

3 Essays on Art eCommerce in the Light of Western Commercial Art Markets

Acceptance (Adoption), Implementation (Use), Consequences (Impact)

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ABSTRACT

The past few years have seen a quantum jump in the increase of Information and Communication Technology (ICT) - related innovations and e-businesses primarily embracing in consumer-oriented, web-based electronic commerce (EC) dedicated to selling visual art and collectible items in the western commercial art markets. The Internet medium functions as a novel retail patronage mode, wherein art objects can be discovered and purchased entirely online, without usually being able to inspect the object prior to purchase physically.

Despite the growing media interest in EC of art objects (art EC) in this sector and while the cultural industry (e.g. the music, film) has so far changed greatly from the application of the Internet and ICT, the reality is that the sales generated in the online visual art segment have still mostly fallen short of their potential when compared to the offline art market and the art market is struggling to move to the online space. Stimulating demand and attracting consumers to purchase visual art solely on the Internet seems to be far more challenging in this demanding sector than in many other industries, setting the art market somewhat apart from other current electronic commerce trends and developments.

One of the key obstacles for art EC diffusion to become more widespread is embedded into the nature of art sale including tight and complex interdependencies and highly personalized sales tradition between buyers and sellers as well as the hedonic nature of the artistic product, causing a perceived discrepancy between the characteristics of the established and the online channels.

Concerning these multiple business challenges, it is imperative to look more closely at this phenomenon to enhance the understanding of this emerging and new segment. Nevertheless, art EC is not easy to be explored due to the complex information requirements, and inadequacy and inaccessibility of data and academic research in the literature. However, this is exactly the reason to face this challenge and to provide valuable insights for this emerging sector.

With this in mind this doctoral dissertation aims to overcome these challenges and provide the first theoretical progression on the dynamic interdependencies among various research disciplines related to online selling of artworks. Additionally, the researcher intends to make practical contributions to the management teams of the innovative applications within the online art segment.

In the absence of comprehensive empirical data from industrial practitioners and academic researchers, qualitative research method was adopted in this research. Using the consumer's

perspective, three essays are presented on specific issues concerning art EC. Essay 1 focuses on art EC adoption by developing a model that predicts the key drivers of consumers' intention to accept and engage in art EC based on Rogers' (1995; 2003) theoretical foundations of Innovation Diffusion Theory (IDT). Essay 2 investigates the implementation and success of different dimensions of art EC by employing the updated Information System (IS) success model by DeLone and McLean (2003; 2004). Finally, essay 3 analyses the consequences of art EC evolution on the existing Western offline art market landscape in terms of disintermediation, cybermediation, and reintermediation through a historical analysis (Gottschalk, 1969).

Each essay in this dissertation makes independent contribution. The findings and conceptual models in essay 1 and essay 2 provide insights into the behavioural aspects and demographic characteristics of potential art EC adopters that can help to predict consumer reactions and explain the reasons for people's resistance to utilise art EC applications. They also highlight the factors that cause users to perceive art EC applications as successful. As for essay 3, it explores the impact of art EC and the Internet based on three settings, which are intermediation, cybermediation, and reintermediation.

Advancing the limited knowledge in this area is essential for electronic vendors (e-vendors) to formulate effective strategies in their effort to develop more successful business or improve their existing online presence. With the findings, these businesses may meet the needs of potential adopters and actual users better as they understand the nature and impact of art EC. Further research is recommended and outlined to verify the developed conceptual models and to establish more realistic assessment of the current art EC status.

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LIST OF ABBREVIATIONS AND ACRONYMS

| | |
|--------------|---|
| Art EC | Art Electronic Commerce |
| B2B | Business to Business |
| B2C | Business to Consumer |
| B2B2C | Business to Business to Consumer |
| C2B | Consumer to Business |
| C2C | Consumer to Consumer |
| D and MM | DeLone and McLean's Model |
| e.g. | exempli gratia (for example) |
| cf. | compare (Latin: confer) |
| e-business | Electronic Business |
| EC | Electronic Commerce |
| e-government | Electronic Government |
| et al. | and others (Latin: et alii) |
| etc. | et cetera (and so forth) |
| EU | European Union |
| e-vendor | Electronic Vendor |
| Fig. | Figure |
| i.e. | id est (that is) |
| ICT | Information and Communications Technology |
| IDT | Innovation Diffusion Theory |
| IS | Information System |
| IT | Information Technology |
| MC | Mobile Commerce |

| | |
|-------|--|
| MIS | Management Information System |
| p. | Page |
| pp. | Pages |
| RQ | research question |
| Tab. | Table |
| TAM | Technology Adoption Model |
| TEFAF | The European Visual Art Fair |
| UK | United Kingdom of Great Britain and Northern Ireland |
| US | United States |
| USD | United States Dollars |
| WEB | World Electronic Base |

PART A

I. INTRODUCTION

Since the rise of the Internet, it has evolved to become a viable and extensively accessible channel for businesses starting from the middle of 1990s (Urbaczewski et al., 2002). The Internet has evolved to become a crucial factor in the current daily life (Jai et al., 2013). The development and application of ICT in operations related to commercial and economic processes have led to the creation of a new interdisciplinary area referred to as EC which plays a significant role in global economic affairs (Feizollahi et al., 2014). It has changed the lifestyle of individuals in the developed countries significantly (MacGregor and Vrazalic, 2005).

A specific form of ICT (Cui et al., 2017), Internet-based EC, is a complex innovation evolving both technologies and business applications coherently (see Garud and Nayyar, 1994, p. 365; Wang and Shi, 2009). It is a powerful force (Laudon and Traver, 2012; Steinfield, 2000; Turban et al., 2006) that has brought massive benefits to both vendors and consumers over time (Chen and Cheng, 2009).

In its broad definition, EC refers to the purchasing and selling of products or services through computer networks like the Internet (Grandon and Pearson, 2004; Schneider, 2008, p. 5) and it is acknowledged as a subset of electronic business (e-business) (Davis and Benamati, 2003; Kim et al., 2006; Mahadevan, 2000; Turban et al., 2002; Turban and King, 2003).¹ EC transaction between a merchant and a customer is commonly denoted as business to customer (B2C) process. B2C is the

¹ It should be noted that when researching and writing this dissertation, the terms online trade, online selling, Internet retailing, e-retailing, electronic shopping, online purchasing, Internet shopping, and Internet selling have all been used interchangeably because this is how they are employed in the wider literature.

focus of this dissertation that can be compared to the retail trade of traditional commerce (Rosaci and Sarnè, 2014).

The potential benefits of Internet -based EC have been studied extensively (see Gefen et al., 2003). Turban et al. (2006) elaborated that EC enables individuals and other customers in the electronic communities to interact, exchange ideas, compare experiences, and participate in online auctions. EC solutions also have several major benefits: (1) ubiquity as the consumers may perform transactions 24-7 and year-round from any location (Turban et al., 2006), (2) diverse products (Park et al., 2012), (3) competitive pricing (Bruce and Daly, 2010), (4) new service features, (5) extensive information, (6) simplicity, (7) efficiency, (8) customisation, and (9) convenience of purchase (see Brynjolfsson et al., 2009; Wu and Wang, 2005; Zwass 2003).

Apart from that, EC contributes to economic efficiency and allows businesses to build good relationships with their customers through expanding supplier's reach, reducing operational and inventory costs, shortening the distance, and solving the time limitation issue (Brynjolfsson et al., 2009; Kourtiti et al., 2011; Levis, 1996; Yang et al., 2015). Thus, EC has created virtual opportunities for all companies ranging from small start-ups to Fortune 100 businesses (Chen and Tan, 2004).

Although EC is still a relatively new concept for a majority of individuals (Oliveira et al., 2017), it has emerged as the most prominent distribution channel in a wide range of industries such as airline, commodity, or consumer retail (Chen, 2010). Like other sectors, the Western commercial contemporary visual art markets are undergoing substantial shifts due to the digital revolution. Various online start-ups, online art auctions, online art galleries, websites for artists, marketplaces, hybrid businesses, and corporate alliances have been very active in exploring various technology-related business models and switching from the primitive type of conventional brick-and-mortar (e.g. in-gallery, in-studio, in-auction house) trading to virtual trading.

Thus in the last few years, the most turbulent technological and entrepreneurial activity has taken place in a hitherto unknown speed and professionalism, as the rapid development of advanced ICT paved the way for the rise of art EC, hence stimulating enthusiastic and controversial debates in the Western commercial art markets around Europe and the United States (US) (Arora and Vermeulen, 2012; Hausmann, 2012; Horowitz, 2012; 2013; Khaire, 2015; Kohle, 2014; Poort et al., 2013; Velthuis, 2012).² A lot of new entrants and online businesses are applying ICT and developing innovative art EC applications and services, boosting the market for buying, selling, and learning about visual art through the Internet medium and engaging in both the primary and secondary art markets with various price spectra and art quality ranges.³

Adelaar (2000) and Polleit-Riechert (2010, p. 134) believed that the recent digital developments may fundamentally affect the art market and its institutions. However, the extent of such impact has yet to be determined. Simultaneous changes in the mode of cultural production and distribution (Venkatesh and Meamber, 2006) have disrupted the infrastructure of the art market and the way in which art is traded, evaluated, and consumed (Arora and Vermeulen, 2012; 2013). The shift to the online realm shapes a new art trading economy with varied opportunities for all market participants, such as art buyers, artists, dealers, commercial art galleries, and art businesses.

The visual art segment is particularly interesting to study because of the long-standing general belief that the perception of art differs from the perception of all other products (Hagtvedt et al., 2008; Joy and Sherry, 2003; Throsby, 1994; Venkatesh and Meamber, 2006; Velthuis and Coslor, 2012).⁴ Kazumori and McMillan (2006), for example, argued that artworks sold through the Internet medium

² Since EC is increasing globally at different paces (cf. eMarketer, 2013a), the current study does not delve into detail at a country-level but focuses on the Western markets.

³ Transactions in the art EC context are mediated on both the primary market (when an artist sells the artwork for the first time) and on the secondary market (when a buyer resells the artwork) (see Resch, 2011; Khaire, 2010; Ivanova 2016).

⁴ The current research concentrates predominantly on contemporary art markets selling artworks and collectibles by artists born after 1945 (Resch, 2011, p. 41). However, according to Ivanova (2016), consensus about periodisation is elusive given that the largest global auction houses such as Christie's, Sotheby's, and Phillips classify contemporary art as art produced after the 1970s (Ivanova 2016). Thus and although the contemporary art market is difficult to determine, it has been adopted as the domain to examine in this dissertation, similar to the practice of other scholars (see Ivanova, 2016).

have the highest uncertainty concerning authenticity, quality, and value as opposed to other goods. Original artworks often have exceptional nature characterised by their (1) uniqueness, (2) heterogeneity (Benjamin, 1936; Coslor, 2016; Hirschman, 1983; Ivanova, 2016), (3) tendency to have a high price, and (4) high information content (Adelaar, 2000; Mandel, 2009; Rössel, 2014, p. 69).

In addition, the literature frequently describes the art market as secretive, elusive, opaque, largely informal, and difficult to assess (Arora and Vermeulen, 2013; Coslor, 2016; Ivanova, 2016; Velthuis, 2005). As a result, the implementation of EC and the Internet in the Western art market often creates high curiosity (Horowitz, 2012, p. 85) and suspicion (Malik, 2013), given that one of the greatest challenges of the art market are the value uncertainty and the infrequency of trading (Mei and Moses, 2002; Plattner, 1998).

Compared to other consumer products, the monetary valuation of the scarce artistic product is intangible and depends on a few factors, such as the artwork's utility as a source of aesthetic pleasure (Hausmann, 2009; Resch, 2011; Schönfeld and Reinstaller, 2005), as well as cultural and social norms (Shubik, 2003, p. 195). Thus, the economic value of a work of art is primarily determined by its artistic value, which is constructed within the art world rather than influenced by the materials used in its production or its scarcity of supply. As a result, visual art is valued based on subjective qualities that are not a function of technical skills, production costs, or external criteria (Beckert and Jörg Rössel, 2013). As the quality and price of artworks are difficult to observe in advance (Candela et al., 2004) and are commonly ascertained upon consumption, art works are considered experiential goods (Kotler and Bliemel, 1995; Nelson, 1970).⁵ This turns artwork into a challenging product to sell online.

Sceptics argued that the unique characteristics of art, especially in the higher end of the price spectrum, render it unsuitable for Internet distribution (Kazumori and McMillan, 2005; Khaire, 2015). Moreover, the Art Market Report jointly published by Art Basel and UBS (2017) reported that the

⁵ Nelson (1970) defined an experience good as one with qualities that cannot be determined prior to purchase.

share of online sales of auction houses in the high price segment remained low; it accounted for merely 2 % of the sales made over \$250,000.⁶ As stated by Kazumori and McMillan (2006, p.2), the EC limits are tested with the selling of unseen visual arts on the Internet.

Even though the Hiscox Online Art Trade Report (2017) indicated positive trends for the online art market including the forecasted worth of \$9.14 billion by 2021 from \$3.75 billion in 2016, the market is still struggling to adopt online sales to its full extent. The level of sales is still relatively low compared to offline art sales (The Art Market Report 2017 by Art Basel and UBS) and the online market faces stiff consumer resistance and significantly low adoption rate compared to the earlier predicted pattern (see Clarke and Flaherty, 2002; Klebinikov, 1999; Kollmann, 2002; Martin, 2002; Neuendorf, 2002; Violino, 2001). Plattner (1998, p. 2) explained that consumers and buyers of art vary from connoisseurs who have extensive knowledge and love for contemporary art that qualify and often turn them into professional dealers, to people who highly care for their art and furniture while perceiving both as decorations. In this dissertation, online consumers refer to those who buy art online.

Generally, consumer's reluctance to engage in Internet-based EC can be partly explained by the fact that electronic trade, as a form of discontinuous innovation, is entirely different than traditional trade and requires substantial changes in consumer behaviour patterns (Hand et al., 2009); for instance, adopters must learn how to use EC technologies, trust such technologies, and make informed decisions using these technologies. Accordingly, Bhattacharjee (2000, p. 411) opined that attracting customers in an online environment is far more challenging than in a traditional business environment. Despite other factors like security concerns, Colgate et al. (2005, p. 428) claimed that the most significant difference between a traditional environment and an online environment is the lack of physical interaction experienced by the consumers.

⁶ According to the same report, high end transactions constituted a tiny portion of the day-to-day activity of the market, with the sales priced at over \$1 million accounting for less than 1 % of auction or dealer sales in 2016. A majority of businesses conducted in the art market were priced below \$50,000 (p. 261).

The topic EC has gained popularity within the areas of business, entrepreneurship (Peltier et al., 2012), and Management Information System (MIS). Nevertheless, very few aspects in the context of art EC had been addressed and this segment remains relatively unexplored. Thus, it is imperative to comprehend the complex interdependencies between art buyers and e-vendors, the technological opportunities and constraints of art EC, as well as its evolutionary process in the existing contemporary art market landscape. This dissertation initiates the exploration of this area and aims to contribute to its literature. It outlines the theoretical discussion and provides an approach that is specific to this market sector. By combining different disciplines effectively, this research assumes that the diffusion of art EC will expand if consumers decide to use art EC applications and have adequate level of satisfaction to form long-term relationships with the e-vendors.

Online purchase and EC have been studied from the consumers' viewpoint or technology-oriented perspective (Jarvenpaa and Todd 1997). Consumer-oriented perspective refers to individuals' salient beliefs about online purchase, whereas technology-oriented view explains and predicts consumer acceptance of online shopping by examining technical specifications of an online store/application. Hence, these two views do not contradict but instead, reinforce and complement each other (Zhou et al., 2007). Several issues are addressed in the three essays, with a main focus on both the consumers and the aspects of technology. Information Technology (IT) is specifically considered as a key factor for efficient operations and marketing in EC (Tsai et al., 2013). In short, this doctoral dissertation closely looks on different aspects of art EC in Western commercial art markets by considering the following issues:

- 1. Factors that affect consumer's adoption and/or acceptance of technology-based innovations like art EC platforms (Essay I, Part B)***
- 2. Different dimensions of the success of art EC system perceived by consumers, by examining the quality of the underlying ICT infrastructure (Essay II, Part B)***

3. *The transformational impact that reshapes the existing physical art market landscape, as redefined by the dynamics of art EC (Essay III, Part B)*

Budd and Clear (2003, p. 18) claimed that EC lacks appropriate models to examine, and explain the area. Nonetheless, these three areas are believed to constitute principal factors for building the initial theoretical knowledge base. Three theoretical perspectives were implemented in this research to address the following issues: 1) the diffusion of innovation theory (Rogers, 1995; 2003), 2) DeLone and McLean's IS success model (2003; 2004), and 3) historical analysis (Gottschalk, 1969).

The thesis positions itself in the field of applied-research science, since it tries to explore and explain a practical market phenomenon. The qualitative research method was implemented in the current research to provide a more comprehensive theoretical background, to address the absence of comprehensive empirical data from industrial practitioners and academic researchers, as well as the protectionist ethos of the contemporary art field (Ivanova, 2016) that doubts the quantitative analysis of market operations (Helmores, 2014). Myers (1997) noted that the qualitative research method was established in the social sciences to enable researchers to comprehend and explain issues related to society and culture.

As such, the qualitative approach is considered suitable for three reasons: first, the sample size of online art ventures is still fairly small; second, information of online art ventures operating is often highly confidential and therefore measurable data is hardly available and finally, the online art market being a new phenomenon, thus it makes sense to explore it and dive deeply into the different processes, that are not yet evident in literature. For the particular aim of investigating an entirely new market, quantitative methods do not provide the depth and flexibility that qualitative research ensures. It may identify the variables and relationships among the aspects and, consequently, orient further analysis and exploration (Bettiol et al., 2012). Moreover, qualitative research does not seek to describe a

particular norm but rather to discover the richness and complexity of a situation that may differ from the norm. Hence, it generates perspectives that are framed contextually (Manning, 1992).

Notably, further research is required to verify the developed conceptual models within art EC. Nevertheless, from the theoretical perspective, the study of art EC is essential because it represents an increasingly important channel of cultural distribution created and influenced by technology.

Art EC is evolving to become a successful channel on its own. This study is relevant both theoretically and practically, especially in fully optimising the opportunities presented by the thriving distribution and communication means. Increasing pressure on art e-businesses to embrace and reach out to new audiences online makes this research highly beneficial for art online sellers. It helps them to gain better positions, create competitive advantage, and develop applications that will be adopted and meet their potential customers' evolving needs and preferences.

The next section summarises the three principal essays of this dissertation, elaborates the specific research questions, and illustrates their contributions.

II. SUMMARY OF ESSAYS

The following section presents a short overview on the three independent essays presented in this doctoral dissertation. As noted, each paper reviews a certain issue related to the art EC segment such as its adoption, implementation, and transformative impacts upon the established art markets. The three essays in Part B are outlined as follows:

1.1 Essay 1

Exploring Consumer Acceptance of EC applications in Western Commercial Visual Art Markets: Integrating Trust in e-vendor and Demographic Characteristics using the Diffusion of Innovation Theory

Although online sales through the Internet medium have recently accelerated several changes in the Western commercial art markets, the acceptance of art EC and the web medium as a purchasing medium for visual art among art buyers is still in its early stage. Without customers, a firm has no revenue, profit, or market value (Gupta and Lehmann, 2005). Therefore, the successful diffusion of art EC communications and application technologies depends on the consumers' adoption and acceptance of this purchasing venue. Wu and Wang (2005) argued that insufficient user acceptance has been a major obstacle to the successful adoption of new IS and IT for a long time.⁷ Likewise, the adoption of new technologies was often treated as a manifestation of its diffusion in the literature (Gebauer and Shaw, 2004). In this dissertation, EC systems/offerings are treated as IS, provided that the EC applications use web-based IS that is integrated with conventional IS (Isakowitz et al., 1998).

The antecedents for consumer acceptance of art EC are fundamental to business success and are a key challenge for companies' decision makers in this intensely competitive niche segment. Nonetheless, this area has not been explored adequately by the scientific community. Therefore, the primary objective of the first essay is to identify the factors that can predict potential consumers' intention to use art EC applications and engage in online transactions from the innovation dispersion perspective. The art consumer was chosen as the major focus of this study in line with the general goals of EC design that aim to foster customer interaction, support customer decision making, inspire online customers to repeat their visit, and purchase (Helander and Khalid, 2000).

⁷ With some exceptions (e.g. Hernandez et al., 2009), many scholars have not distinguished between adoption and acceptance, therefore both terms are used in this dissertation interchangeably.

Although art EC has existed for decades, since the beginning of EC back in the 1990s (Kazumori and McMillan, 2005; Turban, 1997), the study views art EC applications as computer technology-related innovations (O’cass and Fenench, 2003). Furthermore, art EC fits the idea of innovation which refers to the creation and diffusion of new and economically valuable knowledge in the form of novel products, processes, and organisations (Feldman, 2000), and due to its emergent nature during this research. According to Zaltman et al. (1973), an innovation does not have to be a discovery or invention, but it only needs to be perceived as new by the adopting unit. As art EC is deemed relatively new, from the art buyers’ perspective, the process of engaging and transacting in the online art market can be viewed as an innovative behaviour.

The Innovation Diffusion Theory (IDT), which was first presented by Everett M. Rogers in the early 1960s and was later updated in 2003, addresses the adoption process of different innovations and technologies within the social context. Accordingly, it is implemented to hypothesise a conceptual model for the acceptance of art buyers towards art EC. The central assumption of the IDT theory is that potential adopters make decisions to adopt or reject an innovation based on their beliefs and thoughts regarding the innovation characteristics, such as (1) relative advantage, (2) complexity, (3) compatibility, (4) trialability, and (5) observability (Agarwal, 2000; Roger, 2003). Nonetheless, a prior study highlighted that only three of the five perceived attributes – relative advantage, compatibility, and complexity – are consistently related to innovation adoption and implementation (Tornatzky and Klein, 1982). Thus, only these three factors are included in the proposed framework.

According to the theory, innovations that are perceived to have high relative advantage or to be better than their alternatives, and are highly compatible with the existing beliefs, lifestyle, and values of potential adopters are likely to be accepted faster (Rogers, 1995; 2003). These aspects of IDT raise several issues that have not been addressed yet in much of the literature: what are the perceived advantages of art EC applications over traditional art buying practices, such as brick-and-mortar art

galleries or auction houses? How does purchasing visual art through the Internet medium match with the values, experiences, and beliefs of potential art buyers that typically appreciate the personal face-to-face interaction with the seller? These questions are addressed in the first essay.

Moreover, the original IDT model was revised in the first essay to meet the unique requirements of the context and the product studied. To that end, the framework of this research incorporates the construct of trust in e-vendor and the demographic factors of potential adopters – gender, age, education, and income – as additional dimensions to predict consumers' intention to adopt art EC. The inclusion of trust as an additional variable was justifiable given its importance to EC, as outlined in the literature (Gefen et al., 2003; Molla and Licker, 2001). Plus, demographics have been found to play a significant role in consumers' online behaviour (see Dwivedi and Lal, 2007; Hoffman et al., 2000; Slyke et al., 2002). Apart from that, comprehension of the demographic characteristics is useful for marketers to improve the practical value of the related segments (Mudambi, 2002).

Using a qualitative approach of scientific inquiry, this essay developed a revised model of IDT for acceptance of consumers towards art EC, as well as empirically derived propositions that offer useful information to art EC researchers and practitioners (Rogers, 1995; 2003). Overall, intensive and careful literature review on empirical studies published in peer reviewed academic journals regarding diffusion and ICT adoption was used as a platform to study the research topic. Accordingly, the main constructs of the theoretical framework were operationalised, and the scale items that are used to measure these constructs were selected. Consequently, several connections among the factors that influenced customer perception were established and offered for future validation. Thus, the core objective of the first essay is:

- **To provide a model that can predict factors affecting potential consumers' acceptance of art EC applications and their intentions to engage in online transaction using the extended IDT (Rogers, 1995; 2003).**

Contributions of the First Essay

To the best of the author's knowledge, this study is the first to theoretically specify the effect of innovation attributes in exploring the behavioural intention of potential consumers of art EC about adopting this distinctive segment of EC. It demonstrates that IDT is useful in explaining the adoption decision of potential art buyers. Furthermore, the research incorporates behavioural and personal characteristics to build a theoretical knowledge base for art EC acceptance. Although IDT had been applied and tested in numerous studies and contexts (see Eastin, 2002; Tan and Teo, 2000; Venkatesh et al., 2003; Wu and Wang, 2005), the exploratory study adds to the literature on diffusion and technology adoption by building a revised model for the acceptance of art EC. The propositions are not tested, but they provide the basis for future research on the proposed constructs for better understanding on the topic.

Moreover, the factors for art buyers' resistance to use EC communications and application technologies in obtaining visual art can be utilised by e-vendors to develop more successful online businesses or to improve their existing business. The information may be used to meet the needs of potential adopters and to achieve competitive advantage. Thus, the current study contributes to the understanding of qualities that advance art EC and to the identification of the target consumer divisions. The first essay provides a comprehensive understanding of consumers' attitude and behavioural intention on the adoption of art EC by exploring **RQ: 1. What factors predict the variation in consumers' adoption of art EC communications and application technologies?**

1.2 Essay 2

A Proposed Framework for Investigating Art EC System Success with the Application of the Revised DeLone and McLean's IS Success Model at the Individual Level of Analysis

A user of an art EC application may make the initial decision to adopt art EC for obtaining artwork online, but the potential buyer may be highly dissatisfied with the offering or feel that the necessary information is insufficient (Cho, 2011). Cooper and Zmud (1990) argued that the adoption, as depicted in essay 1, is only one step in the broader process of art EC diffusion. Implementation or usage of the innovation follows the adoption and represents a step closer to becoming an actual user of the innovation (Rogers, 1995; 2003). The second essay explores the next logical step, which refers to consumers' satisfaction indices with the application of art EC systems. This step is essential to understand how art EC systems can be effectively and successfully implemented.

The emergence of art EC communications and application technologies broadens the interaction between art buyers and sellers. It enables sellers to build their competitive advantage and brings broad diversity of artworks to a wider audience, especially technology-savvy art buyers globally (Polleit-Riechert, 2010, p. 134; Trant and Bearman, 2011). Consequently, online sellers are challenged to meet art buyers' acute aesthetic and indecisive sensibilities (Horowitz, 2012). After the acceptance stage, art buyers seek confirmation for their initial acceptance decision and may either reverse their initial adoption decision or continue to use and derive benefits from the innovation (Rogers, 1983). Chang and Chen (2009) highlighted that these consumers have a variety of websites and vendors that they can quickly shift to without additional costs. Therefore, the probability that the user will switch to another EC offering is increased (Rouibah et al., 2014).

The significant investment in terms of time and money that are often required to launch a commercial offering online and the growing demand for returns on Internet-related investments have led the Internet-based EC businesses to have a stronger focus on performance and success (Auger, 2005). The existing literature therefore stressed the importance of identifying the different dimensions

of EC systems that lead to higher effectiveness for EC businesses in general (Brown and Jayakody, 2008; Chen and Cheng, 2009; DeLone and McLean, 2004; Wang, 2008). However, although IDT has been helpful in predicting art buyers' acceptance decision of art EC, the theory provides little assistance in the design and implementation of successful art EC applications that appeal to those consumers willing to adopt the technology.

Through application of DeLone and McLean's IS success model (D and MM) (Delone and McLean, 2003; 2004), the second essay identifies factors associated with the success of art EC as perceived by the customers and develops research propositions for future validation. Given that ultimately, the success of EC is dependent on the customers' perception of its value (Torkzadeh and Dhillon, 2003).

The methodology employed in this essay was qualitative and hypothetic-deductive. With a large amount of articles using D and MM as theoretical basis, typical item sets for each of the constructs have emerged which have often been used in several IS success studies. Accordingly, this essay analyzed the item sets for each of the model constructs available in the scientific literature. The constructs were operationally defined and rendered measurable based on the synthesis of varied theories and concepts, as well as numerous relevant published survey instruments. Hypotheses were derived from the extant scientific literature on IS and EC success, leading to the development of the framework. The details of the operationalized constructs are presented from their theoretical dimensions and associated measurement variables.

D and MM of IS success is considered useful in developing comprehensive EC success measures (DeLone and McLean, 2003, p. 27) and consists of (1) information quality, (2) system quality, (3) service quality, (4) usage, (5) user satisfaction, and (6) net benefits as the critical dimensions of art EC success. The goals of this research framework are to effectively assess and plan

art EC initiatives, as well as to help business owners in this segment to make better decisions. The core objective of the second essay is:

- **To examine factors associated with the success of art EC applications as perceived by customers.**

Contributions of the Second Essay

The second essay establishes the initial steps in building a theoretical knowledge base for successful art EC implementation that can assist researchers in understanding art EC success from the perceptions of consumers. The framework explains (1) the perception of consumers on the definition of art EC success, (2) the formation by identifying the critical success dimensions, and (3) proposes a research base for art EC success based on the work of DeLone and McLean (2003; 2004), outlining a series of research propositions that may be studied in future studies. Plus, this research framework advances IS research as it is the first development in the context of art EC.

Moreover, the study provides insights for both managers and practitioners in the context of art market on the factors to be focused on when implementing their success strategies. Even though the research was characterised by an exploratory connotation without any quantitative data, the framework can help business owners to allocate resources as they develop their online strategies and to evaluate impacts on profitability to maximise the likelihood of success in this rapidly evolving sector. The objective of this chapter is to explore factors influencing art EC success at the individual level of analysis by examining **RQ 2: Based on the revised DeLone and McLean's model (2003; 2004), what factors successfully influence the perceptions of consumers toward art EC applications?**

1.3 Essay 3

Towards a Better Understanding on the Transformative Effects of the Rise of Art EC on Traditional Western Commercial Art Markets: Past, Present, and Outlook

Approximately two decades ago, the Internet and EC emerged as a unique channel with highly promising potential. Afuach and Tucci (2003) elaborated that they may extend and shorten time, reduce information asymmetries between buyers and sellers, facilitate businesses to reach wider customers globally, and lower the costs of conducting business transactions. From the very beginning and given this powerful potential, there were also different scenarios over the disruption and the transformative extent of the Internet's and EC's impact on markets, generally, and existing art market structures particularly, given that art market pundits and the literature was not lacking in forecasts. Accordingly, the third essay explores the transformative impacts of the Internet and EC applications on the traditional art markets over the past two decades.

The changes brought by EC and innovative ICT's were, for example, expected to eliminate or at least alter the role of commercial art intermediaries, promising a radical shift in the way in which buyers and sellers trade with one another in future (see Klebinikov, 1999; Neuendorf, 2002). More specifically, Giaglis et al. (2002) outlined three most common assertions about EC. The first scenario entails disintermediation, which refers to the elimination or role alteration of the existing intermediaries. Disintermediation, or the demise of existing intermediaries, allows direct exchange between producers and consumers of cultural products and new patterns of taste formation within cultural industries (Velthuis 2012 p.37) (e.g., buying art on an artist's website instead of through commercial art galleries). Second, the cybermediation scenario (see 4.4.2) occurs as a new form of intermediaries that embeds new electronic marketplace. Lastly, the reintermediation scenario takes place when the existing intermediaries (e.g. commercial art galleries, dealers, and auction houses) are forced to differentiate themselves and re-emerge in the electronic realm due to the increasing pressure for survival.

Looking at these predictions, it is valuable to analyze the status quo of current market practices and understand how and if the move to the digital realm and art EC has affected the old art market ecosystems and traditional business practices in the ways predicted. A lot of studies have looked into the importance of IT and its role in the contemporary society by using a range of labels and concepts, such as the postindustrial society (Bell, 1973), knowledge industry (Machlup, 1962), or network society (Castells, 1996; De Marez et al., 2011; Van Dijk, 1999). Since research on the impact of digitisation to the art market is still inadequate, only a few aspects in the area have been addressed (see Arora and Vermeylen, 2013). Thus, the evolutionary impact of the Internet and EC on the existing market structures in the present research was determined by using historical analysis (Gottschalk, 1969). This approach refers to systematic collection and analysis of publicly available data that have been widely applied in the relevant fields, such as business and marketing research (Golder and Tellis, 1993; Nevett, 1991; Tidd, 2010).

Accordingly, the present qualitative study utilized extensive and systematic collection and review of primary data, including academic and non-academic literature published in the fields of cultural economics, MIS, and electronic markets from the past two decades. Moreover, also secondary data, such as surveys and art market reports posted on publicly available sources, were also gathered. Saunders et al. (2007) regarded secondary data as an important source that can be reanalysed because they were collected by previous researchers. The resulting review consists of 208 relevant sources published in the period 1969 to 2017 inclusive.

