.2 High Interactive Website

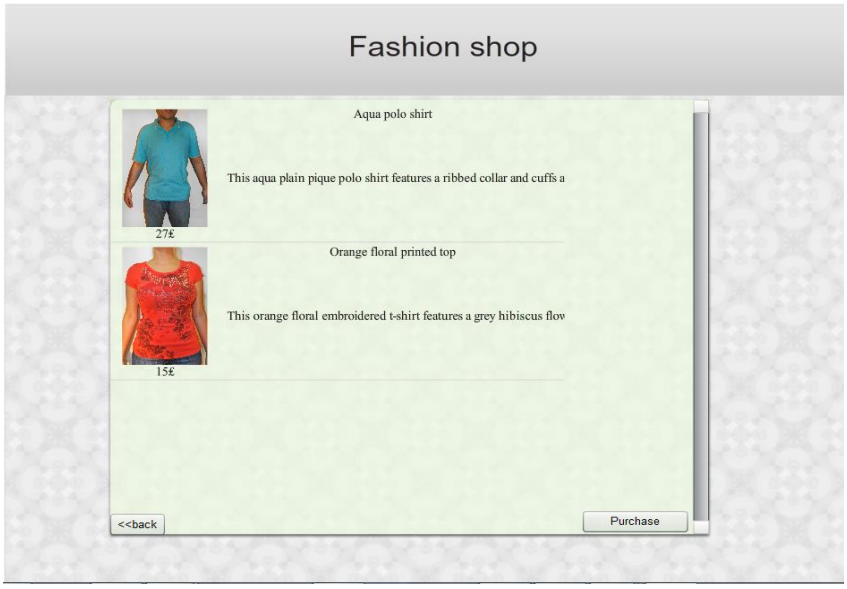


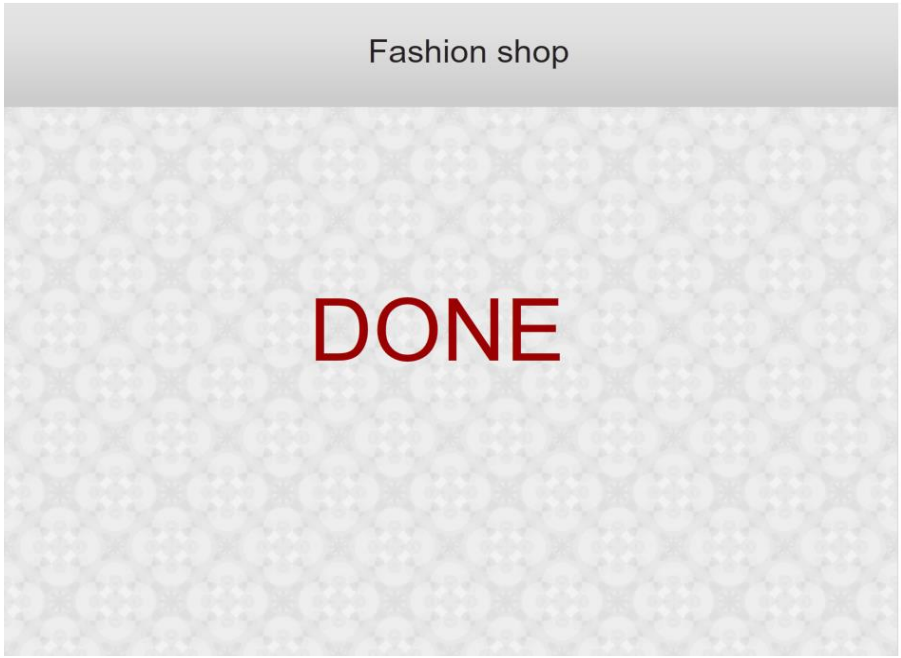



Fashion shop
welcome to our website
PURCHASE
MY CART
Aqua polo shirt
select body shape
27£
ADD TO CART
Details
This aqua plain pique polo shirt features a ribbed collar and cuffs and three buttons to the neck


Fashion shop
welcome to our website
PURCHASE
MY CART
Orange floral printed top
select body shape
15£
ADD TO CART
Details
This orange floral embroidered t-shirt features a grey hibiscus flower print with a silver ribbon design to the top and a scoop neck with soft ruche detail through the front