Notably, the methodology employed has many advantages over surveys and case studies carried out using direct and personal interviews (Gottschalk, 1969); which appear valuable in overcoming post-hoc rationalisation (see Tidd, 2010); besides allowing the author to identify and examine the scenarios in the contemporary art sector in an effective manner. Essentially, the purpose of this third essay is:

- **To briefly explore the development of the online art market and to critically examine some of the most frequent predictions namely: intermediation, cybermediation, and reintermediation being made at the dawn of the online art trade so that the reality can be viewed in retrospect against a backdrop of the status quo.**

Contributions of the Third Essay

To the best of the author's knowledge, this study is the first to theoretically specify the effects of disintermediation, cybermediation, and reintermediation within the context of art EC. Thus, it bridges a theoretical gap and sheds light on the studies in this area and the related fields in the last two decades. Furthermore, the present research offers scholars in this growing niche sector with new avenues for empirical work. Second, the study provides additional insights into the potential benefits of a critical re-evaluation on the concepts established in the existing literature and the learning effects in this market segment. This may assist readers to gain in-depth understanding regarding the overall implications of both the Internet and EC. The study investigated and interpreted past and current activities by examining **RQ 3: How has the advent of the Internet and EC transformed the ecosystems of Western commercial art markets in conjunction with intermediation, cybermediation, and reintermediation over the last two decades?**

III. OUTLINE OF DISSERTATION AND THEORETICAL FRAMEWORK

The research questions in this dissertation are addressed in three main chapters, as follows:

- **Chapter A:** This chapter presents an overview of the essays and their contributions. Subsequently, it positions the topic in the wider research context that covers diverse relevant

academic disciplines. From the literature review, the conceptual and the theoretical background for this dissertation are established and key terminologies are introduced.

- **Chapter B** is dedicated to the three essays that are presented separately. Various theories are adopted to explain the course of these different studies. Notably, the essays are modular and hence, readers may read any one independently.
- Finally, **in Chapter C**, the overall conclusion of this dissertation is discussed briefly. Furthermore, this chapter outlines several limitations of the research, some suggestions for future research, and an outlook on the topic. Figure 1-1 illustrates the structure of this dissertation.

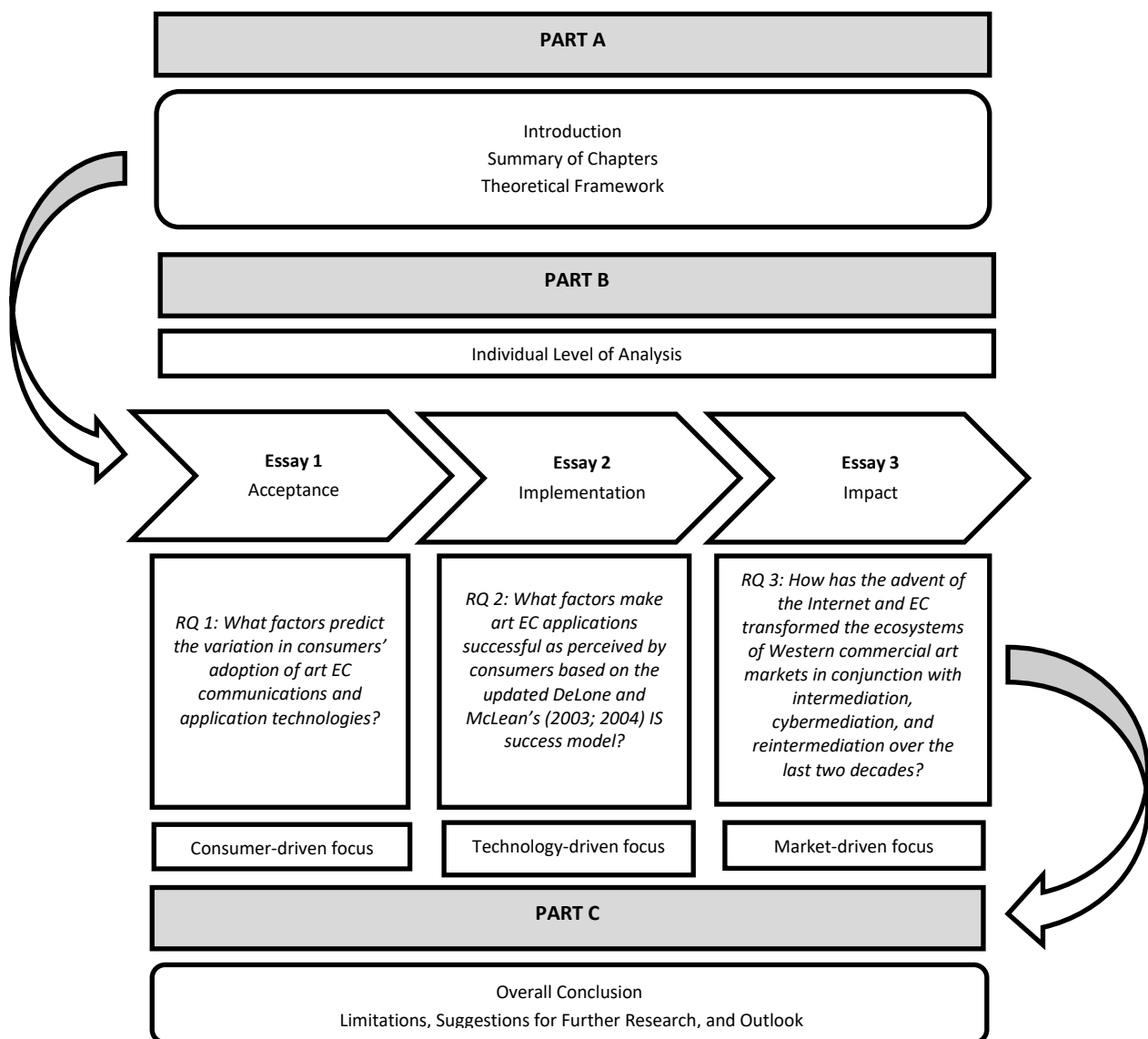


Figure 1-1: Structure of Dissertation

1.4 Academic Positioning

Positioning the Dissertation and the Topic of “Art EC” within Relevant Research Disciplines

Notably, publications on the application of EC technologies and systems in visual art market do not exist and the research on this sector, in general, is still very limited. First and foremost, the thesis at hand views the research on the technological innovation of art EC from the research field and

under the umbrella of Cultural Economics, including art historical literature, as well as literature of economics of the visual arts and literature on cultural economics in general. This research field covers topics in cultural economics, such as visual arts (paintings, sculpture, and artworks); performing arts (music, theatre, opera, and dance); and cultural heritage (museums, historical buildings, monuments, and sites). Occasionally, these areas overlap; for example, museums accumulating paintings and artists in the visual arts producing unique performances in galleries (Ginsburgh, 2012). Beckert and Rössel (2013, p. 3) elaborated that economics of the arts interprets the art market using economics' standard theoretical and methodological instruments. Nonetheless, Ginsburgh (2012) argued that the research field of cultural economics is still developing in its infancy phase. Moreover, it is vague due to its operation in the intersections of different disciplines other than economics, such as art history, art philosophy, sociology, law, and management (Ginsburgh, 2012).

Similarly, the concept of EC, which covers the second part of this study, refers to a wide range of disciplines (Kalakota and Robinson, 2001), such as (1) computer science, (2) marketing, (3) finance, (4) MIS, (5) consumer behaviour, and (6) economics (see Turban et al., 2008, p. 12). Normally, EC systems are web-based IS (DeLone and McLean, 2004; Garrity et al., 2005; Pather et al., 2004) that provide online transaction services for both buyers and sellers.⁸ Thus, conceptualisation of EC was performed by mostly referring to the MIS literature because EC systems are IS that have been extended for direct use by consumers (DeLone and McLean, 2004; Garrity et al., 2005; Isakowitz et al., 1998), and online consumers are simultaneously considered as IS users in the extant literature (Koufaris, 2002). Thus, rather than viewing EC as a marketing issue influenced by IT users, Koufaris (2002) suggested to view EC as an IS phenomenon where an IT user interacts with a complex IT system. Accordingly, the concept of EC draws heavily to the research stream of MIS literature that also covers various dynamic research disciplines and their interactions. Myers (1997) added that the managerial

⁸ IS is defined by Avison and Fitzgerald (1995, p. xi) as the effective design, delivery, use, and impact of IT in organisations and society. In addition, Avgerou and Cornford (1995, p. 132) stated that IS emphasises understanding the uses and potential of technical systems, and the effects they have in the human/organisational/social world.

and organisational issues associated with innovations in ICT are typically studied in this discipline. Vishwanath and Barnett (2011) explained that these researchers focused on the processes and factors that influence the adoption of innovations while drawing heavily to the MIS standpoint.

As the IS/MIS literature lack theoretical frameworks, researchers in these fields adopted theories developed in other disciplines like mathematics, logic, philosophy, psychology, sociology, and management, and drew theoretical bases from them (Culnan and Swanson, 1986; Gregor, 2002; Nor and Pearson, 2008). For example, Khazanchi and Munkvold (2000, p. 35) primarily referenced disciplines such as computer science, management science, organisational science, cognitive science, and economics in their IS research.

In conclusion, art EC encompasses various dynamic research disciplines and their interactions, bringing a multi-disciplinary approach to the topic at hand and offering a unique research design and the justification for the present dissertation.

1.5 Bridging the Gap between Theory and Practice

Positioning the Dissertation in the Dimensions of Theoretical and Methodological Rigour and Outlining its Practical Relevance

Khazanchi and Munkvold (2000) highlighted the critical debate about the role and relevance of IS research in practice. Furthermore, the relevance of research and education, in the area of IS, in practice has been examined critically on a continuous basis (Benbasat and Zmud, 1999; Galliers, 1997). Similarly, Van de Ven and Johnson (2006) underlined the debate in leading academic journals concerning academic research that has become less useful for solving practical problems and conversely, has widened the theory practice gap in the real world. Other scholars, such as Beer (2001) and Gibbons et al. (1994), also raised specific concerns that academic results are not useful to practitioners and are unsuitable for implementation (Van de Ven and Johnson, 2006).

As a result, it has been concluded businesses are unable to learn fast enough to persevere with the rapidly changing environment (Van de Ven and Johnson, 2006, p. 802). Consequently, academics are challenged to contribute to the practice and thus, need to interact with both the worlds of theory and practice (Van de Ven and Johnson, 2006). Therefore, this research is positioned fittingly in the dimensions of theoretical and methodological rigour, while outlining its practical relevance. It aims to achieve the dual objectives of applied use and of advancing fundamental understanding on the topic.

Hodgkinson et al. (2001) developed the four-fold typology of research in industrial, work, and organisational psychology, as illustrated in Figure 1-2, which is referenced in this study due to several of its essential aspects. First, **pedantic science** focuses on methodological rigour, but not on practical relevance as these studies usually do not address the current issues surrounding the research area. Subsequently, **popularist science** highlights practical relevance compared to methodological rigour; these studies do not fulfil the theoretical and methodological requirements, and lack validity. In contrast, **puerile science** has little relevance for practitioners, while its methodological and theoretical research designs lack rigour. Finally, **pragmatic science** refers to research with high practical relevance and methodological rigour. Correspondingly, the understanding of particular and existing practical issues in all essays of the dissertation is enhanced and ensured by positioning the dissertation in the field of pragmatic science.

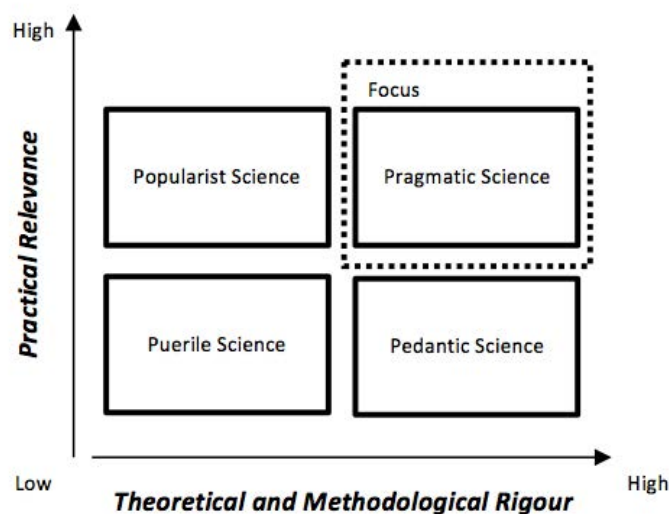


Figure 1-2: Typology of Research in Industrial, Work, and Organisational Psychology.

Source: Hodgkinson et al., (2001, p. 42)

Thomas and Tymon (1982, p. 346) established several criteria to validate the adequacy of research theories and findings. In addition, these criteria may determine if the theories and findings are useful to practitioners: (1) descriptive relevance (referring to the extent to which the research depicts organisational reality), (2) goal relevance (relating to the compatibility of the study goals with the goals of practitioners), (3) operational validity (which can only be guaranteed only if the independent variables can be manipulated/changed directly by the players involved), and (4) innovativeness (referring to results that are not common to practitioners). Notably, Resch (2011) applied these criteria in his dissertation on art galleries.

The research questions and approaches of the present dissertation are assumed to fulfil these criteria and gather findings that are relevant to be used in a methodologically robust manner (Hackman, 1985; Hodgkinson et al., 2001). Notably, the research handles real and actual market reality during its occurrence and the research questions have high goal relevance, namely adoption in essay 1 and use/satisfaction/net benefits in essay 2, which are the dependant variables relevant to the performance of practitioners and can also be directly influenced by them. In addition, essay 3 blankets the progress of the art industry from brick-and-mortar galleries right up to their emergence in the virtual realm so to ensure sustenance in the present digital era. Such a transition period is indeed accompanied by hurdles and stumbling blocks, but the results have been proven to be beneficial as art EC suits and is

sought by the present generation. Furthermore, as the pioneer for research on adoption, implementation, and impact of art EC, the dissertation provides practitioners with innovative and novel insights.

1.6 Terminology

The terms “visual art” and “EC” have very broad meanings that are interpreted differently by individuals. Therefore, the key theoretical terminologies in this research must be determined prior to exploring the best answers for the established research questions.

1.6.1 Visual Arts

The art market offers vast opportunities for individuals to collect, buy, and sell artworks (see Resch, 2011; Robertson, 2005). Kazumori and McMillan (2005) explained that EC in the cultural sector encompasses visual art and other collectible items such as classic cars, jewellery, coins, or antiques. Art has been interpreted in several ways depending on the context and research objective (Bourdieu and Darbel, 1997; Dewey, 1989; Hagtvedt et al., 2008; Wartenberg, 2006). In the present study, a consumer-focused perspective is adopted and hence, the term “visual art” refers to viewers’ viewpoint on items that they categorise as such and see as art (Bourdieu and Darbel, 1997; Danto, 1964; Dewey, 1989; Hagtvedt et al., 2008). The term refers to any artefact produced by an artist⁹ and relates to artistic creation that is physically present such as original painting, drawing, limited edition print, photography, and sculpture. Thus, this study primarily concentrates on the visual art that exists in physical form because of its special characteristics as opposed to digital art that only appears on screens. Additionally, similar to an earlier study by Clarke and Flaherty (2002), reproductions such as decorative artwork or posters are also included in the category.

⁹ Following the Art Market Report by UBS and Art Basel (2017, p. 152) these include “Living artists, defined as artists alive in 2016, which are analysed as a subset of the postwar and contemporary sector.”

1.6.2 E-Business

No specific definition of e-business is available in the extant literature. Normally, the understanding about e-business is restricted to the financial and commercial transactions online (see Aston and Schwarz, 1992). However, from a broader perspective, the term refers to the use of Internet to connect customers, suppliers, employees, and other stakeholders with the organisation via a website to exchange information about its products and policies (Rodgers et al., 2002, p. 186). Urbaczewski et al. (2002) opined that transactions online and exchanges of value are two main elements that should be met to be categorised as an e-business. Accordingly, the first precondition of e-business is that it must use networked, computer-based IT (p. 264); whereas the second includes the exchanges of goods, services, information, money, time, and convenience (p. 265).

As a result, e-business covers a broad range of activities including basic e-mail, online supply chain management (Fusilier and Durlabhji, 2003; Parker and Castleman, 2007), EC, e-markets, and other Internet-based business activities (Mahadevan, 2000). Rodgers et al. (2002) stressed that e-business is fundamental to companies striving to be competitive in today's challenging environment. Essentially, e-business activities improve the efficiency and effectiveness of various business procedures, enhance internal and external communication, and reduce costs (Christensen and Methlie, 2003; Porter, 1998).

1.6.3 EC

Much like the term "e-business", EC has different meanings to different researchers although the term has been widely used in the extant literature (Turban et al., 2006). According to Choi et al. (1997, p. 12), the rapid evolution of EC, which includes several areas of the economy and technologies, complicates the process of establishing a permanent definition. EC is often understood as online selling and purchasing activities that include money transaction like online payment and tracking delivery (Rodgers et al., 2002, p. 186). It also extends to a broad range of presale and post-sale activities across

the supply chain via computer networks including the Internet (Chaffey, 2004; Gunasekaran and Ngai, 2005). Moreover, Turban et al. (2002, p. 4) defined EC as an emerging concept that describes the process of buying, selling, or exchanging services and information via computer networks. In addition, Schneider (2008, p. 5) refers to the term as the transaction of products and services using electronic data over the Internet. Apart from that, Urbaczewski et al., (2002) defined EC as the use of computer networks to conduct business – essentially the purchasing and selling of goods, services, and information – electronically with one's suppliers, customers, and competitors, or among the consumers.

Although many different definitions of EC are available, the scholars have not agreed to pick a standard definition for the term (Turban et al., 2006). Thus, this research follows the practice of Tetteh and Burn (2001) to outline the primary purpose of EC as the facilitation of information exchange and conduction of commercial transactions, regardless of its definition. Accordingly, B2C of art EC which is the focus of this dissertation refers specifically to the broadly defined activity in which consumers buy visual art or related services using the Internet medium (Pavlou and Fygenson, 2006).

Hence, art EC, art e-retailing, art online selling, or art e-selling in this article refers to the sale of visual art through the Internet medium which involves an exchange of value in return for artworks or related services. The advantages of these processes are almost identical to those of traditional EC (see Introduction). Nonetheless, Gefen and Straub (2004) highlighted that an EC website or application typically does not involve actual interaction with other people in contrast to face-to-face commerce. Potential art buyers do not experience direct contact with the e-vendors nor the artworks that they purchase; the entire commercial transaction is primarily conducted online through an IT system.

Normally, the terms “e-business” and “EC” are used interchangeably in the existing literature but in few cases, they were distinguished. The current research adopts the practice of Kim et al. (2006), Turban et al. (2002), Turban and King (2003), Davis and Benamati (2003), and Mahadevan (2000).

Therefore, EC is regarded as a subset of e-business, given that it focuses primarily on commerce – buying and selling of goods and services – that are mostly done over the Internet medium. In contrast, e-business is not limited to commercial transactions but also includes all business-related activities like servicing customers, collaborating with business partners, and performing electronic transactions within an organisation that are conducted through electronic technology such as intranet, extranet, or the Internet medium (see Turban et al., 2000; Turban and King, 2003). Therefore, an e-business site covers a wide range of activities that include, but are not limited to EC, whereas an EC website may be considered as a form of e-business site.

According to Choi et al. (1997) and Turban et al. (2002), the form and dimension of EC vary depending on 1) the degree of digitisation (the transformation from physical to digital) for the product or service sold, 2) the process, and 3) the delivery agent or intermediary. In this dissertation, pure physical companies in which all three dimensions are physical are identified as brick-and-mortar or old economy organisations. Apart from that, pure EC businesses are described as virtual organisations or pure players, whereas organisations that conduct EC activity to a certain extent but maintain their primary business in the physical world are identified as click-and-mortar or click-and-brick businesses (Turban and King, 2003).

As illustrated in Figure 1-3, Choi et al. (1997) distinguished pure EC from partial EC with the presence of digital dimension; the latter may be associated with only one of the aspects, namely a digital product, a digital process, or a digital agent. For instance, buying digital art like artwork on screen from a virtual organisation through online payment is considered as pure EC because all three elements are digital. Conversely, buying (physical) visual art from a virtual organisation is considered partial EC, in that the artwork must be physically delivered to the customer. Notably, this dissertation emphasises partial EC as it focuses on visual arts that exist in physical form.

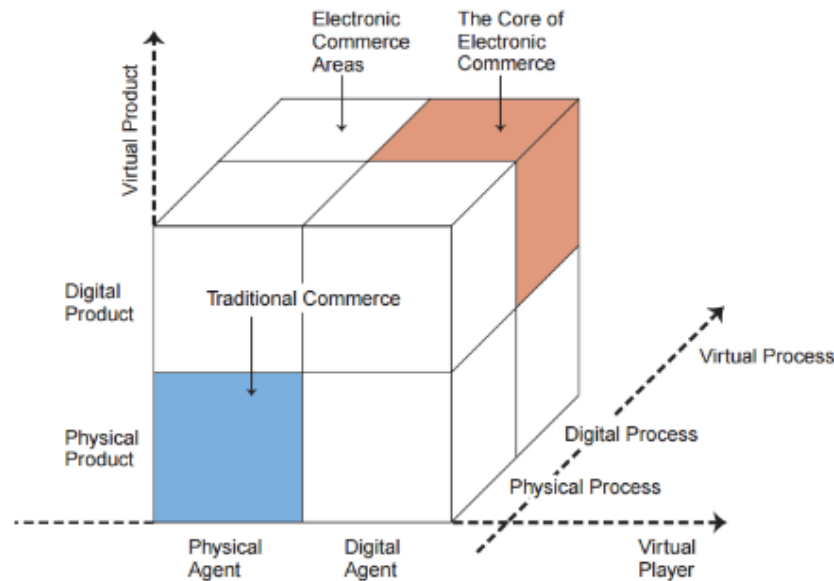


Figure 1-3: Dimensions of Electronic Commerce. *Source:* Choi et al. (1997, p. 18).

In the extant literature, EC activities encompass a broad area and they can be commonly categorised in two major groups: Business to Business (B2B) and B2C (cf. Longenecker et al., 2003¹⁰). Notably, a majority of art EC activities fall under B2C or B2B category. The former group covers retail transactions in the B2C segment which is also referred to as e-tailing (Turban and King, 2003). Meanwhile, the latter refers specifically to the activity in which an e-business like an online gallery provides products or services (visual artworks) to individuals including art collector. These individuals use the same channel to sell the visual artworks to their own customers like another art collector (Turban and King, 2003).

Since individuals can act as both providers (supply) and consumers (demand), it is difficult to establish an exact boundary between supply and demand in the art trading sector. In addition, both sellers and buyers can be considered as the customers or users of art EC. The current researcher acknowledges that the lines among the stakeholders are typically blurred and may overlap (Polleit-Riechert, 2010; Skaterschikov, 2009). Accordingly, any commercial B2C activity that is related to art

¹⁰ However, there are also other models to consider such as customer-to-customer (C2C), consumer-to-business (C2B), mobile commerce (MC), or business-to-business-to-consumer (B2B2C) EC.

selling and is facilitated by ICT technology and the Internet are included in this research. The research focuses on the general art EC sector without specifying any companies or business model.

1.7 Conceptual Framework

A conceptual framework outlines the overall structure and the logic of a dissertation (Burton et al., 2008, p. 37). This section displays the conceptual framework for the dissertation, as derived from ideas, concepts, and theoretical perspectives. Figure 4 illustrates all primary constructs and major theories that were employed to explore and answer the research questions. All three essays have a major level of analysis at the individual level with varying focuses. The conceptual framework serves as a top-level structure that interlinks the three sections and research questions.

Essay 1: Acceptance of art EC Communications and Application Technologies

The modified IDT (Rogers, 1995; 2003) was applied to the context of art EC acceptance and adoption by customers. This essay explored the factors that influenced individuals' intention to adopt a technological innovation like art EC.

Essay 2: Implementation of Art EC Communications and Application Technologies

IT adoption is the initial usage of an IT innovation, whereas IT implementation refers to the continued usage of an IT innovation after its adoption at the individual level (Karahanna et al., 1999). Adoption and subsequent usage of an IT innovation require different behavioural intentions. Thus, factors determining users' adoption or acceptance of an IT innovation differ from those affecting users' attitudes to continue their usage of the IT innovation (cf. Karahanna et al., 1999). Therefore, the dissertation distinguished these two concepts and investigated the factors separately. Essay 2 focuses on the post-adoption stage or the actual usage of art EC by applying the updated DeLone and McLean's IS Success Model (2003; 2004). Similar to Brown and Jayakody (2008), the present study therefore

treats behavioural intentions as a post-adoption phenomenon to evaluate the success of EC applications.

Essay 3: The Transformative Impact of Art EC and the Internet on Existing Western Commercial Art Markets

Finally, building further on the two key elements introduced in essay 1 (art EC adoption) and essay 2 (art EC implementation), the objective of essay 3 is to explore the broad impact of art EC and the Internet on the old economy. As indicated earlier, this essay concentrates on the scenarios of intermediation, cybermediation, and reintermediation.

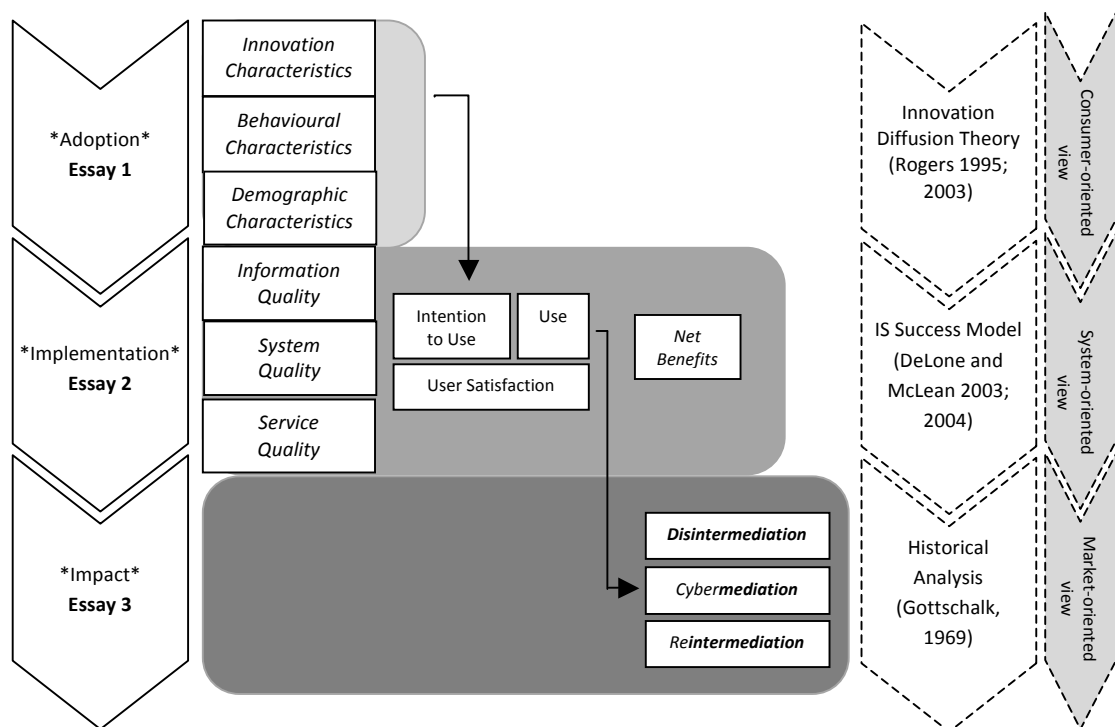


Figure 1-4: Conceptual Framework of the Dissertation

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PART B

Essay 1: Exploring Consumer Acceptance of e-Commerce in the Context of Western Commercial Visual Art Markets: Integrating Trust in e-Vendor and Demographic Characteristics with the Diffusion of Innovations Theory

Abstract

The diffusion of Internet-based pure players, which is exclusively dedicated to the distribution of visual art and collectibles via Internet medium, has experienced a phenomenal interest within the past few years in the western commercial art markets. Nevertheless, despite the considerable success of Internet-based B2C commerce in other cultural sectors, the widespread acceptance among customers of EC for visual art is still low and has yet to be established amongst the public. Hence, drawing from the theoretical foundations of IDT proposed by E. M. Rogers (1995; 2003), this theory-driven deductive research determined the factors that could affect decisions made by consumers to accept art EC and to engage in online transactions. Specifically, this study investigated how several intrinsic characteristics of art EC communications and applications technologies, inclusive of its: a) relative advantage, b) compatibility, and c) complexity (ease of use), may influence adoption decision made by consumers. To meet the unique requirements of the art market, as well as to expand the original IDT model, additional factors of d) trust in e-vendor and e) demographic characteristics (including gender, age, income, and education) were incorporated into the framework. Although the proposed framework has yet to be tested, it offers the initial roadmap for further empirical validation, besides enhancing one's comprehension concerning consumer behavior in adopting art EC applications, as well as the factors that might influence online transactions. Furthermore, managerial implications and suggestions for further research are provided as well.

2.1 Introduction

Until recently, purchase of visual art in the western commercial art market was often characterized by considerable uncertainty and volatility relative to the value of art (Arora and Vermeulen, 2012; Becker, 1982; Caves, 2000; Currid, 2007). Art commerce involved brick and mortar distributors, such as commercial art galleries, where the gallery owners selected both artists and artwork that they preferred to display (see Bloom, 2006; Clarke and Flaherty, 2002; Smith et al., 2005/2006; Bernadette, 2003; Kollmann, 2002; Thompson, 2008; Velthuis, 2005; Resch, 2011). In fact, art buyers typically "... bought from local sources, chose from restricted selections, paid full retail prices, and arranged for suitable framing and transportation" (Smith et al., 2005/2006 p. 30). With the advent of Internet-based EC, however, purchasing visual art or other collectible items is no longer necessarily restricted to the conventional ways (Clarke and Flaherty, 2002; Meyer and Even, 2002, p. 117; Horowitz, 2012; Arora and Vermeulen, 2012; Khaire, 2015; Polleit-Riechert, 2010; Kohle, 2014). In turn, the development of an online art market has provided art buyers a potentially more comprehensive access to visual art (and other collectible items) in varied price segments via the Internet.

Technology has always had a significant role in EC and continues to be a primary source of innovation due to its disruptive nature (see Garud and Nayyar, 1994, p. 365). Such advances, in fact, have made it possible for potential art buyers to choose from an excessive variety of (primarily contemporary) artists and art works, and more importantly, the ability to perform transactions 24/7 all year round, from any location and the convenience of their gadgets.

Despite of the fact that the Internet-based ICT innovations have accelerated rather notable changes in the dynamics of western commercial art markets, acceptance among customers in buying visual art via Internet is still in its infancy stage, as online art sales were reported at about 9 percent of all global art and antiques sales with a value of USD 56.6 billion in 2016 (The Art Market report,

jointly published by Art Basel and UBS, 2017).¹¹ Although EC penetration rate – online sales as a percentage of overall retail sales – showed below 15 percent among most leading nations (Mulpuru, 2013), the art market has been considered at its early adopter stage, thus opening doors for unrealized potential with the hope that EC would eventually penetrate the market (*Horowitz, 2012*).

The application of art EC, in line with EC in general, is based on applied consumer computer technology (O’cass and Fenench, 2003). Although selling art via internet medium is not an innovation, per se, that is “an idea, practice, or object perceived as new by an individual or another unit of adoption” (Rogers, 1995, p. 11), it is a new medium for many art buyers. Most art buyers, nevertheless, are still slow in adopting the concept of art EC in its full functionality (e.g. across both informational and transactional stages), especially since art EC has only emerged in this dimension recently. Yet, IT, inclusive of EC, is not new as the practice (e.g. art Internet auctions) has been around for nearly two decades since the advent of EC in 1995 in this sector (art market) (see Turban, 1997; Kazumori and McMillan, 2005).

Inadequate user acceptance, which is broadly defined as “consumer’s engagement in electronic exchange relationships with Web retailers” (Pavlou, 2003, p. 103), has long been a stumbling block to successful adoption of novel IS and IT (Wu and Wang, 2005). Moreover, prior studies within this context have highlighted the significance of comprehending the perception of potential adopters towards such technology-based innovations (Rogers, 1983; Tornatzky and Klein, 1982), where in some cases innovation and technology are often interchangeable in the literature. Thus, if the goal of successful diffusion is to increase the utility of a given innovation, and hence transform it from something which receives hesitation in adoption or usage into something sought after for implementation, then understanding adopter activities is essential (Vishwanath and Barnett, 2011).