Fashion shop
welcome to our website
PURCHASE
MY CART
Orange floral printed top
select body shape
15£
ADD TO CART
Details
This orange floral embroidered t-shirt features a grey hibiscus flower print with a silver ribbon design to the top and a scoop neck with soft ruche detail through the front


Fashion shop
Aqua polo shirt
This aqua plain pique polo shirt features a ribbed collar and cuffs a
27£
Orange floral printed top
This orange floral embroidered t-shirt features a grey hibiscus flow
15£
<<back
Purchase


Fashion shop
DONE

10.2 Appendix B

10.2.1 The Questionnaire

Dear participant:

Thank you for participating in this study. I am a PHD student at Leeds University Business School, as a part of my doctoral research at Leeds University Business School I will be investigating consumer online behaviour. In this study you will first observe and use a fictitious mock-up website. Then you will evaluate the website and indicate your browsing experience by responding to a series of straightforward questions. Ultimately the intention of this study is to provide firms with insight into how to professionally design real websites. The next section will explain the task- that is a computer session-which you are about to participate in.

Your Task

This study requires you to view and browse through a clothes selling website and make a purchase from the available collection. Your task is similar to the task of buying on functioning websites. The website has two sections: for men and for women. Feel free to go through either of these two sections or through both of them. The main screen will allow you to choose one of the sections and the inside screen will allow you to move between the sections using the bar at the top of the page you are on (with options men, women, shoes etc.). Kindly note that the only available options for you to click on here are 'men' and 'women'.

If you wish to buy an item, please click on it. This item will be added to the basket that contains all the items that you consider buying. When done with your shopping, click on the purchase icon in the top right corner of the screen. By clicking on purchase you will be redirected to the final page where you can view all the items in your cart and which you intend to purchase. At that point, you will have the option of going back to add more items. Once you have finally decided on the items you will purchase please click on "Purchase" in the bottom right corner of

this page. The viewing session will end when the word "Done" appears on the screen.

Obviously, in this exercise you will spend no money of your own.

When you are done with using the website, please fill out the questionnaire provided. Your answers have to be based on your actual experience with this website.

Thank you

This study (**AREA 11-014**) was approved by the Ethical committee on 10.08.2012.

Please answer all the questions below. The questions are concerned with your experience with the website that you have just browsed. Indicate to what extent you disagree or agree with each of the statements on the left by circling the appropriate number

	Question	Strongly Disagree			Neither			Strongly Agree
1	I was able to decide quickly whether I would buy a particular item or not	1	2	3	4	5	6	7
2	I think that using this website to purchase clothes would save me time	1	2	3	4	5	6	7
3	I think that this website is useful for purchasing clothes	1	2	3	4	5	6	7
4	I think that using this website to purchase clothes is efficient	1	2	3	4	5	6	7
5	I could better decide on which item(s) to purchase because I was able to tell from the website if the item fits my body	1	2	3	4	5	6	7
6	After using this website I could form an impression of the clothes' texture	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
7	Learning to use this website was easy for me	1	2	3	4	5	6	7
8	Interaction with this website was clear and understandable to me	1	2	3	4	5	6	7
9	It would be easy for me to become skilful at using this website	1	2	3	4	5	6	7
10	It is difficult to learn how to use this website	1	2	3	4	5	6	7
11	It takes too long a time to learn how to use this website	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
12	Most people who are important to me approve of my shopping online	1	2	3	4	5	6	7
13	Most people like me to shop online	1	2	3	4	5	6	7
14	Most people who are important to me encourage me to shop online	1	2	3	4	5	6	7
15	Most people who are important to me think that I should avoid shopping online	1	2	3	4	5	6	7
16	Most people who are important to me prefer if I shop online	1	2	3	4	5	6	7
17	Most people who are important to me support my shopping online	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
18	I found my visit to this website enjoyable	1	2	3	4	5	6	7
19	I found my visit to this website exciting	1	2	3	4	5	6	7
20	I found my visit to this website fun	1	2	3	4	5	6	7
21	I found my visit to this website pleasant	1	2	3	4	5	6	7
22	I found my visit to this website interesting	1	2	3	4	5	6	7
23	While browsing this website, I was not thinking about time v	1	2	3	4	5	6	7
24	While browsing this website, I was not aware of any background noise	1	2	3	4	5	6	7
25	Using this website makes shopping enjoyable	1	2	3	4	5	6	7
26	Using this website makes shopping fun	1	2	3	4	5	6	7
27	Using this website stimulates my curiosity about the other items available on the web site	1	2	3	4	5	6	7
28	Using this website leads to exploring options for fun	1	2	3	4	5	6	7
29	Using this website stimulates my imaginative thinking (ie. the ability to mentally imagine yourself wearing a specific item)	1	2	3	4	5	6	7
30	When interacting with this website, I did not keep thinking of the time	1	2	3	4	5	6	7
31	I found my experience on this website to be engaging	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
32	Given the chance, I intend to use this retailer's website	1	2	3	4	5	6	7
33	Given the chance, I predict I should use this retailer's website in the future	1	2	3	4	5	6	7
34	Given the chance, it is likely that I would transact with this retailer's website in the near future	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
35	I found images of products on this website vivid	1	2	3	4	5	6	7
36	I have a concrete picture of items on this website in my mind	1	2	3	4	5	6	7
37	I have a clear image of the items on this website in my mind	1	2	3	4	5	6	7
38	It is easy for me to evoke a picture of the item in my mind right now	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
39	I was able to closely examine the items	1	2	3	4	5	6	7
40	I was able to examine the items from multiple viewpoints	1	2	3	4	5	6	7
41	I was able to move and manipulate the items on the website	1	2	3	4	5	6	7
42	I found the virtual presentation of the items compelling	1	2	3	4	5	6	7
43	My interaction with the items on this website seemed consistent with the real world experience	1	2	3	4	5	6	7