¹¹ In fact, such numbers only reflect a trend, instead of the actual reported figures, primarily because only results from auctions (secondary market) are released and may be accessed publicly (Ivanova 2016), but not sales results from galleries (primary market) (see. Resch, 2011; Ivanova, 2016; Polleit-Riechert, 2010).

In the past, IS researchers carried out both theoretical and empirical studies, rich and diverse, pertaining to IT innovation adoption and user acceptance of technology at both individual and organizational levels (Chen and Holsapple, 2013; Jeyaraj et al., 2006). Though most studies amplified the influential factors of consumer's EC adoption in both academia and EC researchers (see, for example, the literature reviews by Chang et al., 2005; Zhou et al., 2007), as well as the adoption of EC across multiple industry segments, only a handful looked into the adoption of EC within a specific target industry (Kurnia et al., 2015). Yet consumers' adoption of EC communications and applications technologies within the context of the emerging online art sector, has been mostly overlooked in the academic arena thus revealing a glaring gap that has yet to be bridged.

The basis for this study follows on the conviction that comprehending the influential factors concerning consumers' acceptance of art EC applications is a crucial prerequisite in determining the success of art EC businesses introducing online innovations to penetrate the art market. Initially, the study addresses the negative perceptions of potential art consumers of EC communications and applications technologies and to encourage the adoption of this innovative channel. After addressing these concerns and giving an overview of the medium, the primary goal of this exploratory study is to develop a modified model of adoption for art EC communications and applications technologies.

As the monetary valuation of art works has always been a controversial topic in the western commercial art market (Beckert and Jörg Rössel, 2013), this sector functions as an interesting area to investigate the adoption of EC among consumers, especially given that the art market reflects a market for 'singular goods' (Karpik, 2010 in Beckert and Jörg Rössel, 2013). This is mainly because art objects are considered rare, experiential, intangible, infrequently traded, and unique (e.g. Bourdieu, 1986 (1979); Caves, 2000; Khaire, 2015; Arora and Vermeylen, 2013; Venkatesh and Meamber, 2006) and the difficulty of establishing economic value of art objectively is one of the aspects that distinguish cultural products apart from all other consumer goods (Bonus and Ronte, 1997; Schönfeld and

Reinstaller, 2005; Venkatesh and Meamber, 2006; Yogev, 2010). Moreover, it is rather common for art buyers to place strong emphasis on close dealer-collector relationships and face-to-face communication with experts, art dealers, critics, gallerists, which are absent in the online mode (Arora and Vermeylen, 2013; Khaire 2015). This, as a matter of fact, has turned into a challenge for the online platform.

Research studies have incorporated innovation theories primarily to comprehend the notions of facilitators and inhibitors for a given innovation (Chong, 2004). Therefore, with the context of B2C EC in western commercial art markets, a qualitative exploratory study was conducted by employing Rogers' (1995; 2003) Innovation Diffusion Theory (IDT) to present an initial and fundamental theoretical framework in predicting acceptance of art EC among art buyers, including their intention to engage in online transaction behavior.

The IDT was selected for this study due to its wide usage in numerous studies concerning ICT innovation and its adoption (e.g. Lieven De et al., 2011), along with a look into the varying IS innovations in the extant literature (e.g. Moore and Benbasat, 1991). On top of that, as many scholars have extended the model in their attempt to improve the predictability of the model towards usage and adoption of new technologies, this study extended the IDT model by embedding two influential factors, which are perceived trust in electronic vendor (e-vendor) and demographic characteristics, so as to propose a relevant framework that could best suit the investigation within the given context.

2.2 Theoretical Background

A wide range of competing theoretical models, which were mostly developed from psychology and sociology theories, has been applied to examine both the adoption and the use of technological innovations (for an overview, see Venkatesh et al., 2003; 2012). Nonetheless, two of the most cited theories concerning studies related to adoption are Davis' (1989) Technology Adoption Model (TAM),

which suggests that an individual's attitudes appear to be the drivers in adopting a technology (Straub 2009), and the IDT that was originally introduced by Rogers (1995; 2003) and has since been widely used for relevant IT and IS studies (Karahanna et al., 1999). In fact, IDT has been reckoned as one of the most commonly used theories to determine perceived critical characteristics of innovations in Management Information System (MIS) (Tornatzky and Klein, 1982; Moore and Benbasat, 1991; Al-Qirim, 2007) and has been also considered recently for scenarios of new media (Danowski et al., 2011).

The IDT had been hailed as of a particular topic of interest in this study for it originated from the branch of sociology and looks into the spread of novel ideas, technologies or practices via certain channels dispersed over time in a social system (Rogers, 1995; 2003). With the context of this study, a social system is defined as a set of interrelated units, such as individuals, groups, or organizations, engaged in accomplishing a common goal (Rogers, 2003, p. 23). The theory offers a systematic explanation on how new innovative technologies are communicated, evaluated, adopted, and re-evaluated by consumers (Rogers, 1995; Williams et al., 1994), besides placing emphasis on the intrinsic attributes of the investigated technology (Chau and Hu, 2002).

Additionally, the strength of IDT lies in its comprehensiveness and precision (Vishwanath and Goldhaber, 2003), which makes it useful in studying various IS innovations (Moore and Benbasat, 1991), mainly because it offers a richer set of factors, in comparison to that of TAM (Plouffe et al., 2001). Although not specifically developed for IS researches or marketing (see Mahajan, 1990a; 1990b), the IDT could be employed to elaborate the diffusion of any new idea, practice or object; hence used frequently for describing technology diffusion (e.g. Lu et al., 2009).

Despite emerging criticisms that the IDT has weathered and converged with alternative research perspectives (see *De Marez et al., 2011*), along with some researchers (e.g. Fichman and Kemerer, 1997; Brancheau and Wetherbe, 1990) claiming that the IDT model is biased towards technological focus of the adoption process, vast studies have confirmed that the IDT possesses a solid

theoretical foundation and consistent empirical support to appear as a useful theory to investigate the varied IS innovations (Moore and Benbasat, 1991), inclusive of IT adoption and its dispersion within and between communities (Venkatesh et al., 2003; Rogers, 2003). Accordingly, a considerable number of studies examine the IDT model in varying contexts (for an overview, see Iqbal and El-Gohary, 2014), including numerous IT-related innovation studies that elaborate the acceptance of the application of a novel technology, for instance, financial technologies (Plouffe et al., 2001), Internet banking (Tan and Teo, 2000), as well as various EC-related adoptions at different levels (see Kurnia et al., 2015; Al-Qirim, 2007; Grandon and Pearson, 2004). Nevertheless, the IDT has yet to be applied in studying individuals' adoption of IT-related innovations, specifically in the visual art market.

As noted earlier, the purpose of this inquiry is to understand a specific issue, so as not to generalize to a population (Farzanfar, 2005). Notably, studies related to the emerging technologies typically have an exploratory and applied focus (Barnes et al., 1992). Moreover, the exploratory approach had been deemed as suitable due to its flexibility and adaptability to modifications that might take place during the conduct of the study (Saunders et al., 2003), besides serving as a valuable means to determine “what is happening; to seek new insights; to ask questions, and to assess a phenomenon in a new light” (Robson, 2002).

2.2.1 Elements of Diffusion of Innovations

Rogers (1995) argued the innovation decision process (leading to adoption) is a mental process, where one goes from initial awareness of innovation to the development of an attitude towards it, then on to a decision to either reject it or make a definitive resolution to adopt and use it. Furthermore, Rogers (1995) asserted that the decision to adopt or to reject an innovation is subject to a wide variety of factors, which could influence one's speed to adopt an innovation. Moreover, Rogers (2003) listed four major factors that could affect the diffusion of innovations: 1) communication channels, 2)

attributes of the innovation (i.e., perceived usefulness and perceived benefits of the innovation), 3) time, and 4) social system (i.e., education and income status).

At a basic level, *communication channels* refer to the medium through which people gain information on and perceive the usefulness of an innovation. To this end, Rogers (2003) pointed out that diffusion, typically incorporates both mass media and interpersonal communication, where the media primarily inform potential adopters regarding an innovation, while interpersonal networks persuade one to either adopt or reject an innovation. Therefore, the information exchange process via communication serves as the locus to diffusion of innovations. In fact, some people tend to become the early knowers (innovators) who learn about the innovation directly from mass media, and then inform others to disseminate via social networking, the information gained (Valente, 1994, in Vishwanath and Barnett, 2011).

Meanwhile, *perceived attributes* of an innovation reflect “one’s subjective perceptions or beliefs pertaining to an innovation” (Vishwanath and Goldhaber, 2003, p. 550), which is of interest in this particular study, primarily because one’s attitude towards an innovation is considered a critical intervening factor in deciding innovation adoption (Rogers, 1995). Moreover, the theory depicts that potential adopters evaluate an innovation by using a rich set of attributes associated with the innovation, hence explaining 49-87% of the variance in the rate of innovation adoption, namely relative advantage, complexity, compatibility (or ease of use as the conceptual, as opposed to complexity), trialability, and observability (Rogers, 1995; 2003). Additionally, Rogers (2003) listed five perceived attributes of art EC, which could influence consumers to adopt art EC communications and applications technologies. The extant literature demonstrates that these attributes—relative advantage, compatibility, trialability, and observability—manifest positively in relation to the rate of adoption. However, if complexity is associated with an innovation then there appears to be a negative perception on rate of adoption. Furthermore, the theory explains that innovations perceived by

individuals as possessing greater relative advantage, capability, trialability, and observability, but less complexity, would gain adoption rapidly, when compared to other innovations (Rogers, 2003, p. 16).

In addition, IDT assumes that some innovations, in comparison to other innovations, are not adopted by all in a social system at the same *time* (Rogers, 2003). In fact, Kurnia et al., (2015, p. 521) suggested that innovations can be beneficial for an adopter in certain situation, but this may not apply to others in varied circumstances, given that adopting an innovation, such as that of art EC, embeds levels of risks which differ from one potential adopter to another. As such, some researchers have illustrated that personal innovativeness appears to be a key factor in adopting a new form of purchase, especially when linked to the conventional shopping method (Blake et al., 2003; Goldsmith, 2001), besides being positively related to a consumer's adoption decision for varied technologies (Leung and Wei, 1998). Thus, one's innovativeness mirrors the relative earliness or lateness with which an innovation is adopted, in comparison to other members of a market. With that, the term 'innovativeness' is seen as "relative", given that one adopter within a social system may see the nature of the innovation as more or less worth implementing (Rogers, 1995; 2003).

Thus, the extant literature agrees that the more innovative an individual is, the faster the rate of adoption (cf. Chan-Olmsted and Chang, 2006, for Digital Television; Liu et al., 2010, for m - learning). In fact, there is a consensus among prior consumer researchers (e.g. Hurt et al., 1977; Midgley and Dowling, 1978) that one's innovativeness could become a persisting characteristic or disposition, where an individual can be distinguished from another. Hence, emerging from this diffusion pattern, Rogers (2003) characterized a social system into five various segments based on their attitudes towards a given innovation (for which IDT holds onto fixed assumptions of size, profiles, and adoption characteristics).

The 5 **social system segments**, as listed by Rogers (1995; 2003) based on personal innovativeness, are: **(1) innovators** (around 2.5 percent of the population), **(2) early adopters** (around

13.5 percent of the population), **(3) early majority** (around 34 percent of the population), **(4) late majority** (around 34 percent of the population), and **(5) laggards** (around 16 percent of the population). These are all in relation to **relative time** when these segments specifically adopted the innovation. In fact, as for the application of adopter categories, in the area of technological innovation, Moore (1991, 1999) convincingly elaborated how individuals deriving from each adopter category respond differently to the advent of an innovation, which suggests a variety of practical guidelines to tackle market innovations for each category.

Furthermore, theory innovators and early adopters of art EC communications and applications technologies, for instance, have been assumed to possess higher perception of art EC for relative advantage, while lower perception for intricacy. Therefore, while innovators decide innovation success in the market (Rogers, 1962; Moore, 1991), laggards appear to be the strongest resisters to adoption of innovation and most likely become non-adopters due to limited resources and lack of awareness or knowledge pertaining to the innovation (Rogers, 2003).

Finally, Rogers (2003) acknowledged that the structure of **a social system** does affect one's attitude towards the innovation, and consequently, the rate of innovation adoptions, for it generates a boundary where the diffusion of innovations occurs (Rogers, 2003).

Rogers (1983) claimed that the cumulative frequency distribution for adoption of an innovation (here art EC) over time can be represented in the form of an S-shaped curve; as it starts slowly with early adopters who select the innovation first, and followed by the majority, until the innovation becomes mainstream and reaches the critical mass. Nevertheless, it was observed that the fraction of population adopting an innovation had been normally distributed in an approximate over time (Rogers, 1995). Although the S-shaped curve (Rogers, 1983), or as referred to in the marketing literature the "Bass Model" (1969; 1980) of the diffusion process has been criticized by scholars (e.g. Danowski et

al., 2011; Barnett, 2011) as an oversimplification (Vishwanath and Barnett, 2011), it has been considered as suitable to serve as a theoretical rationale, as depicted in Figure 2-1.

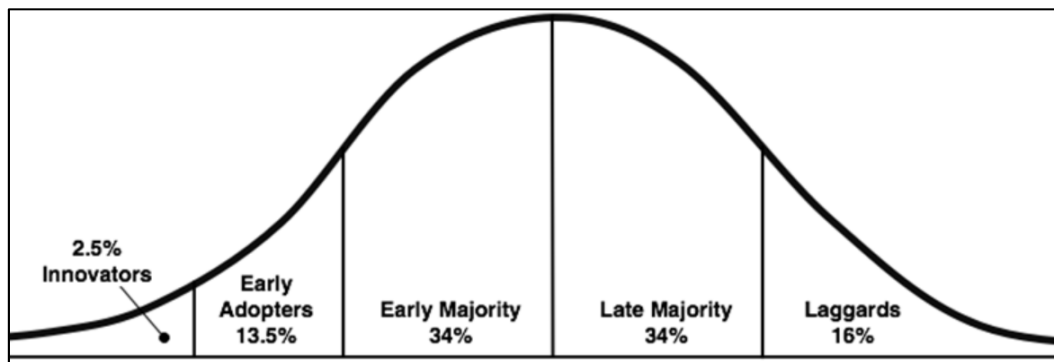


Figure 2-1: Adopter Categories (*Source: Rogers, 2003*)

Hence, as suggested by Rogers (2003), communication channels, attributes of art EC communications and applications technologies, as well as characteristics of potential art buyers and their social system may eventually contribute to the low adoption rate of art EC within the western commercial art markets. Furthermore, indications are that online purchasing has, by far, yet to achieve parity with the conventional channels, primarily because the online art market is still considered a small segment of art commerce.

2.3 Methodology

This study aims to provide a model that can predict factors affecting potential consumers' acceptance of art EC applications and their intentions to engage in online transaction using the extended IDT (Rogers, 1995; 2003). The main constructs of the theoretical framework were operationalised, and the scale items that are used to measure these constructs were selected after an intensive and careful review of relevant literature. For sample collections, Business Source Premier and EBSCO Publishing was used as a primary library database resource. In addition, an electronic

search was conducted and the references of key articles were also revised. The selected items/measures can be used to develop the survey questionnaire.

2.3.1. Selection of Perceived Attributes

Tornatzky and Klein (1982) performed a meta-analysis among seventy-five publications regarding perceived attributes and rate of adoption, and thus concluded that only three of the innovation attributes appeared significant, which were: relative advantage, compatibility, and complexity, all consistently related to innovation adoption and implementation. Also subsequent studies (e.g. Agarwal and Prasad, 1998; Chen et al., 2002; Ryu et al., 2009; Wu and Wang, 2005) revealed that only these three factors had received the most empirical support. Furthermore, Kelly and Kranzberg (1978), who reviewed over 4,000 items derived from the literature concerning technological innovation, classified all innovation characteristics into two categories: those that are dependent on consumers (relative advantage, compatibility, and complexity), and consumer-independent factors (trialability and observability). Given the focus placed on consumer for this study and the fact that the three factors have received the most empirical support, only these three customer-dependent factors: relative advantage, compatibility, and complexity, were embedded as constructs to the model to determine the attitudes exerted by consumers in adopting art EC.

Moreover, with the significant rise in the popularity of online channels, the question of trust has also appeared to be significant, given the increasing amount of information and alternatives made available to potential buyers (Chung and Shin, 2010). As a result, and as mentioned in the introduction, this research developed a more comprehensive version of the IDT with additional constructs of perceived trust in e-vendor and components of sociodemographic profiles exerted from potential adopters of art EC. In fact, trust has been one of the most frequently cited hindrances for consumers to dismiss e-vendors (Gefen et al., 2003a, 2003b; McKnight et al., 2002; Pavlou, 2003; Van Slyke et al., 2004). Furthermore, the number of studies that have examined the direct correlation between

demographic variables and adoption of Internet technologies is rather limited (Chan and Chong, 2013; Teo, 2001), in which both factors have been considered as significant, thus embedded into this study.

With that, by adopting the consumer-focused perspective; art EC adoption had been hypothesized to be influenced by (a) innovation characteristics (perceived relative advantage, compatibility, complexity); (b) behavioral characteristics (trust in e-vendor); and (c) demographic characteristics (age, income, gender, and education). For this study, to achieve the most accurate results, several prior studies (e.g. Moore and Benbasat, 1991; Van Slyke et al., 2004) were used as a basis when looking into the perceptions of using art EC, instead of the perceived characteristics of art EC itself.

In numerous prior studies, usage intention was applied as a dependent variable, mainly because with behavioral characteristics one's intent could theoretically predict the human behavior as well. Accordingly, the independent variables were made up of innovation characteristics, behavioral characteristics, and demographic characteristics, which had been conceptualized to affect behaviour in the intention to adopt art EC (which could possibly be measured with, e.g. the construct of intention to transact, see Pavlou, 2003), which serves as a dependent variable¹².

2.3.2. Measuring Constructs

The main constructs of the theoretical framework were operationalised, and the scale items that are used to measure these constructs were selected after an intensive and careful review of relevant literature. In order to select the measuring constructs and to make the analysis more relevant for the research field, applicable studies from a wide range of articles using a few limitation criteria (peer

¹² Despite of the fact that the quality of products in online environment (in general) has indeed been highlighted in vast studies (e.g. Chintagunta et al., 2012; Luo & Bhattacharya, 2006), the quality of artworks still remains subjective and sensitive. As such, the quality of art was excluded as a factor from this study.

reviewed journals, academic journals, journals with impact factor) were selected. The selected items/measures can also be used to develop a survey questionnaire.

The following sections define and explain all key factors, along with the hypothesized correlations (propositions) between the proposed constructs. The measuring constructs that had been selected to investigate attitudes towards the adoption of art EC communications and applications technologies, as well as the direction of the expected impact of each attribute, are detailed in the following.

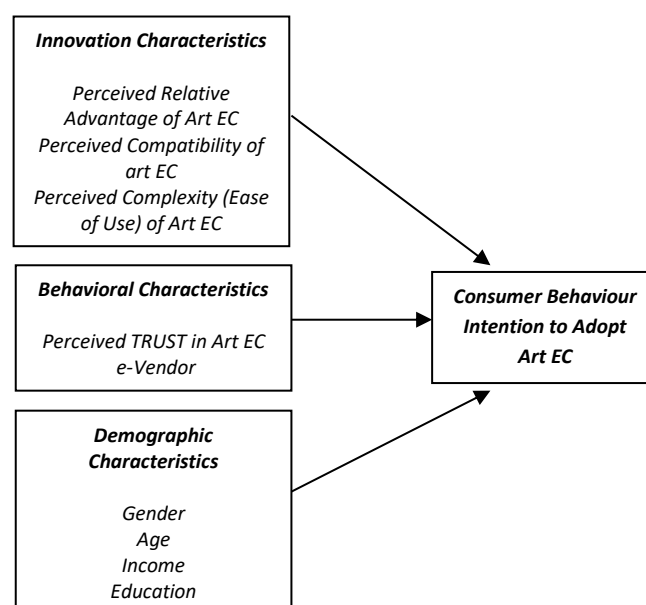


Figure 2-2: Conceptual Model - Factors that Influence Consumers' Adoption of Art EC

2.4 Proposed Framework and Research Propositions

2.4.1 Perceived Relative Advantage of Art EC

Relative advantage, which had been selected as an IDT core construct, refers to the degree to which an innovation is perceived as better than any present practice (Rogers, 2003). In fact, Moore and Benbasat (1991) redefined this definition and termed relative advantage as perceptions of using

an innovation, instead of perceptions towards the innovation itself. Moreover, it has been accepted in the literature that the perceived usefulness in TAM is one like that of relative advantage in IDT (e.g. Wu and Wang, 2005). Nonetheless, some scholars (e.g. Karahanna et al., 2002) claimed that a significant distinction should be made between the two concepts; since the relative advantage in IDT is explicitly comprised of a comparison between the innovation and its precursor, which is absent in TAM's perceived usefulness.

As previously mentioned, within the context of the study, art EC is considered an innovative art trading method, whereas the conventional face-face channels (e.g. commercial brick and mortar art galleries, dealers, auctions, and the like) reflect the traditional method. Again, Rogers (1995) claimed that it is insignificant if an innovation could offer vast advantages, but what does matter is if an adopter believes that the innovation is indeed advantageous. As such, for art purchasers, the disarray of traditional/offline art markets could turn into something that is heavy, frustrating, time-consuming, and a costly experience, given the limited selection of works and shady distribution practices in this sector (Clarke and Flaherty, 2002; Smith et al., 2005/2006). Moreover, relative advantage can be conceptualized as a multidimensional construct that projects the benefits of art EC communications and applications technologies, which can, for example, be associated with general attributes of online purchasing, inclusive of convenience, accessibility, broader selection, availability of information, and economic reasons (cf. Wolfinbarger and Gilly, 2001; Wu and Wang, 2005).

Jarvenpaa and Todd (1997) revealed that the aspect of convenience emerged as the single most salient advantage of Internet purchasing. Thus, the first advantage of art EC is the convenience it offers in making artworks available for purchase, compared to the traditional way. Convenience, for instance, refers to the extent to which the media make it easier for customers to save both time and effort (Yoon and Kim, 2007). Indeed, art buyers who purchase art via online can carry out transactions from the convenience of their computers, besides efficiently saving time and physical effort spent on meeting

or scheduling appointments with galleries and consultants (see Arora and Vermeulen, 2012). In addition, some scholars call into question if serious high-end collectors are willing to purchase original art at a higher price spectrum solely through a jpeg image, without physically inspecting the art object (see e.g. Kazumori and McMillan, 2003; Khaire, 2015). Yet, Kukar-Kinney et al. (2009) considered the lack of physical contact as a driver of online purchasing, allowing online buyers to avoid social interaction with salespersons or other customers.

Colbert (2003) also identified a number of risks (e.g. functional, social, and economic risk) associated with buying art via conventional manner (gallery), noting that psychological risk, for example, is associated with the fear of feeling uncomfortable or insecure upon stepping into a commercial brick-and-mortar art gallery. The perceived feeling of intimidation among buyers of art objects in the offline environment could, under certain circumstances, be a consequence of apparent lack of art knowledge or inadequate experience interacting with the art dealer sector (Colbert, 2003; Mason and McCarthy, 2006; Resch, 2011). In a similar vein, Mason and McCarthy (2006) asserted that art galleries tend to discourage visitors, especially those from the younger generation, from visiting a gallery by giving them the feeling of being unwelcome. In fact, it has been argued the convenience of bidding and buying art online could be a potential relative advantage of art EC among younger and inexperienced buyers who feel unwelcome, uncomfortable or insecure in the brick-and-mortar art environment. As a result, unlike the conventional atmosphere, the absence of gallerist in art EC may indeed be a significant advantage and very convenient for those who dislike personal interaction. Method of payment has also proven to be a vital element in highlighting the ease and convenience of online shopping (Brown et al., 2003).

The second advantage of Internet purchasing is the immediate market access, for the digital world takes into account neither physical nor technological boundaries (Okonkwo, 2009). Such simplicity that welcomes new merchants into the art EC market has enabled widespread access to the

arts in a hassle-free manner (Ahora and Vermelen 2013). The digitization of aspects related to art has created an unprecedented democratic sphere for universal access to learning across geographical, financial, and cultural contexts (Trant and Bearman, 2011). Additionally, online art buyers would not face mobility issues as their presence is always welcome around the clock in any part of the world, thus dismissing opening and closing hours. However, the recent available numbers fail to reflect this accessibility as such advantage does not apply to the high-end art market, which is still comparably very small and where face-to-face transactions are preferred. Moreover, based on the previously cited *The Art Market* (2017), which was jointly published by Art Basel and UBS, a survey among 50 companies related to the online art sector revealed that 24% of their transactions were at prices below \$1,000, while 75% had been for less than \$50,000. In fact, the largest single segment reflected sales between \$5,000 and \$50,000. Nonetheless, the potential art buyers at the time of the study, particularly below the highest price levels, could gain better access to art via online art segment.

Another key advantage of art EC is the broader selection of art objects (particularly between the middle- and low-end price spectra) of the market. As mentioned previously, the conventional offline art works are presented in a very limited selection, as art dealers typically represent only a handful of artists, which leads to shady distribution practices and fundamentally slow markets (Clarke and Flaherty, 2002). Moreover, the art market has often been characterized as a challenging place to trade due to limited selection of art works and the fact that galleries normally represent a meagre number of artists (Bernadette, 2003). On the contrary, potential art EC consumers are provided with the opportunity to select a wider assortment of art objects and the chance to purchase a more diversified variety of artworks that are unavailable in the physical art space (Bloom, 2006; Arora and Vermeylen, 2012). In fact, online buyers may discover niche products in an instance (Wolfenbarger and Gilly, 2001), whereas art websites allow art buyers to select their areas of preference, color, subject matter, style, medium, size, and price range (Grant, 2010).

Meanwhile, another advantage of art EC for potential adopters depends on the role of the Internet in facilitating information search. In general, art consumers are presented with more access to necessary information linked to provenances, artists, exhibitions, art attributes, comparative pricing, market studies, and so forth (Polleit-Riechert, 2010, p. 267; Arora and Vermeulen, 2013). Hence, art EC has the potential to effectively increase the ability among art buyers to gather information regarding art objects and collectibles that cannot be found elsewhere, as well as to provide the potential art buyers a wider diversity of art objects with varied price ranges. Furthermore, the technologically-facilitated information pertaining to art EC allows consumers to make better-informed purchasing decisions without the help of an expert (Arora and Vermeulen 2013). Nonetheless, Kazumori and McMillan (2005) noted a word of caution in the context of art auctions (which is a form of EC) claiming that the information available for online bidders is rather limited when compared to that presented during live auctions. Bidders at a live auction may view items in advance and seek advice from the auction-house experts, which are not privileges for online bidders whose information is limited to that posted on the related webpage (Kazumori and McMillan, 2005).

Chaparro-Peláez et al. (2015) also asserted that economic reasons could be a benefit for consumers to choose EC. Chiang et al., (2004) further claimed that in comparison to the physical marketplace, seeking information via online incurs relatively lower search costs. In the case of art auctions, Kazumori and McMillan (2005) argued that art bidders have negligible participation fees online, while live bidding involves travel and other participation costs. Indeed, one must keep in mind the significance of transaction costs, for example, in the case of acquiring an art work from brick-and-mortar auctions or via commissioned productions (Günter and Hausmann, 2002). Thus, as Günter and Hausmann (2002) explained, the primary beneficiaries of Internet purchase are the art buyers who, for example, benefit from significantly lower commissions, potentially low overall transaction costs, and greater market transparency.

In short, Rogers (2003) acknowledged that if the benefits of the technology-related innovation (here art EC) are perceived as having advantages over the existing practices, more rapid adoption of such an innovation can be positively stimulated. That is, upon recognizing the advantages offered by art EC, it is more likely that art purchasers would adopt this medium of art trade. As such, the aspect of relative advantage has been assumed to be a key indicator of adoption/usage (Moore and Benbasat, 1991; Plouffe et al., 2001; Rogers, 1995), with its impact upon adoption is well-established (for meta-analysis, see Tornatzky and Klein, 1982).

Moreover, there is a consensus among researchers that relative advantage is positively related to adoption of EC with its impact upon IT adoption as a whole (e.g. Tan and Teo, 2000; Chen et al., 2004; Gefen et al., 2003; Eastin, 2002; Van Slyke et al., 2004; Garg and Choeu, 2015; Ahmad et al., 2014). Therefore, it is assumed that:

Proposition 1: Potential adopters perceived that relative advantage of art EC has a positive effect on their acceptance of art EC communications and applications technologies.

2.4.2 Perceived Compatibility of Art EC

In certain previously reviewed diffusion studies, relative advantage and compatibility have been portrayed as similar, although they differ conceptually. In comparison to the construct of relative advantage, perceived compatibility, for the purpose of this study, reflects the degree to which art EC is seen to be consistent with (1) the adopters' existing beliefs, lifestyle, values, and (2) past experience, as well as (3) needs of potential adopters (Rogers, 1995; 2003). Moreover, compatibility with needs of users is considered a crucial predictor in technology adoption (Rogers, 1995; 2003), which has been further reckoned as the best perception-based indicator of attitude towards online transactions (Vijayasathy, 2004).

However, contrary to relative advantage, compatibility highlights the degree of disruption and the magnitude of change that takes place among potential art buyers likely to be using a new technology (art EC) (Karahanna et al., 2006). Therefore, by including the factor of compatibility in the developed framework, it is possible to address the unique context of the art market where EC takes place. In the context under study, it has been argued that compatibility can happen on several dimensions and can, for instance, be linked to the potential art buyers' use of technology in work or personal life; to their comfort with buying high value products over the Internet (other luxury items, such as jewelry and watches); to their general previous experience and habit to acquire art objects or to the degree to which art EC technologies meet a need. Thus, the more compatible art EC is, the greater the likelihood of its adoption.

First, in the context of adopters' existing beliefs, lifestyle, and values, the study conducted by Chau and Hu (2002) demonstrated that the attitude towards computers plays a significant role in a potential adopter's technology acceptance decisions. Meanwhile, Bellman and colleagues (1999) acknowledged that consumers who used the Internet and other related technologies (e.g. e-mail) extensively in occupational or personal settings, logically approached the Internet to search for product information and are likely to make online purchases. It is, hence, assumed that potential art buyers with regular Internet usage at office or home may find art EC more compatible with their practice, work style, and everyday life (e.g. buying high-value items online), hence increasing the opportunity to accept art EC as a purchasing channel of visual art.

Second, since compatibility can also be embedded in previously adopted ideas and experiences, potential art consumers may be influenced by their historical shopping habits/experiences and preferences, including the way of one prefers to obtain/acquire art, in general. According to Schönfeld and Reinstaller (2005), art buyers can be categorized based on the art know-how they have accumulated. Therefore, experiences do play a major role in shaping positive attitudes and in

influencing customer behavior, especially when perceptions among consumers concerning experiential elements of purchasing online are strongly linked to conventional shopping activities (Demangeot and Broderick, 2006). Accordingly, art connoisseurs (e.g. high-end art collectors) who display preference over conventional brick-and-mortar environment may consider art EC less compatible, when compared to their purchasing habits in the physical brick-and-mortar setting (e.g. art gallery, art fair or auction house).

Notably, the evaluation criterion for self-expressive products, such as visual-art goods, is very subjective and abstract (Günter and Hausmann, 2002, p.118), which is inclusive of sensory experience of aesthetic or sensual pleasure (Hirschman, 1983). Therefore, as far as many art buyers are concerned, consumption of art is typically considered experimental, generating fun and social interaction. Social and symbolic motives mainly motivate people to go to galleries, which make visiting art events an enjoyable activity fulfilling hedonic, rather than utilitarian needs (Hirschman and Holbrook, 1982; Hüttel and Gerl, 2012; Mandel, 2008; Resch, 2011; Arora and Vermeulen, 2013). As such, the literature emphasizes personal contact and direct communication (e.g. Arora and Vermeulen, 2013; Khaire, 2015), as well as the social nature of art consumption (Bourdieu, 1986 (1979); Caves, 2000; Khaire, 2015), as the distinguishing marks of this industry. Furthermore, Hirschman and Holbrook (1982) acknowledged that the consumption of experiential product types (here art objects) does not revolve around solving a problem, but it is more about experiencing pleasure and enjoyment, in which the product becomes the experience itself. For instance, Chen (2009) discovered visitors frequent art galleries for the spiritual aspect of artworks.

Additionally, Tauber (1972) claimed that one who considers shopping enjoyable would derive personal and social values from visiting a physical space. In line with this philosophical perspective, art galleries offer transcendental aesthetic experiences (Whitehead, 2005), whereby lack of social interactions and absence of “human touch” are considered as significant disadvantages or even

inhibitors of EC (Sivaramakrishnan et al., 2007). In fact, one of the many limitations of the Internet is that it cannot tap into two significant senses, namely sight and sound, in a realistic manner (Phau and Poon, 2000). For that reason and in accordance with a study regarding consumers' adoption of electronic grocery shopping (Verhoef and Langerak, 2001), it had been assumed that for customers who considered traditional shopping to be an enjoyable experience, similar buying behavior and experience may be a factor that works against art EC adoption. Thus, it is doubtful if these customers would actually use art EC in its full functionality (both informational and transactional stages). On the contrary, such customers would frequent a physical space to complete and to finalize transactions after gathering sufficient information from online.

Compatibility, within the context of art EC, therefore is closely associated to the degree where art EC meets a need. No doubt, greater compatibility between individual needs and technological innovation is sought because it allows innovation to be interpreted in a more familiar context (Ilie et al., 2005). As such, art EC represents an innovation that is still in its infancy – reflected in the unfamiliarity displayed by the current consumers when approaching a new and different purchasing channel for visual art.

Plouffe et al., (2001) demonstrated that compatibility did exhibit a significant influence upon technology use intentions. Moreover, extant studies have generally supported the positive correlation between compatibility and EC adoption/acceptance in varying contexts (e.g. Van Slyke et al., 2004; Plouffe et al., 2001; Van Slyke et al., 2002b; Aziz and Jamali, 2013; Ahmad et al., 2014; Ghobakhloo and Tang, 2013). With that, it is believed that if art EC is compatible with the potential adopters' existing values, beliefs, lifestyle, experience, and needs; they would find art EC more feasible. Therefore, it was hypothesized that:

Proposition 2: Potential adopters who perceived compatibility of art EC with existing values, beliefs, and lifestyle have a positive effect on their acceptance of art EC communications and applications technologies.

2.4.3 Perceived Complexity (Ease of Use) of Art EC

The third characteristic of innovation is complexity, referring to the extent to which an innovation is seen by a potential adopter to be difficult (or easy) to understand, to learn, or to utilize (Rogers, 1995; 2003). Therefore, perceived complexity reflects the degree to which using art EC communications and applications technologies to acquire art objects is seen as challenging among potential art buyers.

As stated previously, IT innovations that are easy to understand are adopted quickly, while those with intricacy are adopted more slowly by most members of a social system, even if they are of greater benefit (Rogers, 1995). Hence, perceived complexity of innovation is often negatively related to its rate of adoption (Rogers, 1995). Cho and Kim (2002) observed that difficulties in understanding and applying a new technology might eventually lead to resistance, slower recognition of its value, and fear of failure. Indeed, consumers must actively engage in extensive IT usage when interacting with a vendor's website, which turns into the store itself (Koufaris, 2002).

Furthermore, pertaining to IT adoption (e.g. Davis, 1989; Moore and Benbasat, 1991; Wu and Wang, 2005; Plouffe et al., 2001) much of the literature suggests considering TAM's "perceived ease of use", instead of complexity, as the conceptual opposite of the construct (Venkatesh et al., 2003). Thus, to be consistent with other views of the adoption process, 'ease of use' instead of 'complexity' was applied for this study. As such, perceived ease of use reflects one's assessment of the extent to which interaction with a particular IS or a technology is free of mental effort (Davis, 1989), hence indicating the ease with which users can reach whatever they seek from the website (Zhang and Myers, 2005).

Notably, Hong et al. (2004) revealed that various modes of information presentation significantly affected users' information search time, recall of information, and attitudes. Whereas, many studies' empirical evidence suggested a substantial impact of perceived ease of use of new technology on attitude/intentions (Davis, 1989; Gefen and Straub, 1997, 2000; Gefen et al., 2003; Moore and Benbasat, 1991, Van Slyke et al., 2002b) and its adoption (e.g. Venkatesh and Davis, 2000), Hernandez et al. (2011) displayed that perceived ease of EC use did not have any significant effect upon attitudes toward EC or usage intention for potential online customers. Chau and Lai (2003), on the other hand, claimed that user feelings of self-competence and determination escalated with website ease of use. Hence, with the growing online art EC sector, ongoing improvements in technology are sought out as EC becomes more sophisticated, as firms aim to make online purchasing experiences easier and more fulfilling (e.g. via high-resolution images, playful navigation, comprehensive information, framing, insurance and shipping opportunities), so as to reduce consumers' vulnerability, as well as to facilitate website manoeuvring during the purchasing process. Nonetheless, one can argue that with the growing services, usage of art EC applications has also become more challenging and complex. As a result, for potential adopters who perceive that using computers or for those who believe that art EC is hard to use, adoption of art EC may be rejected, even if they recognize, in practice, that art EC is beneficial.

Moreover, following studies that suggested complexity has a negative impact in influencing EC adoption in varied contexts (e.g. Al-Qirim, 2007; Luqman, 2011; Maryeni et al., 2014) along with studies (e.g. Brown and Jayakody, 2008; Rai et al., 2002) indicating consumer's intention to purchase online, among other factors (e.g. trustworthiness), was significantly influenced by the ease of use of online shopping application/system, the following was developed:

Proposition 3: Potential adopters who perceived ease of use of art EC communications and applications technologies have a positive effect on their acceptance of art EC communications and applications technologies

2.4.4 Perceived TRUST in Art EC e –Vendor

The performance exerted by B2C EC highly depends not only on consumers' acceptance of IT as a means of viable transaction, but also on consumers' acknowledgement of an e-vendor as a reliable merchant (Pavlou, 2003). As for the EC setting, many empirical studies have examined the role of trust as an intricate and multidimensional construct with varying emphases, such as interpersonal trust (i.e. towards e-vendor), system trust (i.e. towards EC in general), and dispositional trust (i.e. personal characteristics affecting the decision to trust) (for an overview, see Grabner-Kräuter and Kaluscha, 2003a; 2003b). However, for this study, trust in e-vendor is associated to the interpersonal perspective and reflects the confidence one has towards an e-vendor, which may be influenced by the personality of the trustor and the attributes of the trustee (Mayer et al., 1995).

There is a general agreement among researchers that as trust in e-vendor increases, customers are more willing to purchase products online (e.g. Mukherjee and Nath, 2007; Gefen and Straub, 2001). Moreover, consumers who trust in e-vendor may engage in "trust-related behaviors" (McKnight et al., 2002, p. 336), thus generating vulnerability by opening oneself to risk, such as making online purchases, as well as exchanging sensitive personal information (e.g. mailing address or telephone number) and financial data (e.g. credit card numbers) (McKnight et al., 2002). Such scenarios makes the buyer willing to trust and depend on the e-vendor in general (Rempel et al., 1985) by making purchases from the related website, although a direct contact with the e-vendor is absent. Gefen and colleagues (2003) asserted that an e-vendor can be viewed as a business unit, rather than a simple interface with whom the customer economically interacts.

As stated previously, art EC involves a product with an economic value difficult to evaluate at the time of the sale; as such, this key aspect distinguishes art objects from all other consumption goods (e.g. Salganik and Watts, 2009; Bonus and Ronte, 1997; Hawley-Dolan and Winner, 2011; Schönfeld and Reinstaller, 2005; Venkatesh and Meamber, 2006; Yogev, 2010). Moreover, due to the intricacy of the product and because the art market is a sector out of the regular trading, partners tend to interact with each other in person (e.g. Arora and Vermeulen, 2013; Khaire, 2015). As a result, the role of trust in the party involved in the evaluation, selection, and transaction processes of art, as well as the long-term relationships before purchase, is rather common in the conventional art market. According to Kohle (2014, p. 445), trust as value plays a more significant role in the art market, in comparison to all other segments. He acknowledged that building this trust, however, takes years and decades in the art market - some of the most successful brick-and-mortar galleries and auction houses have even built their reputations over centuries (Kohle 2014).

Moreover, according to the Hiscox Online Art Trade Report (2017), 82% of online art buyers claimed that the reputation of the online platform is essential when purchasing art and other collectible items online, with online platforms competing neck-and-neck with major offline auction houses, such as Sotheby and Christie's.

In addition, the online environment differs highly from brick-and-mortar settings, as buyers neither experience direct contact with vendors, nor physical with products they purchase (Okonkwo, 2009). Such spatial and temporal segregation between consumers and e-vendors reinforces fear of seller opportunism due to product and identity uncertainty (Ba and Pavlou, 2002). Since the entire transaction is carried out online in the EC environment, consumers do not experience direct contact with any salesperson, therefore questions cannot be clarified, body language cannot be observed, and quality cannot be verified as the physical condition of a product is unable to be experienced prior to purchase (Nah and Davis 2002). These factors might lead to quality concerns regarding the physical

condition of the work, its authenticity or the visual variance between the original piece and the online image.

Trust in an e-vendor is, therefore, considered a critical factor in the adoption process for online purchasing (Blake et al., 2010), besides serving as a buffer to reassure consumers that vendors will, for example, treat their sensitive information confidentially and deliver their promises (Bhattacharjee, 2002). In addition, Corbitt et al., (2003) revealed a significantly positive correlation between trust and participation in EC. Furthermore, in line with other studies that have focused on interpersonal trust in B2C EC settings (e.g., Gefen et al., 2003a, 2003b; Pavlou, 2003), trust in e-vendor is propositioned to effect art EC adoption at the individual level of analysis in this study.

Ashman and Vazquez (2012) argued that trust is considered a significant factor for consumers to make a purchase decision, as it can mediate potential risk (Winch and Joyce, 2006; Bart et al., 2005). In fact, the risk is generally viewed to be higher for products linked with higher expenditure levels, more ego-satisfying characteristics, as well as feeling and touching prior to purchase (Bhatnagar et al., 2000). Moreover, high-involvement products demand the initiation of problem-solving behavior and possess some degree of personal significance, in comparison to those of low-involvement products (Pires et al., 2004). Since trust gains higher value when important decisions are involved (Luhmann, 1997), the role of trust is logically expected to be even more crucial when purchasing infrequently purchased high-involvement goods, such as art objects (Kotler and Bliemel, 1995, p. 304).

Prior studies have agreed that trust is a very significant element for intention to purchase from e-vendors (Flavián and Guinalíu, 2006; Valvi and West, 2013) because e-loyalty (Cyr, 2008; Pavlou, 2003; Ridings et al., 2002) and trust are some of the crucial enablers for successful EC transactions (Gefen et al., 2008; Pavlou and Gefen, 2004; Harris and Goode, 2010; Pennington et al., 2003, 2004; McCole et al., 2010). Furthermore, the roles of trust and trusting beliefs have been reckoned as the key factors in influencing EC adoption in the extant literature (e.g. Gefen et al., 2003a, 2003b; McKnight

and Chervany, 2002; Pavlou, 2003). Accordingly, studies have found the more trustworthy an e-vendor appears to the potential adopter of art EC, the more they will likely to adopt its EC application. On the other hand, in the absence of sufficient trust in e-vendor, consumers may be motivated to revert from the online to traditional brick-and-mortar purchasing. Thus, the following had been proposed:

Proposition 4: Potential adopters who perceived higher trust in e-vendor have a positive effect on their acceptance of art EC communications and applications technologies

2.4.5 Demographic Characteristics

Several demographic factors had been found to have an impact upon consumer's online behavior (Hupfer and Detlor, 2006; Dwivedi and Lal, 2007; Hoffman et al., 2000; Slyke et al., 2002; Susskind, 2004; Zhang, 2005), thus making market segmentation a crucial aspect in the cultural sector (Hausmann, 2009). Furthermore, apart from the need to investigate the influence of the innovation attributes upon consumers' decision to accept EC as a purchasing channel of visual art, it is also imminent to evaluate consumer demographics for such information may help to explain the variances between adopters and non-adopters before a technology innovation hits the critical mass (Leung and Wei, 1998; Lin, 1998).

Prior studies concerning IT adoption behaviors displayed that the demographic characteristics influencing IT usage were sex (e.g. Igbaria, 1993; Gefen and Straub, 1997; Venkatesh and Morris, 2000), age (e.g. Igbaria, 1993), education level (e.g. Agarwal and Prasad, 1999), and income (e.g. Bagchi and Mahmood, 2004; Susskind, 2004) (for overview, see Zhou et al., 2007). Hence, these demographic variables **gender, age, education, and income**, related to the adoption of computer-based technologies were included in this particular study.

2.4.5.1 Gender

Venkatesh et al., (2003) found that the role of gender in EC adoption is indeed crucial. Extant literature demonstrates that men and women think and behave differently in their interactions online (e.g. Zillien and Hargittai, 2009; Okazaki and Mendez, 2013; Wasserman & Richmond-Abbott, 2005). Gender emerges as a significant factor to influence attitudes towards the Internet and online purchasing behavior (Zhang, 2005; Ozdemir and Kilic, 2011). Nevertheless, a significant prerequisite to engage in a specific behavior is to possess the necessary personal skills and knowledge to exert such behavior (Koufaris, 2002). Correspondingly, Porter and Donthu (2006) asserted that “the decision to adopt a new technology is closely related to the amount of knowledge one has pertaining to use the technology appropriately” (p. 1001). Along with other influencing factors, Hargittai and Shafer (2006) suggest men and women may differ in their attitudes towards their technological abilities and skills, which may influence their behavior towards Internet usage and adoption of web-based and EC applications. For example, Lerouge et al. (2005) discovered that males used innovation significantly higher than females because men were found to be more attracted to and skilled in the use of computers, in comparison to females.

On the other hand, when compared to men, women were found to be more socially concerned (Lee et al., 2014). In fact, some studies observed that females perceived the Internet as a tool to maintain social values (Hupfer and Detlor, 2006), in which the use of social media was deemed comparatively more pleasing to women than to men (Duggan and Brenner, 2013). As a result, there is evidence that adult females are more likely to use the Internet communication tools (e.g. e-mail or chat), while adult males are more apt to use the Internet to seek information regarding investment, entertainment, and more achievement-oriented purchasing behavior (Hupfer and Detlor, 2006; Jackson et al., 2001; Valkenburg and Peter, 2007; Zillien & Hargittai, 2009; Baltas et al., 2010).

Moreover, in a study of relationships between gender and Internet usage, Teo (2001) outlined that males tend to make more online purchases and spend more money online than females (see also

Susskind, 2004). According to Winker (2005), men used the Internet more often and for a longer period, while women were average users. However, Chan and Chong (2013) investigated the factors that affected the usage of Internet technology (mobile technologies) and found insignificant variances between the ways in which men and women applied technologies. In addition, some other studies (e.g. Baltas et al., 2010) confirmed the results of prior studies, which showed that gender influences perceived risk in EC, wherein women were found to be more risk averse than men. Similarly, Liebermann and Stashevsky (2002) observed that women felt uncertain about purchasing products online than man and perceived a higher risk due to the need of providing personal information, such as credit card numbers (credit card theft risk) and lack of human contact. Zhou and colleagues (2007) argued that women demonstrated a higher level of web apprehensiveness and were more skeptical of electronic business (e-business) than men.

More specific to the present study, is whether the process of purchasing art (or collecting art) is more of a male or female activity. To this end, Braden (2015) selected 617 international art collectors from ARTnews, ArtReview, and Art+Auction from 1990 to 2011 to examine the differential recognition among top art collectors. The study revealed that in the past two decades, female collectors represented only a small fraction of art collectors (10%) while males accounted for the majority of all art collectors highlighted (Braden, 2015). In a similar manner, Rössel (2014) asserted that despite the fact that among museum visitors women were overrepresented, among art collectors and art buyers, they have been clearly underrepresented. Based on prior arguments, gender is a factor that is assumed to have an impact on the adoption of Internet-based art EC. As such, the following proposition had been formulated:

Proposition 5: As compared to females, males are more likely to accept art EC communications and applications technologies.

2.4.5.2 Age

Significant age variances were found in relation to preferences in using innovation, where older groups aged 50 and above displayed less preference to use innovation skills, in comparison to those aged between 20 and 29, as well as 40 and 49 (Lerouge et al., 2005). Since many older people have limited experience in using computers and the Internet, in comparison to younger generation, it is likely that learning to use innovation sparks an anxiety-provoking scenario which many would choose to avoid due to perceived difficulty linked with the task (Porter and Donthu, 2006). Furthermore, age has often been cited as a potential barrier to Internet access (Kiel, 2005) and one of the most significant factors that affect the use of the Internet medium in the extant literature (e.g. Bonfadelli, 2002; Fox and Madden, 2005; Zillien and Hargittai, 2009). Nevertheless, access to and use of the Internet is the prerequisite for art EC adoption.

Teo (2001) revealed that older individuals tend to use the Internet less, when compared to younger customers. Cutler et al., (2003) also discovered negative correlations between computer ownership, its usage, and age. Yoon (2002) found that the older generation perceived online purchasing as riskier, more time-consuming, and more complicated, when compared to purchasing the conventional way. Interestingly, regardless of the positive perception on the benefits of the Internet, particularly among the older age group, the perceived complexity of navigation of Internet websites acted as a hindrance (Adams et al., 2005). Moreover, the older generation seemed to deal with more problems of exploratory activities, including variety seeking-and-searching activities (Guo 2001), as well as processing new or complex information, thus affecting their learning of new technologies (Morris et al., 2005). Several recent studies asserted that older consumers tend to be both less technology-affine and more risk-averse than young people (Baltas et al., 2010).

Lian and Yen (2014) acknowledged that the extant literature on online shopping drivers is heavily focused on the youth segment. While younger people (aged between 18 and 29) still tend to

be at the forefront of Internet use (Hargittai & Hinnant, 2008; Madden, 2006), the older cohorts have begun to catch up with their younger counterparts and their Internet use has been growing incrementally, with, for example, more than 58% of Americans reportedly going online compared to 28% a decade ago (Perrin and Duggan, 2015). Furthermore, by 2060, it is expected that the share of those 65 years and over would account for 29.5 % of the EU-27 population (Eurostat, 2013). Hernandez et al. (2011) also confirmed that the average age of those purchasing online has been rising continuously. Interestingly, prior studies have suggested older people have more persistent shopping habits and value the benefits of the existing transaction pattern, more than young individuals, hence leading to greater inertia, where such behavior decreases physical and mental efforts (Baltas et al., 2010). In this discourse, since those younger seem to be more engaged in the usage of new technologies and innovative behaviors, when compared to their elder counterparts, it had been assumed that they might be more approachable to new forms of distribution channels of visual art, as compared to the older generation. Hence, it is believed that younger individuals (so called digital natives) are more comfortable with Internet purchasing activities and therefore, are more likely to accept art EC as a channel to purchase art.

Proposition 7: Age is negatively related to acceptance of art EC communications and applications technologies.

2.4.5.3 Income

Along with gender and age, it is indeed significant to evaluate the socioeconomic factors, including education and income. For instance, Rogers (2003) found that economic status (income) was highly correlated to innovation adoption, asserting that new technologies were initially adopted by those with more resources. Zillien and Hargittai (2009) discovered that the higher the social status, the wider the Internet usage. Several studies have emphasized the importance of income as it was positively related to the tendency to shop online (see Bagchi and Mahmood, 2004; Li et al., 1999;

Susskind, 2004; Zhou et al., 2007). As such, higher income could be related to smaller financial risk when associated with online purchase.

Indeed, in a study that involved British consumers, Choudrie and Dwivedi (2005) revealed that one's economic status has strong influence upon his/her ability to own and use the technology. Furthermore, art has often been assessed as a product with high quality and sophistication, which is further associated with originality, rarity, value, exclusivity, and worthiness (Venkatesh and Meamber, 2006). Hence, despite their education-based understanding of art, individuals who engage in the art market require the provision of economic resources (Bourdieu, 1982: 212). Such association of art is often perceived to be expensive, a notion which is supported by the literature on scarcity (e.g., Lynn, 1989) and by the media, as arts are sold at stunning prices during art auctions (Mandel, 2009; Hüttl and Gerl, 2012). As a matter of fact, works of art have, from time-to-time, fetched shockingly skyrocketing prices, at least from the stance of any ordinary wage earner (Goetzmann et al., 2011). Even though this typically represents only a distorted impression of the culmination (Caves, 2000, in Rössel, 2009a), the economic attributes of scarcity and the costliness of art objects could lead to the assumption that art objects are considered superior items.

As such, Grampp (1989) claimed that the amount spent on art is closely related to the income of the buyer, given that it raises the demand as the income increases. As a result, art objects are not purchased at all below a certain level of income. Nonetheless, Rössel (2009a) stated that the prices are often far from the prices reported in the media. This fact refers to a study carried out by Velthuis (2004, p.100) where an average price of 2.227 € had been charged for an art work sold in conventional galleries in the Netherlands. However, Rössel (2009a) further acknowledged that it is still a significant amount of money for an average earner and the decision to purchase a work of art is significantly marked by economic criterion. Furthermore, in studying the effect of equity markets and top incomes upon art prices, Goetzmann et al., (2011) found a co-integrating correlation between high income and

art prices, claiming that a hike in income inequality may further escalate the prices for art. Goetzmann et al., (2011) added that such relationships “support the Veblenian view of art as an instrument of social competition among the very rich” (p. 225). Higher income is positively associated with art purchase; with this in mind, the younger generation, in comparison to those in the older group (here middle-aged consumers) are deemed to earn higher incomes, to be positioned with secure jobs, and possess greater financial freedom (Spero and Stone, 2004).

Hence, while it is argued that younger art buyers are likely to be enthusiastic adopters of art EC; their relatively smaller income may affect the price segment of artworks that they target. Given the above, the following has been proposed:

Proposition 8: Income level is positively related to the acceptance of art EC communications and applications technologies.

2.4.5.4 Education

Adopters of innovations, particularly with intricate products, are found to be typically more educated and with a higher income level (e.g. Feldman and Armstrong, 1975; LaBay and Kinnear, 1981). In other words, early adopters of new technologies tend to have higher educational levels and better knowledge, perhaps reflecting their capability in comprehending more within less time than those with lower education level (Porter and Donthu, 2006; Rogers, 2003). Nonetheless, while Teo (2001) revealed that education had an adverse impact upon user's browsing activity, arguing that the higher the level of education, the less time the user will likely to spend on browsing activities; Brown and Venkatesh (2005) indicated that the use of computers among those with higher education level is greater, in comparison to individuals with lower education level. In a similar manner, Chan and Chong (2013) reported a positive correlation between people with higher education and the use of Internet technology in performing transactions. Meanwhile, Helsper and Galacz (2009) found individuals with

lower levels of education were less likely to use the Internet for educational or economic purposes, although they may share similar Internet access and skills.

More specifically, Howard and colleagues (2001) discovered that people with lower level of education used the Internet for casual browsing, playing games or gambling online, while those with higher education used the Internet to seek health information, as well as perform online banking and research. In general, those with higher education were found to have an elevated degree of trust in EC (Hui and Wan, 2007). Higher level of education, hence, could be related to better understanding of the functions performed by the innovation and to perception among customers as being less intricate (Dickerson and Gentry, 1983), whereas those less educated may face knowledge inadequacy, heightened computer anxiety, and limited sophisticated cognitive structures that impede their ability to learn (Porter and Donthu, 2006).

Nevertheless, while Zhou et al. (2007) reckoned that online shoppers were not necessarily more educated, Simpson (1981) claimed that, as a consumer good, visual art is perceived as a commodity that "expands civilized consciousness", and whose possession is intended to reflect one's high cultural status (Plattner, 1998). With that, art has been "socially recognized as a symbol of education, cultivation, and good taste" (Bourdieu, 1969, cited in Chen, 2008, p. 930) and particularly cultural attractions (e.g. art galleries) that generally possess the tendency to target a small fraction of the consumer population, characterized by its relatively high level of education and income (Robinson, 1999).

Similarly, Rössel (2009a) asserted that, in general, highly educated persons are somewhat overrepresented in cultural events of all kinds, especially in the case of visits to institutions of classical music or visual arts (Dollase et al., 1986; Rössel & Beckert-Zieglschmid, 2002; Rössel et al., 2005). For instance, in a British study of social stratification and cultural consumption within the context of

visual arts, Chan and Goldthorpe (2007b) discovered that heavy consumption of a particular segment of the visual art involved mostly the demographic of educated groups. Curiously, DiMaggio and Useem (1978b), in their comprehensive study concerning arts consumption in the U.S., revealed that education served as a better predictor associated to engagement in arts, in comparison to that of income. Silva (2006) also found that education, and not income, better estimated patterns of paintings ownership, as well as the frequency of engagement with visual arts, among some respondents selected in England.

Thus, when it is argued that the process of online purchasing is a relatively easy task, which dismisses the need of higher education (Zhou et al., 2007), engagement with visual art, as well as selection and knowledge of artworks, may pose a daunting task. This is because; higher level of education could enhance one's understanding regarding a product offered in art EC applications and one's specific art knowledge. Therefore, based on this discussion, and given that engagement in arts has continued to be important among those with higher socioeconomic status and relatively higher level of education (DiMaggio, 1982, 1987; DiMaggio and Mohr, 1985; Mohr and DiMaggio, 1995; Peterson and Simkus, 1993), education was expected to be positively related to art EC adoption within the context of the current study. Thus, the following had been drawn:

Proposition 9: Education is positively related to acceptance of art EC communications and applications technologies.

2.5 Conclusion

Research addressing key factors of art EC adoption are scarce. Nonetheless, the potential benefits of consumer EC would not accrue to businesses until the influential factors impacting one's willingness to engage in online exchange relationships are determined (Pavlou and Fygenon, 2006). With that, the present study demonstrated that Rogers' work on diffusion of innovations did serve as a useful platform to explore the factors that may influence art buyers to adopt art EC. Although not empirically tested, the expansion of IDT in this study has initiated the first step towards building

knowledge-based art EC acceptance by developing a conceptual model of consumer adoption of art EC communications and applications technologies. Besides, innovation attributes (perceived relative advantage, perceived compatibility, and perceived complexity), as well as additional factors of trust in e-vendor and demographic characteristics (age, gender, income, and education), were determined to be significant aspects likely to predict the adoption of art EC.

Also, not only may this research encourage future studies to deepen the discussion pertaining to the use of art EC by potential adopters, but also to empirically test the research propositions outlined. This study may offer initial understanding of potential customers' decision processes and provide both theoretical and practical implications to further develop effective EC strategies to completely exploit the potential of this very channel.

2.6 Managerial Implications

Although the presented framework has yet to be tested, some broad recommendations and implications have been drawn with regard to the future deployment of art EC applications based on the given conceptual model. Moreover, comprehending consumer acceptance of online purchasing appears to be a major driver of customer relationship management, acknowledged as an effective business strategy to gain success in the online setting (Zhou et al., 2007). The results of the study suggest that art EC business owners should pay closer attention to reducing one's constraints in engaging art EC applications. Overall, the presented framework offers five essential insights into potential consumers' behavior and their demographics, which may prove to be helpful for business owners to take their initial steps in overcoming fears or negative perceptions that may be generated by potential art buyers. As such, interpretations based on the formulated propositions and implications are discussed in the following:

First, prior research (albeit not in art EC context) have supported the idea that relative advantage is a strong predictor of the adoption rate. In fact, it has been argued that when potential art buyers perceive that art EC offers a comparative advantage over, for instance, brick-and-mortar art gallery purchasing, they are likely to exert more favorable attitudes towards the adoption of art EC, in which, consequently, art EC is more liable to serve as a channel to purchase visual art. Moreover, if relative advantage is indeed vital, online businesses are advised to carefully examine and compare the benefits offered to their consumers against the benefits of conventional brick-and-mortar businesses, as well as against their contenders.

Besides, business owners are advised to identify a set of benefits that should be highlighted and included in the marketing communication strategy to increase their awareness. Such decisions may demand a focused approach and a carefully selected differentiation strategy so as to enrich the art EC application with more useful services, than their competitors (e.g. special shipping/delivery or art insurance offered to first-time buyers). This approach may spark an initial trigger moment, besides increasing perceptions of potential consumers regarding relative advantage, which could possibly lead to a hike in the intent to use art EC.

Second, prior empirical studies have demonstrated that perceived ease of use positively correlated with one's behavioral intention. Hence, it has been argued that consumers who view art EC applications as easy to use, may feel more comfortable using the channel to purchase visual art, leading to acceptance. Although acquiring art objects via EC communications and applications technologies might appear as extremely useful and advantageous, intricate (e.g. technically) usage may reduce the likelihood for one to adopt art EC. With that, one suggestion concerning this proposition is that practitioners should remove potential barriers and pay closer attention to the ease of use of their applications, as they should be, for example, user- friendly and not requiring high level of knowledge, experience, mental effort or expertise. Practitioners may, thus, be advised to carry out a benchmarking

exercise and make their EC applications easier for usage (e.g. easy-to-browse art work catalog). For instance, Li and Yeh (2010), in their study of Mobile Commerce (MC), suggested that a higher level of visual aesthetics design on the website, such as the use of images, colors, and fonts, resulted in perceived ease of use. Nevertheless, business owners should keep in mind that issues that revolve around ease of use may also be affected by other factors apart from web interface, such as clear customer-oriented policies, including return policies and payment options (Van Slyke et al., 2004).

Third, compatibility has been proven by prior studies to be a positive predecessor of behavioral intention. Hence, it is useful to remember that greater acceptance to purchase visual art via Internet can be achieved by improving the compatibility between art EC and potential consumers' values, lifestyle, and needs. Thus, efforts must be made to sensitize practitioners in the area concerning potential customer profile, to fulfill their expectations and to develop personalized services to address individual needs. Moreover, attributes of consumers can be applied to determine appropriate segments for customization, for instance, segmenting users' past browsing behavior, such as previous ads clicked (Agarwal et al., 2009) or prior purchases (Malthouse & Elsner, 2006).

In addition, a trend-conscious lifestyle, for example, one that embraces and enjoys the use of the Internet to purchase high-end items, would likely influence one's intention to engage in art EC. Hence, practitioners are advised to give attention to highly digitally engaged customers' experiences in other high-end sectors and introduce their offering on websites that the clients have already surfed. Moreover, business owners may be advised to introduce art EC offering in the context customers are already familiar with and with which they have experience. Accordingly, vendors are encouraged to collaborate with other comparable/related businesses and engage in stronger business linkages with partners and clients, to develop new business opportunities with the aim to enhance the compatibility of their EC applications with art buyers' preferences. Furthermore, employing certain design features may, for instance, enhance or inhibit the intent of potential adopters to try art EC. For example, being

too distant from common interface standards, inclusive of page layout, placement of links, and image sizes, may decrease perceptions related to compatibility and further exert a negative impact upon the intent to adopt art EC.

Furthermore, the high-end segments of the market that offer carefully selected information and art objects may also emerge as a key to enhance the aspect of compatibility to transform shopping habits of scarce goods in brick-and-mortar setting to online space. Potential art buyers may find messages, such as “art carefully chosen by independent experts or art historians”, more compatible with their selective approach in a curated offline setting of high-priced goods, rather than “everything has to go out.” Finally, developing art EC applications optimized for mobile devices – as opposed to just standard websites designed for full-size computer screens, may increase one’s perceptions regarding compatibility, which may, in turn, promote the likelihood of art EC usage.

Fourth, physical segregation between customers and e-vendor in an electronic environment and the open structure of the WWW (World Wide Web) has been proven to create uncertainty and vulnerability in online buying scenarios, which amplifies the significant role of trust. Therefore, in line with Van Slyke et al., (2004), e-vendors are advised to consider the potential influence of trust in all aspects of interactions with customers, whereby e-vendors should both increase and maintain the level of trust to ensure that their applications are adopted. With that, several mechanisms may include the use of new norms that can reassure consumers, especially issues related to safe online transactions and after sales services (Lee et al., 2012). Hence, an e-vendor could use a seal of approval based on an independent third-party evaluation, a rating system that gives the website "stars" ratings to indicate their performance based on customer feedback, or even a statement on their site which guarantees compliance with ‘established’ EC standards (Butler & Peppard, 2000; Nooteburg et al., 1999).

Finally, the proposed model suggested early adopters of art EC application are more likely to be male, younger, well-educated, and possess higher socioeconomic status, although these findings are

yet to be validated. Hence, by targeting certain segments, engagement of e-vendors in this sector should increase either the contact rate or the probability of adoption, thus speeding up adoption. Moreover, if e-vendors can recognize the demographic variances among the potential adopters and how these potential consumers interact with technology, they could cater to the varied demands, besides providing suitable and sophisticated online experience by simultaneously increasing the likelihood for their applications to be adopted. As such, social networks can function as a good platform to set up a dialogue with clients (A. J., Kim and Ko, 2012) which allows brands to know more about their targets, and thus, fulfill their desires via innovative services or products (Maman and Kourdoughli, 2014).