	Question	Strongly Disagree			Neither			Strongly Agree
44	The thought of buying a product from this website is appealing to me	1	2	3	4	5	6	7
45	I like the idea of buying clothes on this website	1	2	3	4	5	6	7
46	Using this website to buy clothes at this on-line store would be a good idea	1	2	3	4	5	6	7
47	I would have positive feelings towards buying a product from this website	1	2	3	4	5	6	7

Finally we need to ask you some basic personal information. Please keep in mind that your anonymity is fully protected and that the answers cannot be linked to individual participants.

Please number the adjectives with a number from 1 to 7, reflecting the degree to which you think the adjective applies to you

	Question	Almost Always True			Neither			Almost Never True
48	Self-reliant	1	2	3	4	5	6	7
49	Yielding	1	2	3	4	5	6	7
50	Helpful	1	2	3	4	5	6	7
51	Defends own beliefs	1	2	3	4	5	6	7
52	Cheerful	1	2	3	4	5	6	7

53	Moody	1 2 3 4 5 6 7
54	Independent	1 2 3 4 5 6 7
55	Shy	1 2 3 4 5 6 7
56	Conscientious	1 2 3 4 5 6 7
57	Athletic	1 2 3 4 5 6 7
58	Affectionate	1 2 3 4 5 6 7
59	Theatrical	1 2 3 4 5 6 7
60	Assertive	1 2 3 4 5 6 7
		Almost Always True 1 2 3 4 5 6 7 Almost Never True
61	Flatterable	1 2 3 4 5 6 7
62	Happy	1 2 3 4 5 6 7
63	Strong personality	1 2 3 4 5 6 7
64	Loyal	1 2 3 4 5 6 7
65	Unpredictable	1 2 3 4 5 6 7
66	Forceful	1 2 3 4 5 6 7
67	Feminine	1 2 3 4 5 6 7
68	Reliable	1 2 3 4 5 6 7
69	Analytical	1 2 3 4 5 6 7
70	Sympathetic	1 2 3 4 5 6 7
71	Jealous	1 2 3 4 5 6 7
72	Has leadership qualities	1 2 3 4 5 6 7
73	Sensitive to the needs of others	1 2 3 4 5 6 7
74	Truthful	1 2 3 4 5 6 7
75	Willing to take risks	1 2 3 4 5 6 7
76	Understanding	1 2 3 4 5 6 7
77	Secretive	1 2 3 4 5 6 7
78	Makes decisions easily	1 2 3 4 5 6 7
79	Compassionate	1 2 3 4 5 6 7
80	Sincere	1 2 3 4 5 6 7
81	Self-sufficient	1 2 3 4 5 6 7

82	Eager to soothe hurt feelings	1 2 3 4 5 6 7
83	Conceited	1 2 3 4 5 6 7
84	Dominant	1 2 3 4 5 6 7
85	Soft-spoken	1 2 3 4 5 6 7
86	Likable	1 2 3 4 5 6 7
87	Masculine	1 2 3 4 5 6 7
88	Warm	1 2 3 4 5 6 7
89	Solemn	1 2 3 4 5 6 7
90	Willing to take a stand	1 2 3 4 5 6 7
91	Tender	1 2 3 4 5 6 7
		Almost Always True Neither Almost Never True
92	Friendly	1 2 3 4 5 6 7
93	Aggressive	1 2 3 4 5 6 7
94	Gullible	1 2 3 4 5 6 7
95	Inefficient	1 2 3 4 5 6 7
96	Acts as a leader	1 2 3 4 5 6 7
97	Childlike	1 2 3 4 5 6 7
98	Adaptable	1 2 3 4 5 6 7
99	Individualistic	1 2 3 4 5 6 7
100	Does not use harsh language	1 2 3 4 5 6 7
101	Unsystematic	1 2 3 4 5 6 7
102	Competitive	1 2 3 4 5 6 7
103	Loves children	1 2 3 4 5 6 7
104	Tactful	1 2 3 4 5 6 7
105	Ambitious	1 2 3 4 5 6 7
106	Gentle	1 2 3 4 5 6 7
107	Conventional	1 2 3 4 5 6 7

108	Your Age	
109	Gender (tick an appropriate box)	☐ Male ☐ Female

110	I started using the internet to shop (tick an appropriate box)	☐ Never ☐ less than one year ago ☐ Over 1 year and less than 3 years ago ☐ Over 3 years and less than 5 years ago ☐ Over 5 years and less than 7 years ago ☐ Over 7 years and less than 10 years ago ☐ Over 10 years and less than 12 years ago ☐ Over 12 years ago
111	How frequently do you shop online (tick an appropriate box)	☐ Never ☐Once a year ☐ Once a month ☐ Twice a month ☐ About once a week ☐ About 2-3 times a week ☐ About 4-6 times a week ☐ About once a day ☐ More than once a day
112	How much time on average you spend shopping online per shopping session (that is, per each time you shop on-line)	---------- hour(s) ---------- --------minute(s)

10.3 Appendix C

10.3.1 Manipulation Checks:

10.3.2 The British Sample One-Way ANOVA Test

Descriptives

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
zero interactive	110	2.7073	1.15724	.11034	2.4886	2.9260	1.00	5.80
high interactive	112	4.0929	1.30306	1. .12313	3.8489	4.3368	1.00	7.00
Total	222	3.4063	1.41260	.09481	3.2195	3.5931	1.00	7.00

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
EC	1.319	1	220	.252

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
EC	Between Groups	106.543	1	106.543	70.084	.000
	Within Groups	334.448	220	1.520		
	Total	440.991	221			

10.3.3 The Jordanian Sample One-Way ANOVA Test

Descriptives

Embodied cognition

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
zero interactive	140	1.9580	.37632	.03180	1.8951	2.0209	1.18	2.65
High interactive	118	1.8647	.37551	.03457	1.7962	1.9332	1.00	2.65
Total	258	1.9153	.37809	.02354	1.8690	1.9617	1.00	2.65

Test of Homogeneity of Variances

Embodied cognition

	Levene Statistic	df1	df2	Sig.
EC	.433	1	256	.511

ANOVA

Embodied cognition

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.557	1	.557	3.941	.048
Within Groups	36.182	256	.141		
Total	36.739	257			

10.4 Factor Analysis

10.4.1 The British PE, EE, and SI EFA Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.727
Bartlett's Test of Sphericity	Approx. Chi-Square	776.850
	df	45
	Sig.	.000

Rotated Component Matrix[a]

	Component		
	1	2	3
I was able to decide quickly whether I would buy a particular item or not			
I think that using this website to purchase clothes would save me time		.731	
I think that this website is useful for purchasing clothes		.870	
I think that using this website to purchase clothes is efficient		.775	
Learning to use this website was easy for me	.875		
Interaction with this website was clear and understandable to me	.901		
It would be easy for me to become skilful at using this website	.750		
Most people who are important to me encourage me to shop online			.675
Most people who are important to me prefer if I shop online			.845
Most people who are important to me support my shopping online			.836

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 4 iterations.