However, art buyers tend to choose art EC within a time sequence, which can be categorized into groups based on the time spent initially using art EC for purchase of visual art. Furthermore, according to the Hiscox Online Art Trade Report (2017) although customer reviews are uncommon in the art world, the increasing use of social media suggests that client feedback (such as likes and followers), as well as comments and reviews, is essential in driving emotional consideration to proceed with online art buying process. From the practical stance, it is advantageous for decision makers to be able to detect the uniqueness of various potential customer segments and profiles of adopters, for art EC providers can tailor their online strategies for maximum adoption. Upon identifying the target adopters' segments, therefore, e-vendors are advised to adjust and customize their strategies, offers, and website design features accordingly based on their marketing campaigns, which could indirectly save budget.

However, e-vendors in this segment are also reminded to remember that they must move from left to right in the adoption curve (see Figure 2-1). Otherwise, they would end up overestimating their market size, as well as the amount of work and time spent to get art EC more diffused.

2.7 Limitations and Future Research

As in most empirical researches, this study has several limitations. First, it had been evident that Rogers' (1995; 2003) IDT theory employed in this study presents only one way of viewing and interpreting the causative correlations in underlying art EC acceptance, as perceived by potential adopters, given that the adoption of art EC technologies could be multi-faceted. The author is indeed aware of the fact that although IDT acknowledges the dynamic nature of technology diffusion, the application of such models channels a very narrow perspective; given that such studies often focus on a snapshot of the manner with which users perceive both technology and environment (Moore and Benbasat 1991). Therefore, although IDT reckons the behavioral process that shifts from awareness to acceptance, clarification on the formation of attitudes is absent, especially on the lead to ultimate acceptance or rejection decision or the fit of such innovation attributes within the process (Bhattacharjee, 2000; Karahanna et al., 1999). With that, the current study design fell short of assessing how attitudes that channel towards acceptance or rejection of art EC are generated. This is because; even though IDT has been commonly applied to new technologies and services in predicting adoptions, the IDT failed in completely understanding an intricate phenomenon such as that of art EC adoption among individuals, thus leading to a consideration of alternative theoretical framework(s) in future studies.

Furthermore, future studies may weigh in varied models and approaches, which could shed light upon both behavior and attitudes of art buyers of tomorrow. An additional limitation, points to the proposed model and the research propositions necessity to adhere to empirical validation. For the purpose of exploring the adoption factors in more detail, it is recommended the propositions drawn in this study empirically test various types of EC applications across varied market segments (high- and low-end price segments), as well as how these attributes interact with one another. Perhaps, additional key drivers/factors could aid in predicting art EC adoption in a more effective manner and enrich the presented model by embedding other variables and correlations. For example, consumer acceptance of

online purchasing may differ when shopping for other various products (Zhou et al., 2004), given that consumers perceive different risks with different products (Pires et al., 2004).

Hence, future researchers are encouraged to incorporate additional applicable factors (e.g. characteristics of artwork, artworks quality, and perceived risk), which could help in predicting the adoption of art EC in a more efficient manner.

2.8 References Essay 1

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Essay 2: A Proposal Framework to Investigate Success in the Context of B2C Art – EC Systems: Application of Revised DeLone and McLean’s Information System Success Model at the Individual Level of Analysis

Abstract

Art buyers have become more interactive with the specific B2C art EC systems that are devoted to selling visual art solely via Internet. Nonetheless, e-vendors, as they deal with costly products, are challenged at the time of the sale in evaluation of product quality. In times when companies ascertain if their technology investments would pay off, more investigations into the nature of art EC system performance, as well as management and evaluation of EC system investments, is indeed required, to completely exploit the potential of this growing distribution channel. Nevertheless, the literature lacks vital information pertaining to the aspects that contribute to the success of art EC from the stance of art buyers. Hence, with the application of the revised success model developed by DeLone and McLean (2003; 2004) serving as the theoretical underpinning for this qualitative study listed the key determinants to the success of art EC as perceived by clients. With that, a research framework incorporating information quality, system quality, service quality, use, consumers’ satisfaction, and net benefits, as the dimensions of critical success was built based on the model generated by DeLone and McLean. Even though the revised DeLone and McLean’s Model (D and MM) has received vast attention from many researchers in other contexts and industries, this study appears to be the first to employ the model within the unique context of art EC. In addition, the proposed framework should serve as salient guidelines for researchers from the light of this unique segment and can also be considered a useful direction for further research, besides offering e-vendors with novel insights pertaining to both evaluation and implementation of art EC initiatives that can cater to the demands of consumers and maximize the likelihood of success within this nascent segment.

3.1 Introduction

As noted earlier, consumer-oriented EC can be broadly defined as the use of the Internet medium where consumers purchase products or services (Pavlou and Fygenson, 2006) and this platform has been gaining recognition as a means for transforming the western commercial visual art markets (Adelaar, 2000; Kazumori and McMillan, 2006; Polleit-Riechert, 2010, p.134). In fact, the EC systems/applications have been typically considered as web-based Information System (IS) within the extant literature (e.g. DeLone and McLean, 2004; Garrity et al., 2005; Pather et al., 2004), which offer online transaction services for both buyers and sellers. Accordingly, an art EC consumer refers to an art buyer who uses IS to purchase visual art via Internet platform without having seen the physical work before purchase. Art EC websites allow art buyers to discover unknown artists or efficiently find one particular artwork, check its availability and price, place order or bid, book additional framing, organize its packaging and delivery, include art insurance, pay electronically, and finally, check its delivery status (Kottász and Bennett, 2013; Bloom, 2006).

Since 2013, a dozen online art companies, from online galleries to art financing firms, have mushroomed in significant amounts and penetrated the market for modestly priced art (Kazakina, 2014; “Online art startups”, 2014). In 2013 alone, art start-ups, for instance, received \$1 billion in investment (“Deloitte and ArtTactic”, 2016). Other than that, Colbert (2009) reckoned that the unquestionable quality of artistic product is an essential factor for any cultural business, but it is inadequate to resist both the competition and the saturation of market. The increasing significance of EC amplifies the importance of evaluating the development of new models and paradigms (DeLone and McLean, 2004) as firms make significant investments in the EC systems, but are hard-pressed to assess their level of success (DeLone and McLean, 2003). Competitive challenges and threat of failure underscore the significance of listing the related success factors that may exist for art EC, as well as the factors that businesses should pay attention to towards increasing both usage and user satisfaction.

Moreover, comprehending the determinants of success in EC applications is crucial in evaluating EC strategies and critical Information Technology (IT) investments (Brown and Jayakody, 2008; Chen and Cheng, 2009; DeLone and McLean, 2004; Gable et al., 2008; Wang, 2008), which are addressed in this study from the stance of visual art market.

When it comes to art, an established universal belief indicates that the perception of art varies from that of all other goods (Hausmann, 2009; Clarke and Flaherty, 2002; Hagtvedt et al., 2008; Joy and Sherry, 2003; Venkatesh & Meamber, 2006), especially when the heterogeneous attributes found in art appear to be less favorable for sale via Internet, when compared to other products (Kazumori and McMillan, 2005; Kohle, 2014).

By its very nature, visual art illuminates a heritage of culture, an impression of luxury, sophistication, prestige, rarity, and uniqueness (Hagtvedt et al., 2008; Margolin, 1992; Martorella, 1996; Venkatesh and Meamber, 2006). Additionally, Bonus and Ronte (1997, p.104) argue that “the quality of art cannot be proven or disproven by scientific method,” as its quality can only be determined via experience and after consumption (Arora and Vermeulen, 2013; Gladysheva et al., 2014; Skaterschikov, 2009). Consequently, long-term personal relationships prior to purchasing art objects are common in the art market (Khaire, 2015).

Other than that, the Internet-based EC primarily relies on cyberspace display, including pictures, images, information, and video clips of the product, which fails to deliver actual experience (Kolesar and Galbraith, 2000). As for online purchase, the website serves as the face of the retailer from the viewpoint of buyers (Liao et al., 2006). Accordingly, the “moment of truth” between a company and a customer in online platform is, thus, the website (Iwaarden et al., 2003) and not human contact (Cox and Dale, 2001). Hence, the absence of human interaction that reflects quality is compensated by the performance of web display which cater to quality factors (Iwaarden et al., 2003).

Studies pertaining to the measurement of IS success, which have been carried over the past two decades (Gable et al., 2008), have generated several methods to evaluate the success of IS and EC. Among them, the revised DeLone and McLean's (2003; 2004) success model (hereafter referred to as the 'revised D and MM') appears to be the most dominant and the most cited evaluation framework available in the field of Management Information System (MIS) in the past decade (Brown and Jayakody, 2008; Petter and McLean, 2009). In fact, this model, based on the communications theory generated by Shannon and Weaver (1949), is suitable to measure the phenomenon of both IS and Internet communications (DeLone and McLean, 2004, p.34).

Nevertheless, the use of the term "success" is controversial as its assessment is multi-dimensional with various levels and varied criteria (Sharkey et al., 2010). DeLone and McLean (1992, p.80) supported the contention that there is no single success variable, but a complex interplay of variables is needed for understanding and for measuring online success. Accordingly, DeLone and McLean (2003; 2004), in their revised model, defined the dependent variable of "success" in IS by categorizing six interrelated dimensions namely– System Quality, Information Quality, Service Quality, Use, User Satisfaction, and Net Benefits. Thus, building upon a call for additional research by Petter et al., (2008), this study systematically applied the model to the art EC online environment in the attempt to explain the determinants of art EC success, as defined by DeLone and McLean (2003, 2004) at the individual level of analysis. In adopting a customer's perspective of success, Schaupp et al., (2006, p.2) acknowledged one's expectations should be met and their interaction with the website needs to a positive one in order for the website to be considered successful.

There are several substantial contributions of this research, given that the online art market is still a nascent market and the emerging EC is still relatively an unknown territory for both practitioners and academics. While several publications have investigated the D and MM as a comprehensive evaluation framework in the context of various settings, such as knowledge management systems (e.g.

Halawi et al., 2007/2008), finance (Iivari, 2005), web-based library IS (Landrum et al., 2008), portals (Urbach et al., 2010), and B2C EC (e.g. Brown and Jayakody, 2008; Cao et al., 2005; Chen and Cheng, 2009; Molla and Licker, 2001; Sharkey et al., 2010; Wang, 2008), this study appears to be the first to apply the revised D and MM in examining the critical success factors that affect EC performance within the context of art EC. With that, this theoretical research framework offers the integration of the existing studies, apart from providing guidance for further development in this area. Moreover, the findings presented may sharpen one's strategic entrepreneurial competence due to the identification of the art EC website success dimensions, which can guide electronic entrepreneurs to allocate their resources to be more consumer-friendly, thus optimizing their return on investments.

3.2 Theoretical Background: DeLone and McLean's IS Success Model

Before going into the specifics on the application of D and MM in analysis of art EC success, an elaboration of the theoretical foundation is presented to ensure better comprehension regarding the research framework, as well as several propositions for future research pertaining to art EC success. Prior studies on models related to IS success serve as the starting point to explain the success of art EC applications. However, it is important to distinguish that grounding general conceptualizations of art EC success, primarily in IS literature, collectively known as 'electronic markets', rather than viewing art EC applications, seems to be more accurate, given that EC systems are IS extended for direct usage by consumers (DeLone and McLean, 2004; Garrity et al., 2005; Pather et al., 2004).

In fact, the D and MM was first proposed in 1992 as a causal-explanatory model for IS success (DeLone and McLean, 1992). The original authors comprehensively reviewed the prior empirical and conceptual literature concerning IS in their attempt to structure various IS success measures, thence proposed a six-factor IS success model - as a unified framework of IS performance indicators. The earlier identified taxonomy of IS success embedded the following dimensions: system quality, information quality, use, user satisfaction, individual impact, and organizational impact (DeLone and

McLean, 1992), thus making two significant contributions in comprehending IS success: first, it provided a scheme to categorize the multitude of IS success measures employed in past research literature, and second, it suggested a model of temporal and causa-interdependencies among the constructs of IS success, which were reckoned widely by the IS research community (Ballantine et al., 1996; McGill et al., 2003; Seddon, 1997).

Nonetheless, these six interrelated and interdependent constructs received criticisms from many researchers (e.g. Molla and Licker, 2001; Rai et al., 2002; Seddon, 1997) as the model only described the system attributes of IS success, while overlooking several vital facets of human interaction (Li, 1997). Moreover, the original authors failed to present empirical evidence of the model (Sabherwal et al., 2006). However, this initial model was applied from 1992 until 2003 in nearly 300 articles in refereed journals testing, confirmation, and development of frameworks for varied settings and contexts (DeLone and McLean, 2003, p. 10).

Seddon and Kiew (1994) appeared to be the first to empirically investigate the causal/process nature by evaluating a part of the D and MM success model from that which was developed in 1992. Through extension of the model, Seddon (1997) presented an alternative model of IS success that reflected the combination of a process with a variance model. Apart from the modifications suggested by Seddon (1997), Garrity and Sanders (1998) adapted the model by considering the organizational and sociotechnical system context. Meanwhile, Rai et al., (2002) and Sabherwal et al., (2006) focused on both the application and validation of the model, while Ballantine et al., (1996) recommended several extensive alterations. As EC advanced, Molla and Licker (2001) proposed theoretical improvements to the model and further elaborated EC success at the individual level of analysis. The authors also reckoned that although the popular and academic literature promises numerous benefits of EC, empirical evidence is absent to support these claims (Molla and Licker, 2001).

Furthermore, to meet the requirements of theoretical contributions, DeLone and McLean improvised their earlier version (1992) of the D and MM in 2003. More importantly, the original authors illustrated the appropriateness of adapting the revised multi-dimensional measuring model to evaluate two cases within the context of varying retailers from the EC environment: a bookseller and an electronic store (DeLone and McLean, 2004). As a result, their EC success model offered dimensions identical to those of the revised D and MM (2003), but with EC-related measurement properties. The authors further concluded that “the six dimensions of the revised D and MM comprised of a parsimonious framework in organizing the various EC success metrics identified in the literature” (DeLone and McLean, 2004, p. 43). Therefore, the revised D and MM (2003, 2004) differs from the original model (1992) in three aspects, as explained in the following EC context:

- The first modification to the revised D and MM (2003, 2004) involved the inclusion of service quality based on a prior research from the stance of IS carried out by Pitt et al., (1995). As a consequence, some researchers resisted the inclusion of the IS department service role as a new dimension in the revised model (Seddon, 1997), while several others endorsed the move (Jiang et al., 2002) by pointing out the importance of service quality to IS success (Petter et al., 2008).
- The second improvement made to the revised D and MM (2003, 2004) reflected a further clarification of the use construct. The construct system use appeared to be multi-dimensional (e.g. mandatory versus voluntary use). As a result, “intention to use” was added by the authors to measure the attitude exerted by users to differentiate the use of system between behavior and intent to use as an attitude. As such, DeLone and McLean (2003) suggested that intention to use may be employed as an alternative success measurement. However, future “intention to use” was disregarded in this study as the intention to use may serve as a more suitable construct when system usage is mandatory. Besides, Molla and Licker (2001) acknowledged that within the consumer EC environment, the usage of a system is typically voluntary, unlike in work situations where the usage of a system may be mandatory. Furthermore, since “intention to

use” is primarily a pre-adoption construct (Davis, 1989), it has been argued that it is not entirely adequate for the context of art EC under study, where attempts have been made to evaluate the success, i.e. the post-adoption state of art EC offerings. Thus, IS literature acknowledged the continuance behavior as continued usage of IS by adopters, where a continuance decision follows an initial acceptance decision (Kim et al., 2007). Thus, following other studies pertaining to consumer EC (e.g. Brown and Jayakody, 2008), this study proposes to treat consumer behavioral intentions (actual use) as a post-adoption phenomenon.

- The final change to the D and MM (1992) refers to the replacement of impact measures (e.g. individual impact and organizational impact) into a single impact variable known as net benefit (value of art EC offering). Since IS/EC success was proven to influence work groups, industries, and even societies (Seddon et al., 1999), the revised model with net benefit (dependent variable) characterized outcome, hence allowing application of the revised model for any level of analysis a researcher considers most relevant.

Furthermore, as different stakeholders may have varying opinions as to what constitutes benefit to them, the perspective is considered critical in terminating success (Seddon et al., 1999). Hence, researchers need to clearly and carefully define both the stakeholders and the context, where net benefits are measured (DeLone and McLean, 2003, p. 23). From the stance of EC, the central stakeholders refer to customers and suppliers (DeLone and McLean, 2004). Since the primary goal of all commercial offerings is to target customers or any interested visitor (Molla and Licker, 2001; Palmer, 2002) and business without customers having no revenue, no profit, and no market value (Gupta and Lehmann, 2005); the success of art EC system needed to be explored from a customer’s perspective.¹³

¹³ At this background, regardless if the customers use art EC offerings are art collectors, art dealers, businesses (e.g. commercial art galleries or other organizations) or even artists.

Overall, the revised D and MM (2003:2004) as noted earlier, was applied as a process model that contains six interrelated constructs: (1) information quality, also referred to as content quality in EC applications (Molla and Licker, 2001; Ranganathan & Ganapathy, 2002); (2) system quality, (3) service quality or support and service (Molla and Licker, 2001); (4) use/intention to use, (5) user satisfaction, also referred to as “customer EC satisfaction” in EC environment (Molla and Licker, 2001); and (6) net benefits. Information and content quality, as well as user and customer satisfaction, are used interchangeably in this study. The revised D and MM (2003, 2004) is as illustrated in Figure 3-1:

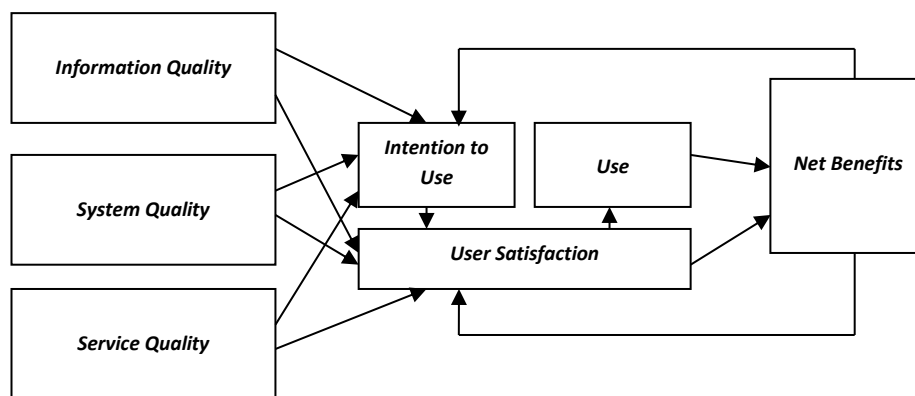


Figure 3-1: Revised IS Success Model (*Source: DeLone and McLean 2003; 2004*)

The revised D and MM (2003, 2004) success model can be interpreted as follows: system quality, information quality, and service quality affect net benefits via user satisfaction and use (intention to use) of system in place. As such, DeLone and McLean (2002, 2003) suggested that information quality, system quality, and service quality each should be measured separately due to their impact upon subsequent use and user satisfaction. Meanwhile, the net benefits of EC offering reinforce the actual use (or intention to use) of users and their satisfaction with online offering (DeLone and McLean, 2003). Within the context under study, therefore, it is suggested that the more users of art EC applications are satisfied with the offering, the more they will use it, hence determining the benefits gained from using art EC offering.

Again, given that if a user does not interact with online application (intention to use), one cannot be satisfied or dissatisfied. Thus, users in this study refer to only those who actively interact (e.g. make transactions) with art EC applications. Next, to further simplify the intricacy of the model, feedback links obtained from net benefits to both use and user satisfaction were excluded from this study.

Notably, two meta-analyses; qualitative (Petter et al., 2008) and quantitative (Petter & McLean, 2009), were carried out to evaluate the revised D and MM. The qualitative review of literature conducted by Petter et al., (2008) revealed significant results for all the correlations depicted in the model, except for system quality, service quality, and user satisfaction at the individual level of analysis. Similarly, based on 52 empirical studies at the individual level of analysis, Petter and McLean (2009) confirmed that most of the correlations embedded in the framework, except the service quality dimension, emerged as unsupported or immeasurable. Overall, the research revealed that the model and its dimensions can be successfully transferred to varying contexts of EC environment with the existing success measurements.

3.3 Research Design

The methodology employed in this study includes an intensive and careful review of the existing scientific literature. Accordingly, this study adopted the hypothetic-deductive, qualitative paradigm to assess the factors of art EC success based on D and MM (2003; 2004) by investigating issues of measurement, instead of numbers, when analyzing data that had been gathered quantitatively (Spratt et al., 2004). Efforts were made to keep as much of the richness of the revised D and MM by weighing in a more holistic approach to art EC success - as proposed by DeLone and McLean (2003, 2004).

Even though new business models are emerging, DeLone & McLean (2004) acknowledge that the dependent variable IS success and its underlying constructs have not changed. However, while the constructs / dimensions share similar labels in the MIS and IS success literature, their operational definitions and measurement items vary. In order to analyse and select the measures of constructs, to formulate proposition to be tested in future studies and to make the analysis more relevant for the research field, an electronic search of Business Source Premier and EBSCO Publishing through mid-2016 was conducted using the following keywords: DeLone and McLean, information quality, system quality, service quality, use, user satisfaction, and net benefits. Studies that reported on the relationship between information quality, system quality and service quality and one other variable of interest were included in the analysis. In addition, an electronic search of relevant journals was conducted. Finally, the references of key articles were also reviewed. The search resulted in 187 articles.

With a vast amount of scientific articles using the D and MM as theoretical basis, typical item sets for each of the model constructs could be recognized, which have often been used in IS success studies, though publications were varied in their research objectives and industries of case studies or empirical data. In order to make the analysis more relevant for the research field, to ensure content validity and following the principles of DeLone & McLean (2003; 2004), only items which have been previously empirically validated have been selected (Petter et al. 2008). Additionally, in order to ensure a higher quality level of the research, only those articles that were published in journals that have an impact factor and were published in the English language have been chosen for item selection. EC researchers suggest that the IS-specific meanings of some constructs of the D&MM need to be adapted to fit the specific context of the systems studied (Wang 2008). Accordingly, slight modification to suit the context of art EC was necessary for some items.

Following previous studies that have focused on B2C website based on D&MM (e.g. Brown & Jayakody, 2008; Cao, et al., 2005; Chen & Cheng, 2009; Sharkey, et al., 2010; Wang, 2008) all

independent constructs were measured using multiple items. To assess the varied dimensions of art success at the individual level of analysis, as well as to enhance the predictability of direct relationship between cause and effect, several propositions were derived from the literature review which have successfully validated the model in varied contexts. The proposed research framework is illustrated in Figure 3-2, where each arrow represents a proposition to be tested in future studies. The selected items can also be used to develop a survey questionnaire (see Table 3-1: The Foundation of Survey Instrument).

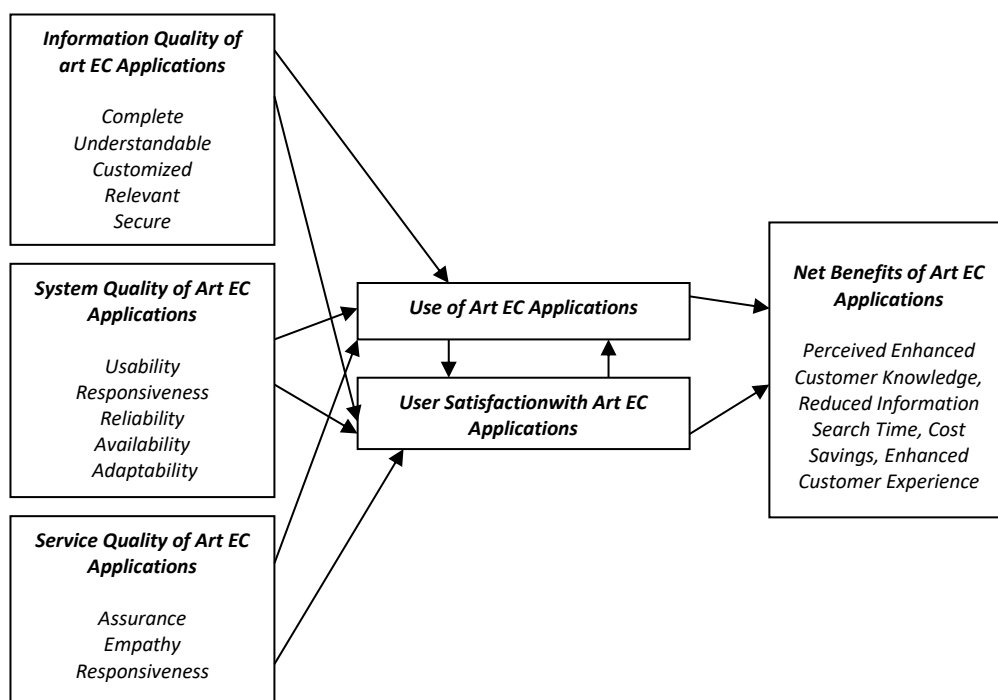


Figure 3-2: Research Framework of art EC success from the perspective of consumers with dependent variables: use, user satisfaction, and net benefits (*Source: DeLone and McLean 2003; 2004*)

3.4 Research Framework for Art EC Success Based on Perspectives of Consumers

The following section identifies and describes each dimension of art EC success embedded in the research framework at the individual level of analysis.

3.4.1 Semantic Impact: Information Quality of Art EC Applications

Information quality has often been applied as an essential quality dimension and considered an essential predictor of IS/EC success (DeLone and McLean, 1992, 2003; Liu and Arnett, 2000; Wu and Wang, 2006). Information quality is especially crucial in the context of EC, as the provision of information is the fundamental goal in any website (Huizingh, 2000). More precisely, information quality refers to issues related to EC web content that blanket completeness, accuracy, format, and currency aspects of information delivered by EC vendor (Wixom and Todd, 2005). Meanwhile, content serves as a valuable source of information for customers which continually needs to be updated, comprehensive, and accurate (Hasan and Abuelrub, 2011). Accordingly, it refers to the assessment of satisfaction level over the content depicted in online offering (Schaupp et al., 2009). On top of that, Turban and Gehrke (2000) asserted that the quality of web content predicts whether a potential customer would be attracted to or driven away from an online offering.

It is evident that the disadvantage of art EC is in the inability of art buyers to physically experience and inspect an art object, as well as to examine its real aura, colors, and textures. Moreover, in the absence of the traditional sales representative who would typically inform the buyer about information regarding the related art, the purchasing decision is primarily based on digital reproduction of the object, in which the necessary information is provided by the vendor. Melnik and Alm (2002) claimed that with EC, a buyer cannot directly examine a product, and thus, left with no choice but to rely upon the accuracy and reliability of the vendor in deciding to buy/bid or otherwise. The quality of information, hence, plays a critical role in enabling one's purchase decisions on online platform in the absence of the opportunity to physically interact with products (Wixom and Todd, 2005).

Moreover, given the detailed information regarding art objects, its requirement for content interpretation, its relatively high price, and uncertainty in establishing its economic value in an objective manner (Mandel, 2009), artworks have been considered high involvement goods (Adelaar, 2000)¹⁴. Against this background, the involvement level of a product could influence the depth and the extensiveness of cognitive, as well as behavioural progressions, during the extent of product information search and decision-making process (Gilles and Kapferer, 1985). As a result, consumers who have experienced high product involvement normally seek extensive information at decision-making process, when compared to those with low product involvement (Beatty and Smith, 1987). Many art buyers would thus typically engage in extensive information searches and do not mind going through a longer purchasing process, particularly at the higher end of the price spectrum (Skaterschikov, 2009). Hence, consumers expect more information for high involvement products (e.g. art works, automobiles, laptops, and cameras), while less information for low involvement products (e.g. light bulbs, pens, and chocolates) (Reischach et al., 2010).

A distinct measurement of information quality, nevertheless, remains indefinable (Lee et al., 2002 p.143), due to the a multi-dimensionality of the concept (e.g. Lee et al., 2002; Lin and Lee, 2006). Nevertheless, to assess the content of art EC using revised D and MM success taxonomy, the desirable information related to art EC should be **(1) complete, (2) understandable, (3) customized, (4) relevant, and (5) secure** - especially when consumers perform financial transactions (DeLone and McLean, 2004).

Completeness refers to the comprehensiveness of the information content (Bailey and Pearson, 1983) and relates to the extent to which an art EC website displays vital background information that potential art buyers seek and need. Kateranttanakul (2002) asserted that completed and detailed

¹⁴ Note: various classifications exist for online products (e.g. tangible/intangible; digital/non-digital). The high involvement/low involvement product classification is employed in this study (Reischach et al., 2010). Involvement refers to “a person's motivational state directed towards a goal object for accomplishing a specific goal. A goal object refers to a product class, a purchase decision, a specific brand, or an advertisement” (Park and Mittal, 1985).

information should include product price, availability, delivery time, product differentiation and comparison, changes in recent product, as well as product images. Therefore, the given context may include target-oriented content, for instance, desirable background information on the art object portfolio, detailed art object description related to properties of the art work (e.g. medium, size, artistic genre, stylistic evolution, historical context and meaning), price, information on the artist, services offered (shipping information, return options), company background information, company history (e.g. functions and images of staff, as well as addresses and contact details).

Likewise, understandability refers to the degree of comprehension one possesses about computer-based information or services provided (Bailey and Pearson, 1983). This notion reflects the perceptions of art EC users regarding the clarity of content displayed on art EC website. The online offering, then, should offer clear and relevant information for customers to compare (Honeycutt et al., 1998).

Next, personalization refers to a series of techniques to adjust the content presentation based on preference of individual customers. In fact, personalization can be further categorized by customization (where one personalizes his/her own environment) and proactive configuration (also known as adaptive configuration) (Forbes and Rothschild, 2000). In fact, this is a primary tool for user's interface adaptation that should reduce the time spent to seek information and interactive help, besides simplifying the process of decision-making in intricate contexts (Laroche et al., 2000; Senecal and Nantel, 2004).

According to Huizingh (2000, as cited in Sharkey et al., 2010), the requirement of a system to be personalized typically incorporates registration of user account. Personalized user accounts allow greater information-capturing capabilities (Hagel and Armstrong, 1997, p.143, as cited in Sharkey et al., 2010). On the other hand, adaptive configuration refers to features that enable customization, for example, suggestions to match items or the provision of alternate options (Kim et al., 2009a,b). In

addition, extant literature depicts information customization as beneficial in matching one's interest to a product or service, thus offering value-added experience that enhances satisfaction and increases commitment towards the website (Fung, 2008; Kim et al., 2009a,b; Liang et al., 2007b; Srinivasan et al., 2002; Turban and Gehrke, 2000). Madu and Madu (2002) further contended that customization provides customers "maximum" convenience - a significant attribute that almost all online users seek. Srinivasan et al., (2002), for example, categorized recommended products into the area of customization and acknowledged that recommendations from experts may generate perceptions of increased choice for consumers, thus increasing the chance among customers in finding the desired product. In the context under study, this refers to the discovery mechanism, such as "if you like this artist, you may also like ..."

However, in the case of art EC applications, searching for artworks may be an experiential activity that allows buyers to discover unknown artists, leading them to browse for artists and their works that may be recommended by the system, which further expands one's personal areas of interest. Yet, the abundantly available information in the online sphere often makes it difficult and time-consuming to evaluate products; decision support tools, such as product comparison matrices and agents, can therefore help one in making a better choice (Park and Gretzel, 2010). However, it is advantageous that these systems are location-, context-, and mood-aware so as to offer sensible suggestions (Buhalis and Law, 2008). In short, personalized information eases comprehension and is vital to providing satisfaction to a customer (Sharkey et al., 2010).

Moving on, relevancy is the congruence between what a user wants or requires and what is provided by the information, products or services (Bailey and Pearson, 1983). In the context under study, this variable refers to the perceptions of potential art buyers regarding the necessity of information provided by art EC offering. Notably, a study performed by Kang and Kim, (2006) in the context of website content, revealed that subjects with a higher level of interest in the topic (as

theorized in this study) appeared to be more discriminative in determining the more essential information. That is, one who exhibits a relatively higher level of interest in the topic would not equate large amount of content with viable information. On the contrary, disinterested users rated websites with much information content as more informative than sites with fewer data, which indicates that perceived quantity of website content does matter in shaping consumers' 'attitude towards a site, thus influencing one's intention to continue using the website (Kang and Kim, 2006). According to Lobo et al., (2011), the broad diversity of information actually places a huge burden upon consumers and challenges both their tolerance and ability to process information, which may affect their intention to further browse or make that purchase, mainly because the increasing amount of online information via product presentation exhibited a positive effect upon purchase intention (Kim and Lennon, 2000; Kim et al., 2009a,b; Park et al., 2005).