10.4.2 The Jordanian PE, EE, and SI EFA Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.771
Bartlett's Test of Sphericity	Approx. Chi-Square	1053.883
	df	55
	Sig.	.000

Rotated Component Matrix[a]

HKJ	Component		
	1	2	3
I was able to decide quickly whether I would buy a particular item or not			
I think that using this website to purchase clothes would save me time			.792
I think that this website is useful for purchasing clothes			.860
I think that using this website to purchase clothes is efficient			.807
Learning to use this website was easy for me		.847	
Interaction with this website was clear and understandable to me		.844	
It would be easy for me to become skilful at using this website		.719	
Most people who are important to me approve of my shopping online	.801		
Most people like me to shop online	.859		
Most people who are important to me encourage me to shop online	.823		
Most people who are important to me prefer if I shop online	.714		

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

10.4.3 The British ATT and PI EFA Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.909
Bartlett's Test of Sphericity	Approx. Chi-Square	1941.569
	df	21
	Sig.	.000

Rotated Component Matrix[a]

	Component	
	1	2
The thought of buying a product from this website is appealing to me	.844	
I like the idea of buying clothes on this website	.855	
Using this website to buy clothes at this on-line store would be a good idea	.791	
I would have positive feelings towards buying a product from this website	.851	
Given the chance, I intend to use this retailer's website		.888
Given the chance, I predict I should use this retailer's website in the future		.877
Given the chance, it is likely that I would transact with this retailer's website in the near future		.827

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

10.4.4 The Jordanian ATT and PI EFA Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.876
Bartlett's Test of Sphericity	Approx. Chi-Square	1448.968
	df	21
	Sig.	.000

Rotated Component Matrix[a]

	Component	
	1	2
The thought of buying a product from this website is appealing to me	.848	
I like the idea of buying clothes on this website	.858	
Using this website to buy clothes at this on-line store would be a good idea	.839	
I would have positive feelings towards buying a product from this website	.833	

Given the chance, I intend to use this retailer's website		.869
Given the chance, I predict I should use this retailer's website in the future		.884
Given the chance, it is likely that I would transact with this retailer's website in the near future		.851

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

10.4.5 The British EC and SP EFA results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.784
Bartlett's Test of Sphericity	Approx. Chi-Square	1154.542
	df	28
	Sig.	.000

Rotated Component Matrix[a]

	Component	
	1	2
I found images of products on this website vivid	.685	
I have a concrete picture of items on this website in my mind	.912	
I have a clear image of the items on this website in my mind	.928	
It is easy for me to evoke a picture of the item in my mind right now	.871	
I was able to closely examine the items he		.810
I was able to examine the items from multiple viewpoints		.883
I was able to move and manipulate the items on the website		.918
I found the virtual presentation of the items compelling		.713

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

10.4.6 The Jordanian EC and SP EFA results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.838
Bartlett's Test of Sphericity	Approx. Chi-Square	1028.563
	df	28
	Sig.	.000

Rotated Component Matrix[a]

	Component	
	1	2
I found images of products on this website vivid	.697	
I have a concrete picture of items on this website in my mind	.884	
I have a clear image of the items on this website in my mind	.880	
It is easy for me to evoke a picture of the item in my mind right now	.738	
I was able to closely examine the items he		.824
I was able to examine the items from multiple viewpoints		.857
I was able to move and manipulate the items on the website		.781
I found the virtual presentation of the items compelling		.637

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

10.4.7 +The British PP EFA Results

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.887
Bartlett's Test of Sphericity	Approx. Chi-Square	1467.230
	df	55
	Sig.	.000

Rotated Component Matrix[a]

	Component

	1	2
I found my visit to this website enjoyable	.789	
I found my visit to this website exciting	.845	
I found my visit to this website fun	.809	
I found my visit to this website pleasant	.802	
I found my visit to this website interesting	.743	
While browsing this website, I was not thinking about time v		.831
While browsing this website, I was not aware of any background noise		.707
Using this website makes shopping enjoyable	.776	
Using this website makes shopping fun	.816	
Using this website stimulates my curiosity about the other items available on the web site		.554
When interacting with this website, I did not keep thinking of the time		.796

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.