Nevertheless, the relevance of content is a dynamic process; as Perkowitz and Etzioni (1999) claimed information is considered useful only if it is constantly updated, or otherwise the information can turn irrelevant (Clyde, 2000). As such, art buyers may be deterred from art EC applications marketing if the same art object is displayed for a long time online, which may lead art buyers to think that the art object is not desired and is of poor quality.

The security factor, relates to one's perceived financial risk at websites (Biswas and Biswas, 2004) and ensures that he/she can interact with the expected services, and securely accomplish their tasks (Lee and Kozar, 2006). Security has been considered as a critical evaluative criterion in the online environment (Bélanger et al., 2002; Zeithmal et al., 2002), especially when online purchasing is viewed as risky by customers (Kim and Lennon, 2013). Risk, then, is considered to be higher for products associated with higher expenditure levels, more ego-satisfying characteristics, as well as the need to feel and touch before purchasing (Bhatnagar et al., 2000). Pires et al. (2004) asserted that the impact

of perceived risk is higher for products with higher value as they require some initiation of problem-solving behavior in relation to personal importance.

Additionally, Pavlou et al. (2007) explicitly confirmed that information-related concerns associated to EC websites, such as information security and privacy, could affect one's perceptions of e-vendors effectively maintaining the websites. Similarly, literature shows (e.g. Hernandez et al., 2009; Ranganathan and Ganapathy, 2002) the best predictor of transactional intent appear to be security. Accordingly, and given that online purchasing entails a higher financial risk than brick-and-mortar purchasing (e.g. data leaks, risk of fraud, exposure of sensitive financial information), security is an exceptionally high concern among art EC users. In fact, it has been assumed that the more art buyers feel that the art EC website is secure for transaction, the more they are likely to be satisfied with the site, thus suggesting online engagement.

To conclude, since consumers evaluate information quality, the revised D and MM promotes that offering more features associated to information quality can positively affect EC use and user satisfaction (DeLone and McLean, 2003). Hence, with higher level of quality information, IS in general, and EC systems in particular, allow a wider range of users to apply the given information to its full capacity (Yang et al., 2005). Notably, repeat or experienced customers are better at comprehending and evaluating information displayed online due to their prior experience with the vendor (Kim and Gupta, 2009). Therefore, knowledgeable buyers are assumed to make better choices with available information (Flynn and Goldsmith, 2001).

Studies show content quality can significantly influence one's attitudes and interaction with EC (Hasan and Abuelrub, 2011), besides affecting shopping patterns (Kim and Stoel, 2004). In fact, the quality of information appears to be the key factor in influencing customer satisfaction with (Jaiswal et al., 2010; Lee et al., 2008; Kim and Stoel, 2004) and loyalty towards EC (Jaiswal et al., 2010). On the contrary, Brown and Jayakody (2008) failed to discover any significant correlation

between information quality and user satisfaction. Nonetheless, this study draws on prior research that amplifies the importance of information quality as a direct antecedent of IS/EC usage and/or satisfaction at the individual level of analysis (e.g., Chen and Cheng, 2009; Halawi et al., 2007/2008; Iivari, 2005; Petter et al., 2008; Petter and McLean, 2009; Rai et al., 2002; Sabherwal et al., 2006; Sharkey et al., 2010; Urbach et al., 2010; Wang, 2008; Wu and Wang, 2006).

Proposition 1: Information quality has a positive influence on use in the context of art EC applications.

Proposition 2: Information quality has a positive impact on customer satisfaction in the context of art EC applications.

3.4.2 Technical Impact: System Quality of Art EC Applications

System quality measures the performance exerted by IS from both technical and design perspectives (Gable et al., 2008), along with evaluating the accuracy of a message transfer to the target customer (Shannon and Weaver, 1949). In fact, some researchers define system quality as the ease of obtaining information from a system (Keevil, 1998), while Nah and Davis (2002) referred to this notion as consumers seeking information with little time and effort. In the context of EC, system quality has been widely considered a critical dimension for technical performance (e.g. Schaupp et al., 2009). Customers usually get impatient with EC websites that have slow access, ineffective error recovery, poor operation and computation, as well as unsecured services (Liu and Arnett 2000). According to DeLone and McLean (2004), a technically sound art EC system should, thus, provide smooth operation in terms of **(1) usability, (2) responsiveness (e.g., download time), (3) reliability, (4) availability, and (5) adaptability.**

Usability or ease of use has been considered as a crucial factor in EC design (Li and Li, 2011) as online consumers are likely to leave a website if faced with difficulties in seeking information (Cyr, 2008) or navigating (Madu and Madu, 2002). In addition, as Flavian et al. (2009) asserted, display of

information is also another key factor in aiding users to acquire enhanced knowledge, as well as to make the right purchase decision (Alba et al., 1997; Bellman et al., 2006; Klein, 1998). As such, usability reflects the perceived ease of understanding the structure and the simplicity of system usage, the speed of locating an item, the perceived ease of navigating the website, the consistent design formats, and the ability of users to control their movement within the system (Flavian et al., 2006). This definition implies usability is not a single dimensional property of a user interface. In fact, several obstacles to usability have been determined, such as overwhelming amount of information, overall design, complexity, lack of structure, insufficient search mechanisms, lack of color preference among users, inappropriate metaphors, as well as navigation intricacy (Nielsen, 1994).

Furthermore, as Zhang and Myers (2005) argued, usability can be greatly influenced by the spatial layout displayed on the screen. Moreover, in the context of EC, the amount of information has increased substantially, thus leading to information overload (Kamakura and Moon, 2009). This also highlights the significance of EC websites in presenting comprehensible information related to products and services for users to make their purchase decision (Flavian et al., 2009). Hoque and Lohse (1999), for example, discovered that spatial placement of information exhibited a crucial effect upon the way users perceived information by simultaneously influencing their searching costs. Individuals were found to become less price-sensitive and purchase higher quality goods when the design of online retail store eased products search and comparison (Lynch and Ariely, 1998).

Moreover, online customers were found to be impatient and unwilling to wait for **the site to load** (Palmer, 2002). As such, Palmer (2002) defined download delay as the initial request for access to a page and each subsequent request for changing pages within the site. Additionally, Turban and Gehrke (2000) observed that page-loading speed was rated as the most significant factor for a website design to be successful. When web page download time exceeds by 12 seconds, a staggering 70 percent of users would leave the site (Cox and Dale, 2001; 2002). Accordingly, system responsiveness refers

to the elapsed time between an initiated request for service or action and a reply to that request, hence referring to the elapsed time for the last request or entry (Bailey and Pearson, 1983). Given that art EC websites typically use high-resolution imagery that enables customers to enlarge even small portions of high-resolution online reproductions and images, the loading time of art EC sites is assumed to possess a high level of significance.

Meanwhile, **reliability** in an offline environment refers to the “ability to perform the promised service dependably and accurately” (Parasuraman et al., 1988, p. 23). Liu and Arnett (2000) asserted the importance of quick recovery from errors during online transactions, and Wolfinbarger and Gilly (2002) found that reliability/fulfillment significantly influenced customers’ satisfaction, which served as a significant prerequisite for e-loyalty.

On the other hand, **adaptability** refers to self-adaptive software that modifies its own behavior to adapt to the changes that occur in its operating environment (Oreizy et al., 1999). Adaptability or flexibility, therefore, refers to the capacity of IS to change or to adjust in response to new conditions, demands or circumstances in the online environment (Bailey and Pearson, 1983). For instance, adaptable websites are those that can be altered by customers before or during their use, wherein they adapt their behavior by learning from the consumers’ access pattern (Perkowitz et al., 1997).

Availability denotes the ease of difficulty with which a user may act to utilize the capability of the system (Bailey and Pearson, 1983). Hence, it refers, for instance, to how smoothly customers with Internet access can gain information from the system with little effort. Availability may also incorporate the flexible access from various electronic devices, such as mobile devices and tablets.

Following DeLone and McLean (2004), the fact that art EC applications offer technical features reflects a high level of system quality, which should satisfy customers, encourage them to utilize the art EC websites, and make a purchase. A good system quality can endorse the credibility of a website, which builds trust among consumers towards e-vendors (e.g. Liu and Arnett, 2000), while failure of

an online system will cause a user to “mouse-click away” from the site (Molla and Licker, 2001). Notably, Cyr (2008) confirmed that visual design, an important element of system quality, incorporates balance, emotional appeal, aesthetics, and uniformity of the overall graphical look of EC website and could have an impact upon both trust and satisfaction of the user. If art EC application is fast, responsive, as well as easy to navigate and use; the purchase experience will be eased (DeLone and McLean, 2004). Academicians have demonstrated their support for the correlation between system quality, IS/EC usage, and satisfaction (e.g. Brown and Jayakody, 2008; Cenfetelli et al., 2008; Chen and Cheng, 2009; DeLone and McLean, 2003; Iivari, 2005; Landrum et al., 2008; Petter and McLean, 2009; Rai et al., 2002; Seddon, 1997; Sharkey et al., 2010; Wang, 2008). Similarly, following the literature, the following propositions are suggested:

Proposition 3: System quality has a positive influence on use in the context of art EC applications.

Proposition 4: System quality has a positive impact on customer satisfaction with art EC applications.

3.4.3 Relationship Impact: Service Quality of Art EC Applications

Taking care of customers without personal contact, especially in higher price segments of the art market, is indeed challenging. The spatial and temporal segregation between consumers and e-vendors reinforces fear of seller opportunism due to product and identity uncertainty (Ba and Pavlou, 2002). As such, service quality has been defined as the overall customer support capabilities offered by the EC provider (DeLone and McLean, 2003; Wolfinbarger and Gilly, 2003). Some EC literature purports that service quality refers to the gaps between the perceptions of customers, the level of services provided, and the potential improvement (Molla and Licker, 2001). Pitt et al., (1995) further asserted that success measurement would become inaccurate when the focus is only placed on products and not on service provided to customers. Such assistance can, for instance, be offered to clients via help desks, hotlines, service centers, or the like, regardless if the service is delivered by the provider

itself, or a new organizational unit or outsourced to an Internet service provider (DeLone and McLean, 2004).

Moreover, the function of service quality has especially been stressed in EC environments (DeLone and McLean, 2004; Liu and Arnett, 2000; Pather et al., 2004), given that the conventional human-to-human business interaction is being substituted by that of human-to-machine, primarily within the EC context (Parasuraman and Grewal, 2000). Similarly, Liu and Arnett (2000) claimed that it is imperative for online web designers to provide, arrange, and present more features to serve customers due to the limited personal interaction. Hence, inadequate assistance may lead to loss of both customers and sales (DeLone and McLean, 2004). This follows Parasuraman et al., (1985) claim that a service is considered excellent if a user's perception exceeds expectation.

Some studies have attempted to comprehend the aspect of service quality by exploring its varied dimensions. Longenecker et al. (2003), maintained that technology is pleasing but can never substitute conventional customer service and retention strategies. Meanwhile, Lee and Kozar (2006) suggested a set of attributes related to service quality design, including empathy, reliability, and responsiveness. With this in mind, SERVQUAL, a well-known instrument, focuses on reliability, responsiveness, empathy, assurance, and tangibility in assessing service quality (Parasuraman et al., 1994). However, based on the IS success model (DeLone and McLean, 2004; Liu and Arnett, 2000), **(1) competent, (2) empathetic, and (3) timely online support** have been theorized as key aspects to the service quality domain and to the overall experience of art EC consumers.

The **Assurance** factor refers to competence, knowledge, and courtesy of employees (web provider), as well as their skills to build trust and confidence (Jiang et al., 2002; Parasuraman et al., 1988). Within the context of art EC, Kazumori and McMillan (2005) stated that it is indeed difficult to judge the quality of art works merely from a webpage photograph. Moreover, particularly in the face of the overwhelming availability of data in the online art market, Arora and Vermeylen (2013)

recommended consumers need trusted and reliable sources to serve as guidance. According to Daughtrey (2001), in the assurance metrics, some aspects may appear significant in the EC environment, such as the availability of formal privacy and confidentiality policy on a website, secured access to a website (that customers are prompted to acknowledge), as well as general reputation of supplier or certifications and guarantees. Such context may also include the embed certification for artwork authenticity, assurances regarding shipping, as well as credibility report on both the condition of artwork and the realistic object images.

Empathy, the online context, points to the presence of response mechanisms and the amount of individualized attention and care showered upon consumers (Pitt et al., 1995). Hence, this refers to the provision of care and personalized attention to customers (Jiang et al., 2002). In art EC, for example, art buyers may seek additional information pertaining to an art object, advice from an art expert for guidance in the purchasing process or a constructive solution to a problem (e.g. packaging, art handling or delivery issues, installation, shipping, and returning). In fact, e-mails, chat rooms, bulletin boards, and mailing lists are some of the varied ways of achieving empathy in the online environment (Chen, 2001).

Another important factor in the EC environment that corresponds to empathy is **responsiveness**; this is the willingness and the promptness with which a vendor responds to consumers' inquiries (Parasuraman et al., 1985). Zeithaml et al., (2002) also noted that this construct is linked to responses derived from Internet stores, especially when a consumer has questions or faces problems. Based on the context under study, more interaction during the art acquisition process is, without a doubt, essential and is common in the brick-and-mortar art environment, given that artworks are typically purchased upon reputation and recommendation (Khaire, 2015). Responsiveness in the art EC context then is associated to the willingness to help customers, provide prompt service (Jiang et al., 2002), and accurate information regarding the art objects sold or services offered online.

The extant research emphasizes the significance of service quality as a predecessor of customer satisfaction (Anderson and Sullivan, 1993; Fornell, 1992). Nevertheless, only fragmented studies have looked at service quality within the EC context (DeLone and McLean, 2004; Petter and McLean, 2009). Likewise, according to Petter et al, (2008), only a handful of studies have provided empirical support for the correlation between service quality and system use. Yet, some studies in other contexts (e.g. Halawi et al., 2007/2008, Urbach et al., 2010) discovered insignificant relationship between service quality and customer satisfaction. However, both Wang (2008) and earlier Spreng et al., (1996) provided substantial support for this relationship, and empirically confirmed the significant impact of service quality upon user satisfaction. Such findings imply that the implications of the service quality dimension may heavily rely on the context in which it is assessed. Additionally, Zeithaml et al., (1990) acknowledged that higher service quality is indeed fundamental to boost repeat purchases and build customer loyalty.

Indeed, Chen and Cheng (2009) confirm the overall success of EC depends not only on consumers visiting (using) their websites and purchasing their products or services, but upon converting casual consumers to loyal customers. The importance of retaining existing customers cannot be underestimated, mainly because acquiring new customers may be five times as costly as keeping existing customers (Pathasarathy and Bhattacharjee 1998). In addition, returning to a place where one has been neglected or treated inappropriately is highly unlikely (poor service quality, unfair price/service rapport). Worse still, such dissatisfaction may be shared with friends and acquaintances via word-of-mouth (Zeithaml et al., 2013), thus could tarnish a specific business.

As mentioned previously, in the offline environment, art consumers have been assumed to possess high expectations as far as services are concerned, during and after the artwork acquisition process. It is, therefore, suggested that art buyers are likely to have very high expectations concerning the service provided by art EC vendors. Although the findings are somewhat mixed, drawing on past

studies within the contexts of IS and EC, which discovered positive influence of service quality upon customer satisfaction and/or system use (e.g. Brown and Jayakody, 2008; Cenfetelli et al., 2008; Chen and Cheng, 2009; DeLone and McLean, 2003; Rai et al., 2002; Wang, 2008), this study assumes the following:

Proposition 5: Service quality has a positive influence on use of art EC applications.

Proposition 6: Service quality has a positive impact on customer satisfaction with art EC applications.

3.4.4 Use of Art EC Applications

Usage, which acts as a dependent variable, appears to be a critical factor to assess the impact of performance upon website success (Liu and Arnett, 2000), although this has emerged as a challenging dimension to measure. In line with this, Seddon (1997) proposed to remove use as a success measure and asserted that use may function as an aim by itself or a means to an end. Thus, Seddon (1997) claimed that use of a system may be equated with success if use is the goal set by stakeholder(s).

Similarly, Molla and Licker (2001) argued that one of the most crucial challenges for businesses is to attract customers to their EC website, and thus, the use of this site can be considered as an indicator of some initial success. However, DeLone and McLean (2003) stated that use is deemed to be a good proxy for IS success as IS quality dimensions do affect subsequent use, which will, in turn, determine the benefits gained by individuals upon surfing the EC website (see theoretical section). Nonetheless, merely stating that more use will result in more benefits, without considering the nature of this use, is definitely insufficient (DeLone and McLean, 2003). Accordingly, in the context under study, the use construct focuses on the degree and the manner of utilization of art EC applications, which can, for instance, be self-reported by art EC website users.

Mithas et al., (2006, 2007) argued that in practice, websites are likely to display varied degrees of both information and transaction richness. Accordingly, the use measure for the environment being researched refers to active engagement between a user and the application of art EC in terms of browsing, discovering, searching for information, comparing prices, and any type of transactional interactivity (e.g. bidding, placing orders, and paying), whereby the key point of the EC systems is the conversion of a simple user into a purchaser (Berthon et al., 1997). Accordingly, the measure of use reflects the key aspects of DeLone and McLean's (2003; 2004) use domain, which are inclusive of the number of EC website visits, navigation within the website (length of stay), information retrieval, and the number of purchases completed (D'Ambra and Rice, 2001; Molla and Licker, 2001).

Broadly speaking, the usage measures reflect the overall usage of art EC website by consumers, hence describing the nature of varied activities realized during the visit. Furthermore, as mentioned in the theoretical section, increment in art EC website usage escalates net benefits at the individual level. Even though some studies have claimed the absence of relationship between use and net benefits (e.g. Iivari, 2005; Wu and Wang, 2006), many other prior studies have evidenced significantly positive effects of system use upon both customer satisfaction and net benefits at the individual level of analysis (DeLone and McLean, 2003; Rai et al., 2002; Seddon, 1997; Seddon and Kiew, 1994). Therefore, the following propositions are proposed:

Propositions 7: Use has a positive influence on net benefits in the context of art EC applications.

Propositions 8: Use has a positive impact on customer satisfaction in the context of art EC applications.

3.4.5 User Satisfaction with Art EC Applications

One key objective for marketers is to retain the aspect of satisfaction among consumers with their shopping experiences, primarily because satisfaction strongly influences consumers, their purchase intention, and repeat purchases (Reibstein, 2002; Rodgers et al., 2005). Customer satisfaction

in EC environments can also improve favorable word-of-mouth (Bhattacharjee, 2001), besides boosting the market share and profitability of businesses (Reichheld and Schefter, 2000). Accordingly, satisfaction is a significant consumer reaction in the EC environment, and its fundamental importance is demonstrated in the ability to generate customer loyalty (Anderson and Srinivasan, 2003; Park and Kim, 2003; Rodgers et al., 2005). Loyal customers are characterized as willing to spend more, buy more, easy to reach, repeatedly come back, and favorable promoters of a company (Harris and Goode, 2004; Srinivasan et al., 2002). Obviously, art EC users must be satisfied with their art EC shopping experience to return to the website and acquire more art objects online.

As such, within the context of EC, Molla and Licker (2001) defined user satisfaction as the reaction or feeling of a customer concerning his/her experience with all aspects of an EC system. In line with this, DeLone and McLean (1992) suggested that satisfaction captures an IS user's cumulative satisfaction with the experience of using the IS over time. This definition implies that customer satisfaction is regarded as a long-term factor at the varied stages of system usage, and hence, should include all opinions given by consumers with all the aspects of the system in a unified construct.

Additionally, DeLone and McLean (1992; 2003) acknowledged the importance of the measure that examines opinions given by customers within the EC context, thus revealing the fact that user satisfaction has been widely utilized as a single measure of IS success in the past. With that, Seddon (1997) asserted that user satisfaction is the most general perceptual measure of IS success, while Garrity et al., (2005) identified a general lack of conceptual clarity between satisfaction and success in the IS literature. Reichheld and Schefter (2000), for instance, applied "e-loyalty" as a surrogate measure of customer satisfaction within the context of EC. Nonetheless, since satisfaction refers to a personal attitude (relying on one's beliefs or reaction towards art EC system), there has been little consensus on how user satisfaction should be measured in an objective manner. Based on the many studies that embedded user satisfaction into several IS success models, only a single item measure for

this construct is proposed in this study (see Rai et al., 2002). Thus, in line with Rai et al., (2002), user satisfaction can be measured indirectly via information quality, system quality, and other variables.

As a result, user satisfaction reflects the overall self-reported level of satisfaction concerning both expectation and experience of art buyers with all aspects offered by art EC. Notably, Lee and Chung (2009) verified, in an empirical study, that the three quality factors (e.g., system quality, information quality, and interface design quality) did affect user satisfaction within the context of mobile banking.

Even though DeLone and McLean (2004) failed to define specific metrics that measure user satisfaction, it has been theorized that the more art buyers with positive attitude towards art EC application during the complete service cycle, beginning with acquisition of information through purchase, payment, and service process, the more they are likely to be satisfied with the art EC application that may further influence their online purchasing activity in a positive manner. Logically, if their expectations are met, art buyers are likely to achieve greater satisfaction with art EC application.

At a conceptual level and following the revised D and MM (2003, 2004), user satisfaction and usage are theorized to be closely interrelated dimensions (see theoretical section 3.2). Accordingly, the model hypothesizes that increment in user satisfaction could lead to escalated usage, thus resulting in a positive effect upon net benefits for users. Nevertheless, Chen and Cheng (2009) stated that although user satisfaction is integral for actual use, it does not necessarily reflect the actual use and thus, heavy importance should not be given to the direct power of satisfaction, but indirect power instead. Following prior IS/EC success studies that have demonstrated the positive impact of user satisfaction upon use or/and net benefits (e.g., DeLone and McLean, 2003; Iivari, 2005; Molla and Licker, 2001; Wang, 2008; Rai et al., 2002), it is, therefore, assumed that:

Proposition 9: Customer satisfaction has a positive influence on use in the context of art EC applications

Proposition 10: Customer satisfaction has a positive impact on net benefits in the context of art EC applications

3.4.6 Net Benefits of Art EC Applications

Most studies pertaining to IS success have embarked in the quest of investigating dependent variables (DeLone and McLean, 1992). As elaborated in the theoretical section, the net benefits from the stance of EC context capture the balance of positive and negative impacts of the system upon users (Seddon, 1997), besides characterizing the most significant category of success measurement (DeLone and McLean, 2004; Petter et al., 2008). While as previously mentioned, system usage and user satisfaction have been acknowledged as useful proxy measures of system success (Bailey and Pearson, 1983; Doll and Torkzadeh, 1988, 1998; Downing, 1999; Ives et al., 1983), DeLone and McLean (2003; 2004) asserted that instead of gathering surrogate measures alone, such as website hits (i.e. use); EC studies should focus on the concept of net benefits as a variable in measuring the greater viability of success.

Thus, for consumers, obtaining value is imminent in all successful transactions, which also serves as a key factor to promote repeat purchase intention (Kim and Gupta, 2009; Parasuraman and Grewal, 2000). As such, the net benefit construct in EC appears to be one of the most certain success variables that emerge from user satisfaction (DeLone and McLean, 2004), while the ultimate success of EC depends on the perception of customers regarding the value of a system (Torkzadeh and Dhillon, 2003). Accordingly, and adhering to the recommendations given by prior researchers on model contingency and parsimony (DeLone and McLean, 2004), the net benefit construct at the individual level in the study at hand focused on the beneficial gain experienced by users of art EC applications. In fact, a positive or negative net benefit from the user's perspective reinforces or decreases both use and consumer satisfaction (DeLone and McLean, 2003; 2004). The art EC applications, as a result, may be disregarded if expectation meets dissatisfaction in terms of benefits and value.

Notably, with some exceptions, prior studies have employed the D and MM as their theoretical framework, which could be either focused on financial (Chen and Cheng, 2009; Wang, 2008) or non-financial benefit metrics (e.g. Brown and Jayakody, 2008; Cao et al., 2005; Cenfetelli et al., 2008). Although this may be required to measure net benefits concerning numeric costs (e.g. cost savings), McGill et al., (2003) argued that benefits related to numeric costs are impossible due to intangible system impacts and intervening environmental variables. Consequently, it is suggested, that benefits cannot be limited to financial metrics as the sole facet of success (Auger, 2005) and should, thereby, additionally involve non-financial metrics, which are assessed by the perceptions of those who use the application (here, real art EC users).

However, only a few studies have outlined the measurement of net benefits in an objective manner, given the difficulty linked to net benefits evaluation due to the broad definition of the term (Wang, 2008). DeLone and McLean (2004) emphasized that in order to study the net benefits of EC, one should look into marketing research literature, apart from MIS/IS literature. Some authors from the field of cultural economics have mentioned the potential benefits of art EC, including its efficiency, global reach, convenience, broader diversity of art works, competitive pricing, abundance of information, potential reduction of transaction costs, and lower barrier to entry for participation (e.g. see Arora and Vermeulen, 2012; 2013; Polleit-Riechert, 2010; Trant and Bearman, 2011).

Within the context of art EC and from the perspective of art EC users, enhanced customer knowledge and experience, a reduction in information search time, and cost savings (DeLone and McLean, 2004) may be considered as some of the individual benefits, which can be reaped by consumers upon applying art EC applications. Therefore, to reflect the domain of net benefits, this dimension is conceptualized as a multi-dimensional construct (DeLone and McLean, 2004). As such, “perceived system benefits” has been employed as an essential construct in IS success (Wixom and Watson, 2001).

3.4.6.1 Perceived Enhanced Customer Knowledge

Customer knowledge is related to satisfying the fundamental needs of one with knowledge of products, markets, and other aspects of interest (Wiig, 1999). In fact, online buyers are only a few clicks away from gaining more extensive and higher quality of information regarding products that are sold at the online platform (To et al., 2007). As stated earlier, Internet convenience and accessibility have turned into a powerful tool for users to acquire extensive knowledge concerning products and services (Flavian et al., 2009), thus allowing consumers to carefully evaluate the available options before making the best purchase decision (Liu and Arnett, 2000). In addition, the Hiscox Online Art Trade Report (2017) indicated that “88% of online art buyers found price transparency (clear labelling of prices, as well as the possibility to check past and comparable prices) as an essential element when buying art online”.

Hence, one of the benefits of art EC application may be the enhanced and easily accessible information regarding artists and art prices and the overflowing information and choices of artworks. Moreover, art buyers using internet applications can select a larger assortment of art objects and therefore, purchase a more diversified variety of artworks absent in physical space (Bloom, 2006; Arora and Vermeylen, 2012). Art EC applications may enable one to discover and screen a large diversity of art objects, to evaluate alternatives in greater depth, and to access a greater range of detailed information with regard to art object attributes, comparative pricing, as well as availability, by easing art buyers to quickly learn what is available where and for how much by enhancing the overall knowledge of customers. According to Arora and Vermeylen (2013), the enhanced knowledge quality among art customers in the online environment may, for example, make obsolete the need of guidance from an art expert.

3.4.6.2 Reduced Information Search Time

In theory, the Internet offers vast possibilities for information search and comparisons without any constriction in terms of time and place, which are absent in the conventional physical marketplace (Alba et al., 1997; Bakos, 1997; Sheth and Sisodia, 1999). Information search refers to the phase where consumers accurately make a purchase decision after collecting and utilizing information sought from both internal and external sources (Chiang, 2005). Notably, in consumer behavior, search for information has been traditionally recognized as a crucial stage in the process of deciding a purchase (Alba et al., 1997; Constantinides, 2004) as information search involves money, time, and mental effort (Flavián et al., 2009). Moreover, the Internet provides a universal availability and higher quality of information (Castells, 1996) that is quick, lower in cost, and effortless to gather (Chang et al., 2010). With more efficient search and comparisons via online platform, as compared to physical visits to art dealer channels (e.g. gallery; auction house), art EC announces a substantial contribution that saves time and effort in the transaction process (Arora & Vermeulen, 2013). Thus, art EC applications are deemed to reduce information search time that is required for the overall art acquisition process, where several days are reduced to several clicks.

3.4.6.3 Cost Savings

Flavian et al., (2009) asserted that one acknowledged advantage of the Internet is the reduction of search costs (Detlor et al., 2003; Lynch and Ariely, 2000), which can enhance the quality of purchase decision (Burke, 2002). As such, reduction in search costs for products and product-related information has been reckoned as one of the most significant benefits in online purchasing (Lynch and Ariely, 2000). Numerous empirical studies have evidenced that, in general, lowered search frictions lead to more competitive pricing in the online platform (Baye et al., 2001; Brown & Goolsbee, 2002). Furthermore, within the context of art EC auctions, Kazumori and McMillan (2005) asserted that although art bidders may be relatively uninformed when verifying the actual quality of the items displayed, such verification is accomplished better at the online platform, in comparison to that carried

out in live auctions due to reduced transaction costs. Furthermore, the offline art market actioners charge a 10 percent mark-up on all products sold, while galleries demand 50 percent of the sales price (Clarke and Flaherty, 2002). In addition, the existing literature on art EC has found (e.g. Günter & Hausmann, 2002; Kazumori and McMillan, 2005) that the primary beneficiaries of the Internet may be art buyers, who gain benefits due to significantly lower commissions and search costs, thus potentially lowering transaction costs.

Monetary savings have been a key aspect among online buyers, as the Internet eases price comparison, and is therefore useful for buyers in purchasing a product at a lower cost (Soscia et al., 2010). According to Turban et al., (2006), EC has the potential to offer consumers less expensive products and services by allowing them to shop in many places, and thus facilitating faster price comparisons. To et al., (2007) asserted that e-vendors offer lower costs and better prices, when compared to traditional retailers.

When consumers can find identical products, that is, homogeneous goods across various retailers, price comparison can indeed be easily carried out by using websites dedicated to compare prices of products. Nonetheless, Kamakura and Moon (2009) argued that this straightforward strategy is impractical for non-homogeneous scenarios (original paintings), where consumers choose the best alternative after weighing in both price and quality attributes (Soberman and Parker, 2006; Estelami et al., 2001). Art objects like oil paintings are unique, while other artifacts like graphics or photographs, are not and can be easily reproduced, and thus are commonly restricted to a limited number of editions to remain attractive in the market (Polleit-Riechert, 2010). Hence, better pricing known from a wide range of products, such as music CDs and books, for instance (Brynjolfsson and Smith, 2000), might be true for artworks that can be easily reproduced (e.g. edition prints and photography), but not for unique works of art (original paintings).

3.4.6.4 Enhanced Customer Experience

The interactive features (e.g. social media) often used by online art ventures have enabled a more consumer- oriented, personalized, and immersive learning experience with art (Arora and Vermeeylen, 2013). As reported in the Hiscox Online Art Trade Report (2017) “among the existing and potential art buyers, 52% of the respondents claimed that they visited the online platforms at a weekly basis or more, whereas 63% of visitors to online art-buying platforms said that they spent ten minutes or more on these websites per visit”.

Hoffman and Novak (1996) coined the notion “customer experience” as an essential aspect in the Internet setting. Swinyard (1993) described customer experience as the journey a customer undergoes where one accumulates perceptions and responses at each touchpoint with the firm. As such, Szymanski and Hise (2000, p. 313) claimed that a more pleasurable shopping experience is indeed a satisfying one. The online environment have unique features that distinguish it significantly from the conventional commercial communications environments (Hoffman and Novak, 1996). As for the online platform, consumers need not display or share in social contexts private information about the amount of money spent or the products purchased (Rajamma et al., 2007) mainly because consumers can ‘buy unobserved’ and ‘without contact with other shoppers’ (Kukar-Kinney et al., 2009). Furthermore, the Hiscox Online Art Trade Report (2017) claimed that “52% of online art buyers stated that content was vital to their platform choice (up from 42% in 2016). This suggests that buyers do not only purchase artwork, also attribute significant value to the educational experience”.

At this background, e-vendors have influenced the shift to disassociate oneself from the traditional brick-and-mortar players and “their traditional social filters based on elite assumptions about gender-, race-, and class-based forms of social relations” (Bloom, 2006 p. 15). Art EC applications may, thus, contribute to the overall experience of consumers of art as they have surpassed the traditional purchasing methods. It is further argued that art EC applications may offer a more

enjoyable, less exclusive, and less intimidating browsing experience, which has emerged as a new way of bidding and buying art objects, given that brick-and-mortar transactions might seem intricate and intimidating to many art buyers. Therefore, improved experience may be substantial and could compensate for the perceived disadvantage in the absence of physical contact. As a result, art EC applications may improve the overall art purchasing experience by enabling art buyers to order art objects from their desk, pay electronically, and deliver the purchased item at the doorstep.

Consequently, and although consumers may receive a tangible product (here, art work), at the end of the online transaction, the benefits to consumers may not be of the purchased product that could also be obtained from alternative channels (Kolesar and Galbraith, 2000), but the experiences gained by customers upon acquiring, integrating, and ultimately attaining their aspirations. Nevertheless, many art buyers have associated great importance with the product experience itself, hence fulfilling their hedonic rather than utilitarian needs (Arora and Vermeulen, 2013; Hirschman and Holbrook, 1982; Hüttel and Gerl, 2012) in relation to the values gained from emotional, multisensory, fantastic, and emotive aspects of the shopping experience (Hirschman and Holbrook, 1982; Margolin, 1992). Therefore, it is arguable an enhanced customer experience at the online platform may be beneficial for all EC users, particularly those drawn by hedonic motivation or the “hedonic value of art” (Belke et al., 2010, p. 214).

As previously mentioned, this study employed EC metrics, as suggested by DeLone and McLean (2004), to function as the foundation of survey instrument, as given in the following:

Table 3-1: The Foundation of Survey Instrument

| Information Quality | Use | Net Benefits |
|---|--|---|
| <ul style="list-style-type: none"> Complete (Iivari, 2005) | <ul style="list-style-type: none"> Number of sites visited (D'Ambra and Rice, 2001) | <ul style="list-style-type: none"> Reduced information search time (Hoque and Lohse, 1999) |

- | | | |
|--|---|---|
| <ul style="list-style-type: none"> • Understandable (Gable et al., 2008) • Relevant (Gable et al., 2008) • Personalized (Molla and Licker, 2001) • Secured transactions (Molla and Licker, 2001) | <ul style="list-style-type: none"> • Length of stay (Molla and Licker, 2001) • The number of purchases completed (Molla and Licker, 2001) | <ul style="list-style-type: none"> • Reduced shopping cost (D' Ambra and Rice, 2001; Molla and Licker, 2001) • Improved customer knowledge (Loftus, 1997) • Improved customer experience (Hoffman and Nowak, 1996) |
|--|---|---|

System Quality

User Satisfaction

- | | |
|--|--|
| <ul style="list-style-type: none"> • Usability (Gable et al., 2008) • Availability (Gable et al., 2008) • Reliability (Gable et al., 2008) • Adaptability (Gable et al., 2008) • Download Time (Iivari, 2005) | <p>Website satisfaction (Rai et al., 2002)</p> |
|--|--|

Service Quality

- Assurance (Pitt et al., 1995)
- Empathy (Pitt et al., 1995)
- Responsiveness (Pitt et al., 1995)

3.5 Conclusions and Managerial Implications

This study proposes, to develop successful art EC applications for the unique audience of art buyers; business owners must understand the factors that influence art buyers to use and to gain

satisfaction from art EC applications. Accordingly, the study highlights several significant ways to access the effectiveness and the success of art EC applications. Explicitly, the study points to the technological characteristic antecedents of information quality, system quality, and service quality, as proposed by DeLone and McLean (2003; 2004). Furthermore, the revised D and MM (2003; 2004) is indeed useful to theoretically assess both the performance and success of art EC applications, which further assists researchers and practitioners in comprehending the evaluation of success in art objects EC. From a practical standpoint, this research may provide implications for IT designers and art e-vendor decision makers (i.e., managers) as it offers insights into the most important functions and features of art EC offerings, which should be weighed when implementing such technology-driven trade.

Hence, in order to develop an art EC application that is of high quality and appealing to the demanding art buyers, managers are required to comprehend the factors that may enhance both satisfaction and usage levels among consumers with their application. Regardless of business operations at the lower- or higher end of the art market, every effort pumped into the EC system should ultimately offer benefits and values to the specific target audience. Moreover, the level of net benefits is deemed to grow upon attaining satisfaction from prior art EC purchasing experience, which may build loyalty among customers. In fact, one way to ascertain that art buyers are indeed satisfied is by conducting regular satisfaction surveys, examining how users perceive the quality of art EC applications from the three introduced quality dimensions, to determine the benefits gained by using art EC.

Given that successful EC applications must be customer-oriented (Campbell, 2001), consumer surveys can provide e-vendors more proactively engaged monitoring and management, and assist in obtaining hints and clues on what to embed and focus on. If an e-vendor lacks any of these dimensions, the introduced framework in this study could be applied to perform a detailed analysis and further take

corrective actions, if necessary, to improve their applications. As such, trading the functionalities within a system against each other has been accepted as a requirement (van Iwaarden et al., 2004). Continuous evaluations upon customer expectations and identification of trends are essential to ascertain the success of businesses, as perceptions may change over time.

Information quality. As noted, information quality is a critical aspect of management (Lee et al., 2002) and especially crucial in the context of EC as it has been associated with system use, user satisfaction, and net benefits (DeLone and McLean, 1992; 2003). Therefore, commercial offerings are challenged to provide high-quality information to cater to the needs of customers at varied stages of the purchase cycle (Flavián-Blanco et al., 2010). Art EC users (especially those buying high-quality objects) are expected to display a relatively high level of interest in the topic and to gain extensive information before making any purchasing decision. Hence, careful consideration based on analysis and evaluation, particularly of the content provided; appear to be of utmost importance in art EC. With the growing number of art and collectibles available online, it is evident that the ease of process and the experience of seeking and discovering information are critical in determining the success of art EC market. Furthermore, in the attempt to retain content relevancy among loyal art EC users, decision makers are advised to constantly update their websites by highlighting the latest announcements using various colors, as well as flashing images and videos, to name a few.

System quality: It is normal for customers to be dissatisfied with EC websites that feature slow access, weak error recovery, reduced operation and computation, as well as unsecured services (Liu and Arnett, 2000). High-end items, such as artworks, however, demand high-end applications that set the right tone with high quality website design. While it may be recommended to use numerous images to showcase such artworks, particular attention should be given to usability, quick responses, reliability, availability, and adaptability of the art EC applications as both aspects of customer satisfaction and use heavily depend on these constructs. Difficulties and technical requests at the time

of using the art EC systems, for example, could be addressed by the related personnel who offer further support in the attempt to reduce adverse effects due to operational glitches. Moreover, in this era of mobile smartphones and tablets, managers are advised to provide quick and individualized adaptability that are device-friendly.

Service Quality: Upon purchasing in-gallery, art buyers have certain level of expectations for the services offered, such as staff attentiveness or art knowledge. As for the online platform, however, most transactions are conducted without any personal contact or service at all. To develop successful transactional EC applications for high-end items, the e-vendors would need to identify cost-effective ways to provide the service that customers expect, for example, by making the users the locus of its functionality, apart from showcasing their offerings. Providing excellent consumer support (e.g. feedback opportunities, email, real time live chat, online forums, and FAQs) should also remain vital to earn loyalty among customers. Furthermore, as the Hiscox Online Art Trade Report (2017) claimed, “services related to this aspect could be informational in nature – for instance, sending clients emails with regular updates about career development of artists (new exhibitions, critical reviews, prizes, and awards) or how the economic value of an artist has changed over time.” Some other examples that can aid in attaining this objective include provision of several options, for instance, surety of art object after purchase, framing of the art object, transportation and installation, storage and inspection, independent condition reports, financing opportunities, payment services, and money-back guarantees.

In addition, e-vendors in this business area can also achieve this goal by providing expert-driven product recommendations as a facet of the overall online strategy. The nature of in-gallery purchase experience may be recreated online, and services offered may also be comprised of care and attention given by specialized personnel (e.g. art historians), individual art advisory service, as well as regular provision of information on the current developments in the online art buying market, even without specific request by the consumers. Such services may be performed by employing art

historians and content managers with a professional touch to customer services. The overall buying experience should be made comfortable and pleasing as staff should be at hand to help art buyers order and choose art online, while also providing assistance in shipping or addressing questions related to the purchased artwork. In an online setting, where it can be challenging to stand out or be remembered for its exceptional customer service, outstanding customer support may lead to customer satisfaction that further bonds a relationship with the consumers. Such compelling online experiences for web users should generate many positive impacts on online retailers, for example, customer loyalty (Hoffman and Novak, 1996; Gobe and Zyman, 2001).

To conclude, decision makers interested in developing successful EC applications are advised to keep these criteria in mind when designing the right content strategy and to present eye-catching content to its demanding consumers. Nonetheless, online ventures are encouraged to continuously examine a turbulent environment, apart from realigning resources quicker than rivals (see e.g. Lummus et al., 2003). Hence, it is crucial for decision makers to recognize that long term success demands constant revisiting of the needs and wants of their users, and therefore, factors that determine success, from the stance of consumers, are likely to change over time.

3.6 Limitations and Future Research

This study has several primary limitations that could be addressed in future studies. The conclusions drawn from this study are based on the qualitative approach, while the posited causal propositions could only be inferred, and not proven. Thus, other research efforts are needed to evaluate the validity of the investigated model, apart from testing the correlations between the success variables. As an initial and fundamental step, the model in this study can be applied to the case of a particular company engaged in the art EC sector. On top of that, large-scale testing may also be used in further studies to confirm the outlined propositions and convert this conceptual framework into a successful managerial tool.

Moreover, DeLone and McLean (2004) have offered a wide variety of measures for each construct in their model. As such, the study is limited to several distinctive choices. Accordingly, further research may consider other measures in the attempt to explore the success of art EC. In addition, specific technological solutions have been excluded from this study, thus suggesting the need to further explore the detailed level of design characteristics related to other essential design features. Finally, and following Chen (2012), it is argued that DeLone and McLean (2004) placed the greatest emphasis on system attributes, in which a more integrated approach could be adopted, where the level of analysis of interest is the individual consumer (cf. Wang et al., 2007).

Furthermore, the implicit deductive approach, as applied in the dissertation at hand, tends to verify the obvious and overlooked opportunities to expand or refute theoretical tenets (Hsieh & Shannon, 2005). Hence, in order to add to the explanatory richness and greater conceptual clarity, it is recommended alternative models and theories of success be assessed in the attempt to identify the best-fit model, within the interest of understanding additional antecedents and constructs that determine the success of art EC system.

3.7 References Essay 2

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Essay 3: The Rise of Art e-Commerce. Towards Better Understanding of Its Transformative Effects: Past. Present. Outlook

Abstract

With the widespread progress in ICT and easily available digital resources, the online visual art market is ever growing, as is the necessity to understand its transformative effects upon the established brick-and-mortar landscape. This article is one of the first to present thorough reappraisals of the research associated with the areas of MIS and Cultural Economics that address historical development, as well as the impact of ICT and Internet upon art market from the stance of commercial sector. For this study, a historical analysis was conducted (Gottschalk, 1969), along an extensive and critical qualitative review of the literature published over two decades, as well as a review of present secondary datasets (e.g. art market reports, surveys). Most importantly, this paper 1) presents a brief history of the online art trade; 2) reviews several early predictions/presumptions published in the initial literature concerning disintermediation, cybermediation, and reintermediation; along with 3) a critical examination of these statements against a backdrop of the status quo based on evidence derived from present studies and secondary data. As a result, the findings indicate that some predictions have come to fruition, while others have disintegrated. In fact, profound structural changes in markets, such as disintermediation, as yet have not occurred. Moreover, evidence suggests that cybermediaries are a long way off from dominating the market, whereas the notion of increased market transparency is oversimplified, as their advent has indeed enhanced the efficiency in certain market segments, but perhaps most importantly, possesses the ability to empower consumers in these sectors. On the other hand, reintermediation has only marginally altered both conventional business models and trading patterns, given that most brick-and-mortar galleries fail to view online selling as a strategic priority. Due to lack of academic research in the emerging area, this study is valuable among readers to

comprehend other studies in the advent of digital age, to develop more textured and realistic assessments for the present scenario and to set direction for future research in this arena.

4.1 Introduction

The commercial use of the Internet commenced in earnest around 1994 (Peterson et al., 1997; Poon and Jevons, 1997). Two decades ago, Evans and Wurster (1997, p.70) reckoned the Internet as the most significant wave of information revolution. Comparable to the expansion of the Internet was the development of EC, whereby its increase has been considered just as profound as the change that spark the industrial revolution in the nineteenth century (Clinton and Gore, 1997). After successfully addressing entry hurdles, minimizing switching costs, revolutionizing distribution channels, facilitating price transparency and competition, as well as enhancing production efficiency (Kim et al., 2004), improvisations made upon IT and emergence of electronic marketplaces have led to significant changes in product purchase methods, hence disrupting the structure of well-established industries (Alba et al., 1997; Malone et al., 1987).

Upon the advent of Internet and EC activities over the past two decades and the penetration of the commercial western art markets (see Turban, 1997; Kazumori and McMillan, 2005), many forecasts had been optimistic about the scale, scope, and impact of the Internet upon conventional business practices of artists, commercial art gallerists, and art buyers. Among the other industries during that time, a trending fascination emerged with a relatively ‘new’ art economy within the Western societies. The three most common assertions about EC discussed in this study are structured in a manner derived from Giaglis et al., (2002), including 1) disintermediation, or the demise of existing intermediaries, where market dynamics prefer direct buyer-seller transactions (here, buying art on an artist’s website, instead of commercial brick-and-mortar art galleries); 2) cybermediation scenario, where a new form of intermediaries are attracted, while creating new markets; as well as 3)

reintermediation scenario, where existing intermediaries (e.g. here, brick-and-mortar art galleries) are forced to differentiate themselves and re-emerge in the electronic realm.

Nevertheless, two decades later, present discussions around EC of art objects appear to be dominated by a perceived incompatibility (e.g. Horowitz, 2012; Polleit-Riechert, 2010). In fact, a fragmented number of publications in the Cultural Economics literature have authors repeatedly discussing the participation in online art sales that tests the limits of cyberspace and the hurdles faced by varied commercial and non-commercial art market participants upon the increment witnessed in market globalization and commercialization (see Adelaar, 2000; Arora and Vermeylen, 2012, 2013; Bloom, 2006; Clarke and Flaherty, 2002; Gladysheva et al., 2014; Hausmann, 2012; Horowitz, 2012; Kazumori and McMillan, 2003; Khaire, 2015; Kidd, 2011; Kohle, 2014; Kollmann, 2002; Lind, 2012; Kazumori and McMillan, 2003; Marty, 2007; Patton, 1994; Polleit-Riechert, 2010; Poort et al., 2013; Trant and Bearman, 2011; Velthuis, 2012).

However, to date, comprehensive studies with a focus on the wider impact of digitization within the art market are rather scarce (Arora and Vermeylen, 2013). In addition, no concerted attempt has been made to revisit the numerous original predictions and forecasts concerning the changes that have taken place in the landscape of art market. Accordingly, the study addressed two broad cross-thematic research questions: How has the online art market developed and what impact has art EC had upon commercial visual art market in terms of disintermediation, cybermediation, and reintermediation? The next section explores the development of online art market and the most frequent predictions made in the context of art market so that the reality can be illustrated retrospectively.

4.2 Method

Seeking to challenge many of the tenets voiced by art EC optimists, the present descripto-explanatory study (cf. Saunders et al., 2003) bridges this research gap by addressing this issue via historical analysis (Gottschalk, 1969) on some of the major developments that occurred in the past, as well as the presence of online art market in the past two decades. The historical approach, has been partially adopted in business research (Chandler 1990) and is suitable for studying the relevance of the past events along with those at present in terms of values, interest, and meaning for it is considered critical to both present and future times (Ejimabo, 2015). Additionally, by seeking input from narratives of neutral observes, such as reporters, experts, and market analysts this approach was selected due to its emphasis on the gathered data at the advent of art EC, hence suggesting a prospective, instead of a retrospective look at art EC (Golder and Tellis, 1993).

This qualitative study utilized extensive and systematic collection and review of primary data, including e.g. previously published books, book chapters, websites, conference papers, academic journals published in the fields of cultural economics, MIS, and electronic markets from the past three decades. Notably, many books and articles in the field of art EC were written by scholars, economics, art historians or practitioners who are active in the art sector. Thus, rather than restrict the search to journals with the highest impact in their fields, all published and accessible journal articles were included in the analysis in order to corroborate as many sources as possible.

However, also secondary data, such as surveys and art market reports posted on publicly available sources (e.g. search engines on the Internet), were gathered. As for secondary data, for instance, official reports on the online art trade were predominantly conducted by several international art market players, such as art market research firms, art foundations, conventional consultancies, or art insurance providers. These reports had been discussed in several annual art market research reports used in this study, such as The European Visual Art Fair (TEFAF) Art Market Report, Deloitte's Art

and Finance Report, Hiscox Online Art Trade Report, as well as Skate's Art E- Commerce and Media Report.

However, Seidman (1998) asserted that researchers must report their work by using concepts of credibility, transferability, dependability, and conformability in their analyses. Therefore, to select and accept the varied sources of information, the control criteria applied in this study were those derived from the historical approach, as outlined by Golder and Tellis (1993), which are (1) competence, (2) objectivity, (3) reliability, and (4) corroboration.

Using these criteria, the literature search generated 208 different sources published from 1969 to 2017, though several hundred more articles, books and websites were inspected in order to find useful information written close to the time when art EC occurred. First, the competence criterion is met by utilizing highly regarded sources that originated in or are based on information from the respective timeframe. Secondly, the objectivity criterion is met by depending on authors that are unbiased with regards to the subject matter. Thirdly, the reliability criterion is met by depending on sources with a substantial history of recognition. Lastly, the corroboration criterion is met by employing a wide range of data sources. Furthermore, the quality of this research was enhanced by providing excerpts from the sources (Christy, 1975; Lusk, 1997; Scott, 1990; Sweeney, 2005) as well as by applying authentic and credible materials (Gottschalk, 1969).

4.3 The Beginning and Early Predictions of Art EC

Although art EC has been gaining much attention from both the media and public, selling art objects on the Internet is not new. The transformation of analog information, which is expressed in the form of texts, images, and sound, to one that is digital and can be stored, manipulated, and transmitted using a range of networks and devices, has existed for decades (McQuail, 2000). Even though the extent of the Internet was first limited to mainly governmental departments or university researchers,

the Internet was made accessible to the public in early 1990s (Hamill and Gregory, 1997). The Internet sparked fresh industry structures and shifted the rules of competition in marketplaces by outsourcing essential business to specific companies and changing several aspects, such as intensity of rivalry, threats of new entrants and substitutes, as well as bargaining power of suppliers and buyers (Porter, 2001; Van Hooft and Stegwee, 2001). Moreover, the online application, particularly in the arts, was reckoned essential for it well-suited “image-intensive exhibits” (Malloy, 1994; McLaughlin, 1996; Weintraub, 1997). As the new digital tools became increasingly accessible to the public, academics, such as Günter and Hausmann (2002 p.118), expected the Internet to allow for a more democratic and global presence for all market actors within the art sector. Nevertheless, early 1990s witnessed only a handful of trade connections in this area (Kollmann, 2002), as valuable art resources had been scarce in the cyberspace (Stahl et al., 1996).

As time passed, technological opportunities gradually evolved, whereby the period between 1995 and 1999 was considered the golden era for the web (Mirescu, 2010), followed by a phase of over-proportional increments in technological connections. In the following years, substantial evolution was noted in the number of websites devoted to selling visual art online (Clarke and Flaherty, 2002). By the year 2000, Sullivan (2000), for example, reported more than 20,000 websites showcased art EC, including established galleries, auction houses, web-only retail sites, and artist-run collectives. Although commercial art activities incorporated many types and forms on the web (McLaughlin, 1996), a common ground for all websites that sold visual art online was the interesting fact that art was sold to individuals who did not see the physical artwork until it was delivered (Mandell, 1999).

The rise of the global networking had been expected to offer new opportunities for both the supply and the demand, clearing way for the visual art sector to have access to information procurement for purchasing purposes, as a significantly simpler and more transparent process (Adelaar, 2000; Clarke and Flaherty, 2002; Meyer and Even, 2002). Therefore, the art market was

expected to be transformed by those willing to buy valuable art via online platform without visualizing the work before purchase (Micucci, 2000).

In a market, where appraisal is a hurdle, especially when the value of artwork is dictated more by social construction instead of objective physical attributes (Plattner, 1996; Schönfeld and Reinstaller, 2005), art buyers are expected to benefit from any time saleability and news supply, faster turnover, lower transaction costs, and a greater choice of artworks in the electronic marketplace (Clarke and Flaherty, 2002). Such features facilitated towards increment in art market efficiency, which has led to significant shifts in the structural art market in the twenty-first century (Neuendorf, 2002). While Choi et al., (1997) generally acknowledged that EC is a fast moving and dynamic segment, some art market pundits expected the online art sector to grow at an accelerating rate in the following years (see Clarke and Flaherty, 2002; Kollmann, 2002 p.118; Martin, 2002; Violino, 2001) with early forecasts that 90 percent of the art business taking place at the online platform (Klebinikov, 1999).

Other than that, Dörstel (2002) cautiously stroke a note of caution concerning the statements made about the future of the art market, given that the market is unpredictable, and therefore, forecasting its related developments is indeed a challenge. However, in an article extracted from 1996 NY Times, Madoff (1996) asserted that “it is a voyage into a virtual world that, depending on your point of view, either complements the word of physical objects or threatens to subsume it.”

4.3.1 Disintermediation or the End of Commercial Art Gallery

Throughout history, commercial art intermediaries, who are seen as the gatekeepers to the world of contemporary art, possess a crucial function in the established brick-and-mortar art markets in the western society for both the artists and their consumers (Velthuis, 2005). Works of visual art are not just conceived from creativity, (Meyer and Even, 1998), as art intermediaries have been considered to produce belief in the work of the artist (Bourdieu, 1983), besides determining the artist's economic credibility (Bonus and Ronte, 1997). Scholars (e.g. Boll, 2009; Jones, 2010) have come to agree that

throughout the twentieth century, commercial art galleries were considered the most significant intermediary rather than dealers or agents.¹⁵ Therefore, the study at hand only considered commercial brick-and-mortar art galleries, excluding other commercial art intermediaries, such as auction houses.

Unlike art auction houses, which pursue purely commercial interests, the essence of commercial art galleries manifests between the two poles of "art" and "market," considering not only the exchange and monetary, but also the ideological value of the art objects (Hausmann, 2014; Meyer and Even, 2002 p. 128). Belting (1995) asserted that the art gallery dictated the fate of art history, as it was the sole purveyor of artistic quality and the multifaceted industry structure among the developed art markets of Europe and the US mediates between artists and consumers (see also Arora and Vermeulen, 2012; Caves, 2000; Frankel, 1999; Joy and Sherry, 2003; Schönfeld and Reinstaller, 2005; Velthuis, 2012).

Throughout history, the art market has been dominated by influential experts who both determine and select the artists to be displayed (Bernadette, 2003; Thompson, 2008). These trading patterns led to a highly-decentralised distribution system, which were practiced for centuries by market power in art intermediaries (Arora and Vermeulen, 2012; Kawashima, 1999; Kollmann, 2002; Throsby, 1994), simultaneously reinforcing localized patterns of exchanges in the art markets (Arora and Vermeulen, 2013; Khaire, 2015). Nevertheless, at the dawn of the Internet era, things were expected to change. Several authors have mentioned the potential of the new medium to change the varied industry value chains by shifting the economics and modifying the structure of distribution channels (e.g. Benjamin and Wigand, 1995b; Evans and Wurster, 1997; Malone et al., 1987). Accordingly, one of the most common early forecasts of the Internet and web-mediated EC in the information age referred to the extinction of commercial intermediary, i.e. "digital disintermediation" (Choi et al., 1997; Hoffman et al., 1995; Wigand, 1997; Wigand and Benjamin, 1995).

¹⁵ Note: the distinctions between gallery owners, dealers, and agents tend to be incoherent, given that many bricks-and-mortar intermediaries fulfil multiple roles simultaneously (see. Kottász & Bennett, 2013; Polleit–Riechert, 2010).

Disintermediation was defined by Wigand (1997, p. 4) as "displacement or elimination of market intermediaries, enabling direct trade with buyers and consumers without agents."

In the context of art EC sector, the term disintermediation describes the move towards eliminating channels of traditional art sales, including brick-and-mortar art galleries, auction houses, and agents (Adelaar, 2000). With that, artists could turn into entrepreneurs to make the most of their competitive advantage over their peers (Colbert, 2003; Konrad, 2004). Moreover, it was hypothesized that artists could use the new communication and distribution opportunities offered by the Internet to gain independence and target their buyers in a direct manner (Clarke and Flaherty, 2002; Günter and Hausmann, 2002; Madden, 2004; Weintraub, 1997, p. 102). Siebenhaar (2002, p. 50), for instance, predicted transformation of artists to entrepreneurs in managing their self-presentation, marketing, and media. Additionally, Weintraub (1997, p. 102) acknowledged that shared or personal websites would allow artists to contact art buyers directly in future and in doing so, avoid established gallery venues. As such, Meyer and Even (2002, p. 99) estimated significant changes in the market would occur as the previously active, influential, and since-decades stable position of the gallery had been predicted to (at least) lose power in the medium-term perspective.

Other than that, frequent predictions related to transaction costs and economics suggested that the hike in price due to intermediaries could come to a halt in the online space, thus leading to decreased costs for buyers and sellers. In fact, commercial art intermediaries have been known to add substantial transaction costs to the value chain (see Günter and Hausmann, 2002; Jones, 2010; Kazumori and McMillan, 2005; Robertson and Chong, 2008) by simultaneously suppressing the profit margins for all market actors involved, including artists and potential art buyers (Günter and Hausmann, 2002). Literature that supports disintermediation in the art market suggests that the costs associated with the trade (e.g. matching services and sophisticated gallery ambience) that art buyers were previously willing to pay for in the brick-and-mortar environment might be dismissed with the

advanced functions provided by the Internet, by simultaneously making the consumer, for example, expect lower prices in the online art space (Martin, 2002; Neuendorf, 2002). It was, thus, widely predicted that the Internet retail (in general) would lead to a substantial reduction in price primarily due to reduced search costs and cost transparency (Degeratu et al., 2000).

Nonetheless, the flaws detected in the disintermediation scenario (albeit not in the art market) were initially elaborated by Sarkar et al., (1995; 1998), as the function of coordinator played by the intermediaries in the exchange process reflected a multifaceted set of functions. Such disintermediation argument also received considerable critics by Adelaar (2000) in the context of art and antique trade, who claimed that the economic argument is based on the theoretical notion that the Internet medium possesses the potential to decrease transaction costs to zero and that transactions are “atomic” ignoring the fact that the choice of consumers for market channels is not limited to the height of transaction costs. Nevertheless, almost from the initial moment when images were displayed over the medium, a significant number of artists have begun to engage actively in electronic networks assumed to be colonized for art (Malloy, 1994; Weintraub, 1997). Emerging artists, amateurs, craftspeople or creative individuals mostly began creating personal websites in 1999 to exhibit and potentially sell their work online (Mandell, 1999).

For instance, photographer Frank Jump, began displaying his work on his website at Yahoo as early as in 1999 (Sullivan, 2000). Other artists engaged in online artists’ societies, for example, Arts Wire (Grant, 1993) and membership online art forums, such as CompuServe, where artists could exhibit their work and establish networking among those like-minded (Mealing, 2002; Wood, 1993). Nonetheless, at the initial phase, a great number of artists driven by online initiatives included lower-scale websites, typically using primitive computer networks, to sell lower-priced original or mass produced art (e.g. reproductions, posters, decorative art, handcrafted furniture reproductions, and art décor items). In fact, Mandell (1999) claimed that “the sudden proliferation of these sites alarmed

some people in the art world, who questioned if what was offered by some of the sites can even be called art.”

4.3.2 Cybermediation

Despite predictions that producers (artists) may likely sell directly to their consumers thus removing the role of art intermediaries in commercial art galleries, for example, electronic market observers (e.g. Sarkar et al., 1995) argued that reduction in costs of providing a variety of channel services in the online environment may attract entirely new forms of web-based intermediaries to the online space, known as ‘cybermediaries’. Cybermediaries operate entirely via online platform and had been estimated to lodge themselves in the value chain between producers and customers (Green et al., 1998; Sarkar et al., 1998; Steinfield et al., 1995, 2001). Cybermediaries were projected to change the rules of competition in many industries, besides bringing together many buyers and sellers, apart from offering vast benefits, such as price transparency, economies of scale, network effects, and reduced transaction costs, due to the decrease in search costs (Castells, 1996; Sculley et al., 2001). Furthermore, from their ability to support many fundamental, yet critical, market functions, for instance, search, aggregation, matching or evaluation (Dai and Kaufman, 2002), in general, cybermediaries were expected to play a significant role in providing product information to buyers and marketing information to sellers, negotiating prices between buyers and sellers, as well as managing financial transactions (Bakos, 1998).

While McLaughlin (1996) gave a note of caution, claiming that “(...) the ability to view works of art on the Web is (...) confined mostly to the same intellectual elite that can produce and distribute them”, in which other art market observers pronounced optimistic view towards cybermediation. With that, the new markets were expected to evolve, by simultaneously pointing the way towards entirely new and possible future distribution of art works (Martin, 2002).

On top of that, it was estimated the EC would reduce information search costs and obtain efficiency gains, while the greater transparency was expected to increase universal availability and quality of art information (Castells, 1996). This grand vision of web-based information and product access is labeled as ‘frictionless commerce’, which sharply contrasted the unpredictability and opaqueness that often characterize the art market (Coslor, 2016; Czotscher, 2006; Ivanova, 2016; Resch, 2011; Velthuis, 2007; Velthuis and Coslor, 2012).

Such early forecasts suggested that the emergence of cybermediation had the potential to bundle art information, communication, and transaction within the art trade on a central platform (Martin, 2002), which offers the essential vehicle to connect relevant stakeholders in a more efficient manner (Clarke and Flaherty, 2002). Neuendorf (2002) also stated that the vision of electronic art space was connected to the idea that with the emergence of online space, the historical structural problem faced in the art market could be solved eventually.

In fact, as art objects were historically traded based on decentralized network of influential art intermediaries, the extant literature the historical inefficiency of the art market could be observed (Czotscher, 2006; Louargand, 1991; Smith et al., 2005/2006), particularly when transparency in the art market is fragmented (Wilke, 1999; Czotscher, 2006).¹⁶

Historically and in general, cultural economists have always attempted to determine if art is a sound financial investment (Ashenfelter and Graddy, 2003). As such, information asymmetry becomes a common explanation for the benefits of transparency, which normally takes place when one party (here, art intermediaries) possesses more information regarding some aspects of the exchange (Heide, 2003). In fact, information asymmetry between parties opens the door for opportunism (Williamson, 1985, p. 47), in which opportunism increases transaction costs and finally, negatively affects the trade

¹⁶ Law and Smullen (2008) defined ‘transparency’ as the ability to know market prices, supply and demand, as well as other features of a trade good.

(Kabadayi, 2011). Hence, transparency is often associated with goals of market fairness and efficiency in the extant literature (Coslor, 2016).

While transparency may be a somewhat paradoxical request, in a market where appraisal is challenging and the value of an artwork is dictated by social construction (Plattner, 1996), it is worthy to note that there is no central point where all data of art market can come together and be made accessible to the public (see Resch, 2011). Interested art buyers are forced to conduct intense physical research to identify the art object that they like and pay prices without guarantee (Czotscher, 2006; Wilke, 1999), given the fact that similar art objects may dramatically vary in prices when sold at a different place (Pesando, 1993; Mei and Moses, 2002).

The Internet was predicted to potentially make art prices ‘transparent’, mainly by simultaneously increasing the knowledge of many consumers, as well as to drive more people to begin collecting art (Stern, 1996). As in the case of old-line dealer, prices may vary from client to client and differ when sold in varied places, which contradicts the art EC where online prices are displayed right on screen and are made visible to the public. Thus, comparability and transparency of prices associated with the new medium were suggested to be the most influential keywords in future online art trade (e.g. Martin, 2002; Meyer and Even, 2002, p. 129), given that online art buyers expect to view the art prices displayed on websites (Sullivan, 2000). To this end, prices of artwork were predicted to have links with transparency, thus resulting in new confidence among clients in terms of pricing (Neuendorf, 2002).

With online transactions beginning to take place, art buyers were expected to gain more power, apart from negotiating prices in real time and directly, thus making private negotiations in the brick-and-mortar environment more challenging.

In addition, artists-driven third party online platforms (that cut out the gallery as the intermediary between artist and buyer) have evolved to offer classified listings of individual artworks,

to promote and sell the works, as well as to offer artists a percentage of the sale price (Mandell, 1999; McLaughlin, 1996; Micucci, 2000; Sullivan, 2000). Some instances of artist-driven and commission-based online galleries are IncredibleArt (www.incredibleart.com); NextMonet (www.nextmonet.com); Solid Expressions (www.solidexpressions.com); PaintingsDirect (www.paintingsdirect.com); Itheo (www.ithéo.com); and RisingArtist (www.risingartist.com). Meanwhile, some examples of gallery-driven/cybermediaries are Circline founded in 1997 (www.circline.com); the US art EC website for visual art Onview (www.onview.com) launched in 2000; and the New York-based virtual gallery called Eartgroup (www.eartgroup.com) that acts as a digital network of high quality visual art galleries and dealers launched in 2000, besides displaying the work of established high-end artists like Andy Warhol or William Wegman (Sullivan, 2000).

One area that received more publicity during those latter days were online auctions and bidding (as distinct from online galleries that sell art at fixed prices) (Micucci, 2000). One company at the forefront that engages in cybermediation is the Internet auctioneer known as eBay, which was founded in 1995.

eBay, as one example, attempted to become a potentially liberating alternative online platform for emerging artists who desired to gain more freedom and control over their art, apart from gaining independence from the “repressive chains of galleries and art dealers” (Dalton, 2002, p. 84). As such, in 1999, eBay acquired one of the oldest US auction houses; Butterfield and Butterfield, but the company was sold off due to loss only three years after its commencement (“Company News”, 2002). In 1999, one of the most established international brick-and-mortar visual-art auctioneers, Sotheby’s, began cooperating with the online retailer Amazon founded in 1994, at sothebys.amazon.com meant to sell art and collectibles via Amazon website as a new and potentially lucrative cybermediation channel. However, in 2000, the alliance was terminated, only nine months after both companies began their operations (Kazumori and McMillan, 2006). This was followed by two joint ventures of

Sotheby's with eBay in 2002 and 2003 with the launching of a website known as sothebys.ebay.com. Unfortunately, these partnerships were also terminated with a reported loss of 100 Million USD to the auction house, primarily due to low demand ("Sotheby's stoppt Online", n.d.; "Clicking on a", n.d.).

As a consequence, although the idea of selling art online was heavily promoted, consumer's adoption to purchase high art objects via online failed to come into realization (Polleit-Riechert, 2010). Extant EC researches have outlined the reasons as to why many online businesses in the past years have failed, which are due to serious concerns about the security of Internet transaction and doubts regarding legitimacy and longevity of Internet companies, coupled with technological issues like slow connection and image loading time, as well as limited access to the Internet by many potential customers (e.g. Cockburn and Wilson, 1996; Jones and Vijayasathy, 1998).

On the other hand, Tse (2007) claimed that despite the fact that some companies have managed to build success based on the Internet technology, most early attempts failed due to failure in capitalizing potential online technologies. Nonetheless, years 2000 and 2001 proved that the EC revolution was not as sweeping as originally envisioned as many Internet-based businesses (colloquially known as "dot.coms") were faced with bankruptcy. Kumar and Benbasat (2002) reckoned that the experience and the face-to-face interaction cannot be replicated online, which also appeared to be a substantial challenge in making virtual storefronts socially rich. Besides, it is worthy to note that all artists-driven websites mentioned here are no longer in operation.

4.3.3 Reintermediation: Art Galleries in the Online Space

Technology has often been cited as one of the most critical drivers in creating a competitive advantage (Porter, 1985). As such, earlier studies (e.g. Kalakota and Robinson, 2001; Willcocks and Plant, 2001) asserted that businesses with and without physical presence would no longer be viewed as separate entities, as both worlds merge, hence forcing traditional companies to incorporate EC into their corporate strategies and processes. Smith et al., (2005/2006) assumed that, particularly traditional

art galleries, might be forced to deal with new strategies, in order to survive under the powerful pressure “from globalization and EC premises, marketing channels, client relations, and the structure of the industry” (p. 30). It was assumed that in spite of the advantages offered by brick-and-mortar businesses, the high street was threatened by electronic vendors (e-vendors) who could operate online without any physical space (Negroponte, 1998).

Accordingly, the reintermediation scenario was proposed, where established high street intermediaries were predicted to being forced to distinguish themselves and re-emerge in the electronic marketplace (Giaglis et al., 2002). With that, and in a study concerning commercial art websites and exhibit spaces (McLaughlin, 1996) claimed that online sales have the potential to provide significant growth in sales, particularly for smaller art galleries, which offers them new opportunities, besides allowing them to sell faster than via exhibitions, without additional effort and costs. Besides, Adelaar (2000) noted that participation in EC possessed the potential to raise the market reach of both art and antique trades, enabling higher liquidity of markets, as well as easier collaboration between the players. Thus, increased volume, with associated cost advantages, had been predicted to improve margins, as well as artist and gallery profits (Smith et al., 2005/2006).

As visual art and antiques began breaking out the walls of the conventional brick-and-mortar businesses into the digital realm, an increasing number of traditional single high-end galleries and dealers have established websites to sell digital images of their featured artists on the internet (Kollmann, 2002; McLaughlin, 1996). Such initiatives, however, could be described as an additional service rather than a major business (Polleit-Riechert, 2010). An instance of such initial initiatives is shared by Turban (1997) with the established US brick-and-mortar art dealer, Donna Rose. She included online auctions on her website (www.artbrokerage.com) in 1995 (Turban, 1997); or the US Pace Wildenstein Gallery (<http://www.razorfish.com/pace>) that displayed the work of its featured artists back in 1996 (Madoff, 1996).

However, McLaughlin (1996) claimed that the number of traditional commercial galleries with online websites was so small that it had been almost possible to count them. Notably, art galleries have been recognized as operating like a cottage industry invulnerable from driving forces, such as high technology and consolidation, which may influence other industry sectors (Frankel, 1999; Meyer and Even, 1998).

Although art galleries have confirmed they have more visitors to their websites online than those in the physical environment (Vadon, 1995), they have been far more timid in developing small scale websites or they completely have ignored the potential that the Internet can offer. Many have refused to acknowledge the new opportunities provided by the technology as a vehicle to increase public access to their inventory (McLaughlin, 1996). Thus, it appears there is a general reluctance on behalf of established art galleries to engage in the online realm, (Smith et al., 2005/ 2006), seemingly passive in their strategic moves to art EC, many simply refuse to take the step to penetrate into the online world (Patton, 1994). According to Patton (1994), this can partly be explained by the questionable quality of the digitally-reproduced images back in the 1990s, and the serious concerns of galleries that consumers would refuse to pay the commission fee when purchasing art online. Madoff (1996) also expressed his discontent with the earlier technological standards in an article published in *The New York Times*, arguing that the quality of images on computer screens cannot compete with glossy magazine reproductions, even when the high-resolution images online appear relatively grainy.

Meanwhile, other commentators (e.g. Karnow 1994) stated the existence of a well-founded fear regarding unlawful appropriation of artists' images for commercial purposes, given the ease with which digital images can be copied and altered, as well as the insufficiency of the existing copyright law to deal with such issues. Meanwhile, Günter and Hausmann (2002) suggested that the traditional market for visual arts would always maintain a larger number of market participants, whereby denying the gradual change of the market mechanisms will only allow other new entrants into the commercial

context. Feliciano (1995), Grant (1999), and Lucas (2001) predicted that regardless of art galleries being aware of the technological development, several external factors may have the power to force the business model of the gallery to change. Nonetheless, as a major art market player, sothebys.com resigned from the Internet activities upon raising significant doubts pertaining to visual art (Kazumori and McMillan, 2006). Furthermore, an art historian, Cohen (1997), stated that “the world seems open to us, and we are led to believe that we will soon have the corpus of human creativity at our fingertips. We are told that if we only buy the latest electronic gadget, the whole world will open to the click of a mouse. Yet, as we struggle with limited disk space, slow machines, and even slower networks and read of the demise of fair use, we wonder if it is all hype or if the dream can ever become a reality” (p. 188).

Upon the burst of the dot-com bubble, (also known as dot-com boom, tech bubble, Internet bubble, dot-com collapse, and IT bubble) (Galbraith and Hale, 2004) around year 2001, the art market began to have engagement with the Internet, mainly due to optimistic forecast of the transformative potential the Internet possesses as a vibrant and flexible new retail channel (Doherty et al., 1999), which has yet to be justified in this business sector.

4.4 State of The Art / Status Quo

Over two decades have passed since the amalgamation of the art market with the Internet, despite the well-known dot-com failures that occurred in the 2000s. The last decade witnessed an exponential increase in the commercial use (buying and selling) of the Internet (see Jiang and Balasubramanian, 2014). Based on the reports of Internet World Stats, the number of Internet users has increased nearly eight-fold from 2000 to 2014, and this number continues to grow annually. The International Telecommunication Union (ITU), a United Nations specialized agency for ICTs and the official source for global ICT statistics, reported that as of 2016, more than eight times as many Internet users had been recorded, as compared to those existed in 1994 (ITU, 2006.) With over 80% of global

population having Internet connection, the US, Germany, France, U.K., and Canada are among the nations with the highest concentration. One significant development that has emerged from the evolution of the Internet refers to the escalating prevalence of social media platforms that have further enabled Internet users to collaborate, communicate, and publish authentic contents via blogs, videos, wikis, reviews, and photos (Boyd and Ellison, 2008). Such widespread adoption and increased use of online platform for EC are driven by IT sophistication, as well as by lower web-related costs (Pflughoeft et al., 2003).

In many industries, EC has appeared to be an integral transaction channel (Chen and Cheng, 2009) and the exceptional success of pure players has significantly raised the competition, altering expectations among consumers and their shopping behavior (e.g. Darley and Blankson, 2010). Although the online art market has gone through a rocky path (Gamerman and Crow, 2011; Reyburn, 2015) and has been slow to entirely embrace technology, especially online sales, the art market has become part of the global economy, and like any other submarket that reacts to social, economic, and political occurrences and tendencies (Dörstel, 2002). Thus, the period from 2010 to 2014 appeared to be the key period for art EC, particularly with the advent of innovative ICT applications and the explosion of virtualization-centric business, such as online galleries, third-party EC platforms, online art auctions and marketplaces, increasing corporate art alliances, and the like (McAndrew, 2016).

At present, innovative art ventures span the whole gamut of business to consumer (B2C) (e.g., gallery portals, online marketplaces, artists selling websites, online auctions), business-to-business (e.g. dealer-to-dealer), and consumer-to-consumer (e.g. collector-to-collector; peer-to-peer) EC regardless if they are click-to-brick, brick-and-click, or click-only business. If an art buyer has addressed issues related to information asymmetry (Plattner, 1996) and has placed much importance to view the artwork before purchase, the present art works are sold to consumers by means of electronic images or merely via website display (Polleit-Riechert, 2010).

One significant benefit of this development is that the online art trade has grown exponentially in the past few years. For example, specialty insurer Hiscox and market-analytics firm ArtTactic released the 2017 edition of their annual Online Art Trade Report, indicating that the total estimated online art sales hit a whopping \$3.75 billion in 2016, while the most recent report from The Art Market that is jointly published by Art Basel and UBS in 2017, which was carried out by Clare McAndrew, claimed that the global sales of art and antiques online was estimated to reached \$4.9 billion in 2016. Even though comparative figures are scarcely available, it seems that much has changed in the last two decades. However, based on the Art Market 2017 report, “the rates of growth in the online sector for the last two years had been significantly less than the growth rates forecasted three or four years ago when estimates predicted double-digit increment in sales with an excess of 20%.” (p.24).

In April 2016, The New York Times claimed that though most transactions are still completed through traditional retail channels (in the art market), the influence of digital technology on the process has been undeniably transformative (“An App That”, 2016). The lack of universal standards for quality, security, trust, and reliability (all regularly cited as the major limitations of EC) have been widely addressed (Turban et al., 2006). Also, the tremendous progress in the Internet penetration, increased sophistication in technology, and the evolution of consumer behaviour are beyond comparable to those back in the 1990s. Gone are the days when consumers steered away from online art purchase due to bad website quality, long response time, and bad quality of art images. At present, to compensate for a buyer’s inability to examine the art object before purchase, many e-vendors are increasingly providing very detailed information, often embedding greater details, including comprehensive condition reports, extensive biographies of artists or high-resolution photographs, much like those that the catalogs produced by bricks-and-mortar businesses provide (Bloom, 2006). Art objects can even be “framed” in any way the art buyer desires on some webpages (Kottász and Bennett, 2013). Looking back and based on these improvements, it seems that back in the 1990s, the

idea to sell art via the Internet medium was ambitious, but it has emerged ahead of its time for this demanding and unique sector.

Kazumori and McMillan (2006) argued that when sothebys.com started to engage in the Internet space, the overall depressed economic market situation made it historically difficult to sell luxury goods, such as art works. Other market observers (cf. Kohle, 2014) assumed that the initiatives of established players like Sotheby's to sell high art were simply too early for the art market, even though some initial movers are still operating successfully in this segment. However, having said that, the migration of the art market online remains a work in progress (Horowitz, 2012, p. 89). The following section explores each of the three broad areas wherein predictions were made, along recent literature and secondary data to determine the realized early predictions.

4.5 Early Predictions? Where are We Now?

4.5.1 Disintermediation: Artists as Entrepreneurs?

Between 1995 and 2000, when online art sales were introduced to the market, early market observers purposed that as soon as artists started to experiment with different online selling opportunities to sell art directly to buyers, would it lead to reduction, or even extinction, of traditional commercial art intermediaries (galleries in particular). Based on the Global Art Gallery Report (2016) published by Resch, a survey revealed that approximately 19,000 galleries were established in 124 countries and 3,533 cities with New York, London, and Berlin emerging as the three cities with the highest number of galleries worldwide. Based on the same report, 49% of these galleries were founded after 2000 and only 7% were established for more than 35 years. Although comparable figures are scarce, the available numbers speak for themselves: numerous galleries have entered the art market after the diffusion of the internet within the segment.

However, the same report also suggests art gallerists fearing artists as competitors and ranks them in the third position after other brick-and-mortar galleries and dealers. Indeed, the effectiveness of online communication in selling products has opened a whole new world for craftspeople and artists alike (Hausmann, 2010; Lewis, 2010b). These new opportunities brought by the Internet have enhanced more personal relationships between artists and art buyers, besides introducing varied artworks to potential customers who are unavailable in the physical space (Arora and Vermeylen, 2012).

In addition, Poort et al., (2013) asserted that to date, artists can connect with their clients over the Internet and sell their artwork without any intermediary, hence making them independent and providing them a stronger bargaining position in the market. Thus, in cultural industries where careers are indeterminate and unprotected, tenure is short while income is insecure (Hesmondhalgh and Baker, 2010) as artists enhance their positions, mainly due to the increased and more efficient possibilities of interconnectivity and interactivity (e.g. Web 2.0) that allow diverse voices to take part in the indexing process (Arora and Vermeylen, 2012).

The advanced functions provided by the Internet and ICTs have allowed artists to market their outputs and target art buyers in a more efficient manner (e.g. Arora and Vermeylen, 2012; Castells, 2011; Hausmann, 2010; Kottász & Bennett, 2013; Polleit-Riechert, 2010; Poort et al., 2013). While Poort et al. (2013) claimed that artists can create ‘buzz’ via social networks, Arora and Vermeylen (2012) acknowledged that Web 2.0 opportunities, which are provided by the Internet, simultaneously enable art buyers to network with artists directly, bypass stately rituals practiced in art markets, as well as to challenge conventional market mechanisms and the relevancy of art dealers. Famous examples of successful artists include Petra Cortright, a leading figure in what is called post-Internet art, Amalia Ulman, or social media artists, such as Artie Vierkant and Jon Rafman. However, it seems that to date not only social media technologies provide an increasingly effective promotional tool to widen

audience reach but selling through artists' own website also seems to becoming commonplace for many mainstream artists, who are corresponding with buyers directly, particularly for those engaged in the primary market. Nevertheless, Velthuis (2012) asserted that for most artists, "the digital transformation is hardly relevant since their work has no resale market" (p. 34), while this is untrue for many mainstream artists engaging in the online art world who think otherwise, given that without such opportunities, they would not have market at all.

Nevertheless, according to Kottász and Bennett (2013), the independent Internet distribution of art has its challenges and requires a minimum level of entrepreneurial and technological skills, which many artists still lack. Thus, while particular types of intermediaries in certain markets face difficulties to sustain, such as travel and consumer electronics where Internet retailing has made a very significant impact (Weltevreden and Boschma, 2008), or in the case of book sales, where the conventional channels have been almost eradicated by Amazon (Goldmanis et al., 2010), most art market commentators agree that the early concerns regarding disintermediation were rather exaggerated. During the last decades, the Internet has hardly had a profound impact upon the conventional distribution practices for art markets (see Arora and Vermeulen, 2012; Hausmann, 2010; Jones, 2010; Kohle, 2014; Robertson, 2008; Velthuis, 2012), while the process of disintermediation for the art market has been absent (Velthuis, 2012).

Furthermore, it is relatively easy to demonstrate the degree to which the Internet's forecasted threat to commercial art galleries has materialized, given that varying art market reports sought to monitor the impact of online art market upon physical market. Considering the previously mentioned figures published by "The Art Market 2017" report, it conservatively estimated the value of online art (and antiques) sales reaching a whopping 4.9 billion US dollar.¹⁷ This value approximately represents

¹⁷ According to the report, these sales are made up of online sales by traditional offline dealers and auction houses, plus estimates for companies selling on their own account. They do not include revenues or commissions of intermediaries or third-party platforms (p.24).

only 9% of the value of 56.6 billion US dollar for the overall global market in 2016 (based on the cumulative figures assigned by the same report). However, the numbers reported in Art Market 2017 differed from the figures in recent reports concerning the size of the global art sales in general.¹⁸ Despite of the data provided, the sample sizes of many studies in the art market are still small, while the methodologies vary considerably from source to source, with recent and available numbers indicating a trend. In spite of the expanding online art space, the largest part of the turnover is still achieved in the offline market, where online sales are still considered to be a minute component of the global art and antique market.

The emergence of the Internet with low barriers to entry, free usage, user-generated content, and interactive applications contributed to information overload in the art market, which could be viewed as a challenge or a disadvantage of this development (Arora and Vermeulen, 2013; Keen, 2007, p. 16; Polleit-Riechert, 2010, p. 128). However, regardless of the fact that the online art trade often functions under the exclusion of gallery (Kohle, 2014, p. 444), some scholars (see Arora and Vermeulen, 2012, 2013; Polleit-Riechert, 2010, p. 267) stressed that in this ever more chaotic environment and the overwhelming availability of data, the need for credible experts and reliable intermediaries to guide art buyers in the art sector may increase in the future as it has become increasingly difficult for art buyers to filter important criteria when making a purchasing decision in this sector. The distribution and impersonal nature of EC have further led to greater information asymmetry and higher risks, when compared to the traditional shopping environment (Zhou et al., 2007). Besides, the role of trust varies with more information and alternatives offered to consumers (Chung and Shin, 2010). In a similar vein, Jiang and Balasubramanian (2014) related the presence of complex problems that consumers face in the electronic market, given that prior to purchase,

¹⁸ The 2017 TEFAF Art Market conducted by Rachel Pownall, for example, estimates the value of the global art trade with less, namely 45 billion USD, without even paying attention to the online art segment and not indicating any numbers for the online art sales.

consumers have to go through intensive information acquisition and decision-making process after surfing a large number of websites, where much time and search costs are involved in this process.

While a photo may not be unique, and the history of prices for identical items can be used to assess its value (Kazumori and McMillan, 2005, p. 5), the art market is far from being homogeneous (Kohle, 2014). Moreover, many art buyers may not have ample time, confidence, desire, and most significantly, knowledge to evaluate both artists and their art works, in making optimal decisions. This segment is still dominated by the opinion of powerful art professionals, especially those from the higher price segments. As such, in a study on knowledge production from the stance of visual arts in this digital age, Arora and Vermeulen (2012) acknowledged that “the role of participation itself needs to be extricated from the normative assumptions of it being positive and inherently democratic.” Instead, this process functions as a novel platform for institutional marketing and entertainment in the new media era, thus reinforcing and strengthening the role of conventional experts (Arora and Vermeulen, 2012). As a result, the avalanche of information available on the Internet appears to strengthen the role of intermediaries, instead of making them redundant in the extant literature (Arora and Vermeulen, 2012, 2013; Coslor, 2016; Polleit-Riechert, 2010, p. 272).

At this point, due to uncertainties and risks associated to art work, art experts and intermediaries have been performing various intricate functions via pre-sale, sale, and after-sale processes (Adelaar, 2000; Arora and Vermeulen 2012). Contemporary art is not strictly an asset like any other, but a specific type of quasi-asset that requires guidance from contemporary art professionals, which means that it can only be legitimated, qualified, and valued by connoisseurs of the art world (Ivanova 2016). Unlike diamonds that can usually be valued on four key factors, of art is closely associated to complex quality schema (Podolny and Hsu, 2003). Traditional valuation methods in the art market are similar to those used in securities analysis (Beunza and Garud, 2007) and for valuing unique assets (Lepinay

and Callon, 2009) or singularities (Karpik, 2010) as past price data involve only one element in a “thick” and multi-factor valuation method (Coslor, 2016).

Art intermediaries have historically developed the commercial expertise needed to value, promote, and sell art objects. This knowledge demands insights into both the price setting mechanism and the ability to translate artistic value into a price. This expertise is privileged, not only due to the required knowledge, but also because of the requirement to involve institutional linkages and networks, clearly distinguishing these experts from other participants (Arora and Vermeulen, 2012). Besides, the extant literature (see Günter and Hausmann, 2009; Hausmann, 2014, 2009; Malik, 2013; Resch, 2011; Velthuis, 2007) emphasizes that the role of these middlemen is exceptional, given that commercial intermediaries do not solely sell art objects to serve as market-makers, but also by making the work tangibly engaging as “artists’ representatives, agents, and promoters.” Art intermediaries explain and place the work in the context of the artists’ evolution, as well as in the spirit of time (Khaire, 2015). Such an ecosystem can be quite complex, apart from challenging to absorb these functions to the virtual realm and request artists to do so as well.

In line with the earlier critique voiced by Adelaar (2000), it seems that the disintermediation argument from the past primarily focused on the cost of intermediation, excluding the values and benefits that may be added and created by these intermediaries (Heijden, 1996; Heijden van der and Ribbers, 1996). These benefits include factors that are difficult for producers to replicate online (e.g. trust provision) (Bakos, 1991, 1998; Sarkar et al., 1995). In a market where hierarchy is the soul of the art market’s structure and identity (Arora and Vermeulen (2012), the Internet, due to its low barriers to entry, allows active participation.

However, one question arises: ‘Do more involvement and more content on the Internet simultaneously lead to a new source of value creation?’ In line with Ivanova (2016), the shift in the art field could only be achieved by accepting contemporary art as an asset class, which would not only

undermine the basic premises of contemporary art self-perception, but also generate both legitimation and valuation mechanisms, as well as criteria that are external to the contemporary art ecology. Hence, to achieve this, “the opaque market, in which access to information on price-setting, trends, and transactions, is controlled by insider groups in an unregulated fashion” (Ivanova, 2016, p. 131). Nevertheless, the market has been for decades powered by stubborn compliance of selectness and scarcity by a group of authoritative experts, segregating the traditional art market landscape from the herd, regardless of mass public interest or means to consume, fundamental changes are indeed significant. According to Velthuis (2012) looking at the present practices in the online space, new entrants, so far, have not found novel legitimate platforms for their creations and thus, have not questioned the authority of cultural experts. While the opportunities to increase awareness and to reach the audience have shifted, simultaneously empowering artists, amateurs, and art buyers to question the authority of intermediaries, there is a consensus view in the extant literature (e.g. Caves, 2000; Coslor, 2016; Jones, 2010; Kottász and Bennett, 2013) that visual artists still require a gallery, so as to interpret and to integrate the varied forms of information, in order to display their work, to build relationships, and to engage with collectors.

Finally, the distinctive features of art are integral in the buying decision-making process so as to evaluate the quality of artwork (i.e. colors), which are generally difficult, if not impossible, to communicate electronically (e.g. Kazumori and McMillan, 2006). To this end, Hirschman (1983) claimed that the evaluation process is indeed subjective and abstract, non-utilitarian, unique, and holistic, which also incorporates a sensory experience of aesthetic. Moreover, art is very personal and creates client-customer relationships that are essential, especially for art with high price tags that require view-in before making purchase decisions, instead of buying after scrolling through a website (Kazumori and McMillan, 2005; Smith et al., 2005/2006).

Kohle (2014, p. 444) acknowledged that art is more than a commodity, such as the digital camera that takes its fascination from its uniqueness and exclusiveness. The opportunity provided by the Internet may never result in true disintermediation, given that art objects, particularly at the higher spectrum of the market, need appropriate care, including the intensive face-to-face communication with experts and the staging in a classy atmosphere (Kohle, 2014). Following Arora and Vermeulen (2012; 2013), one can observe that the traditional art elite has not necessarily been replaced, but new voices or a new layer of infrastructure has been added to the existing ecosystem.

4.5.2 Cybermediation

During the advent of the Internet and EC, it was proposed that with the presence of cybermediaries, a radically different type of marketplace would evolve with the potential to substitute the age-old art market hierarchies. Historically, until the emergence of cybermediaries, art buyers could only buy artworks via offline channels, including the inconvenience required by these methods. While disintermediation may not have played the dominant role in online art trade that some pundits had originally predicted, much evidence has proven that cybermediation has made a significantly larger impact by generating new online art market segments and triggering vital changes in the art buying behavior among consumers, thus making EC a vital part for many traditional businesses and may appear as a potential contender to the existing businesses.

Despite of cybermediaries, exclusion of galleries as an intermediary between artist and buyer (for example, artists selling-platforms, such as saatchiart.com) has created a trading environment that differs from the dominating brick-and-mortar businesses, hence providing art buyers a chance of being less dependent on the present structure of the physical market. According to the Art Market Report 2017, “these platforms offer channels to online businesses, especially for smaller art trades with inadequate funds to start their own website. With regard to the types of cybermediaries that enthusiastically shape the new online art trading world, enabling and establishing innovations almost

on a daily basis, and primarily embracing consumer-oriented concept, web-based EC, and tremendously a high degree of variability between various business models could be observed to range from small online pure player start-ups to big marketplaces and mixed companies. Several well-known examples include 1stDibs.com, Amazon Art, paddle8.com, artfinder.com, lofty.com, and artsy.net. The latter, with its innovative value-added functionalities (e.g. algorithms)¹⁹, competed in the start-up Battlefield of the New York Conference TechCrunch Disrupt, and received the Yahoo! Rookie Award in 2010²⁰.

According to the Art Market Report (2017, p. 132), in 2016, it hosted 4,000 galleries, 600 museums and institutions, 60 international art fairs, and selected auctions. These innovative cybermediaries expand their businesses across various customers and price segments, engaging in the transactions of both primary and secondary market inventories, thus offering a broad range of collecting, buying, and selling opportunities, which are inclusive of visual arts, antiques, and other valuable collectible items. Furthermore, it has become evident that cybermediaries have apparently learned from the mistakes of the pioneers. At this background, Ngai and Wat (2002) asserted that a problem faced by online initiatives in the past was not only people, but also businesses were in its very early development stage back in the 1990s. Another reason for many companies failed initially in adapting well to the new online environment is because many firms had unrealistic business models (Thornton and Marche, 2003) or inadequate business skills and commercial acumen in order to attain their business visions, as well as strategies to generate a reliable income stream (Razi et al., 2004).

Accordingly, at the dawn of EC, many companies within the digital environment merely transferred their traditional marketing materials to the digital realm with poor e-marketing strategies, when these firms should have adapted their ideas based on the dynamics of this new medium

¹⁹ For an overview see The Art Market report 2017 p. 140 -141

²⁰ Notably, Artsy received USD 7,5 million before launching their website in 2011 including investors, such as the art dealer Larry Gagosian (owner of chains of galleries and the Gagosian Gallery), Alexandrovna Zhukova (art collector and founder of the Garage Museum of Contemporary Art and Garage Magazine), Eric Schmidt (Google-Chairman Eric Schmidt) and Peter Thiel (co-founder of PayPal). By now and according to the Wallstreet Jomal, the online business received about USD 50 Million (<https://www.wsj.com/articles/artsy-draws-50-million-in-funding-1500377400>).

(Strangelove, 1995). Thus, and perhaps one of the most valuable lessons for cybermediaries to learn was that implementation of a viable online business is more than just transferring both the offline idea and the offline customer to the virtual realm. Accordingly, instead of transforming the existing offline art collectors into online buyers and potentially unsuccessfully compete with the dominant position of established brick-and-mortar art businesses, most cybermediaries have focused on creating and targeting their own audience, for example, by attracting an entirely new global sociodemographic profile among first-time art buyers (Polleit-Riechert, 2010, p. 134; Trant and Bearman, 2011).

According to the Hiscox Online Art Trade Report (2017), “the lower price segment of the fine art market functions as an incubator for a new breed of collectors. This segment of the market has many new and younger collectors, where 92% of them (defined as those collecting for less than three years) said that the average price of fine art is less than \$5,000, while 71% would only buy art online for less than \$1,000” (p. 9). However, according to Horowitz (2012), these online players have not tapped into the upper price segments of the market. Looking at the figures of “The Art Market 2017”, a survey of 50 companies in the online sector revealed that 24% of their transactions were at prices below \$1,000 and 75% were for less than \$50,000. Based on the same report, the largest single segment referred to sales between \$5,000 and \$50,000. These figures are in line with the amount previously cited in the Hiscox’s report, which indicates that online art sales were indeed dominated by objects in the lower price that ranged below \$5,000 in 2016.

Cybermediaries add value by simplifying information search, by providing value-added services (e.g. assisting art buyers in locating items in online auctions), by offering various artworks that can be evaluated against others, and by simplifying the process of art purchasing to be more transparent. Many of these companies are increasingly approving their potential in discarding geographical constraints by simultaneously bringing in not only more, but also new kinds of participants, hence making information on pricing and provenance no longer associated with social

exclusion introduced by the brick-and-mortar art world. With such improvements, patterns of art collection have shifted from a market dominated by only the professional high-end collectors, as described by Plattner (1998) as “museum-quality art” from exclusive galleries or auction houses to simple art lovers who incorporate art (often of questionable cultural relevance) purchased from the online market into their daily lives.

This technological revolution, which is experienced through the development of the Internet, has “caused a shift in the art market from an object-based and supply-side oriented market to consumer-driven market” (Ahora and Vermeulen, 2013, p. 9). In fact, it is the Internet's inherently anti-hierarchical, non-censored, and technologically equalizing architecture that have empowered consumers in the digital era (see Kucuk and Krishnamurthy, 2007; Kucuk, 2008a; 2008b). In precise, the Internet has increased the purchasing power among consumers by decreasing information asymmetries; encouraging market transparency; allowing customers to join their forces; as well as by simultaneously enabling them to exercise more pressure on products and prices (Rezabakhsh et al., 2006). As such, markets are re-discovering new, exercisable, and active consumer power in this new age, mainly because the concept of consumer power highlights the essence of Internet trading (Kucuk, 2012). Similarly, the cultural industry is experiencing a shift due to borderless communicate and active consumers with purchase power (Marty, 2007; Hausmann, 2009).

Power, as a concept, has been directly associated to both equality and inequality, mainly because power itself can generate or rectify inequality between parties (Foucault, 1983). In theory, Kucuk (2009b) suggested that consumer empowerment as the result of digital revolution, which possesses the potential to create market equalization. Similarly, an early and widespread notion among art market observers was that the art market's historical structural problem of power inequality can be solved via market penetration into the Internet (Neuendorf, 2002). Thus, a popular idea among

economists posited greater transparency and efficiency in digital markets (Jiang and Balasubramanian, 2014).

Frey and Eichenberger (1995), for example, claimed that it is impossible to test the efficiency of art market due to constriction in data, while a perfect market describes a strong market structure, which may unlikely exist in most real-world markets. However, despite of the fact that great strides have been made to access previously opaque information about past prices of artwork at auction (Pardo-Guerra, 2011), for instance, empowering art buyers, there has been very little indication to propose market equalization has indeed taken hold, and that the market is still considered as inefficient at all levels (Coslor, 2016). The Deloitte and Art Tactic Report (2016, p. 118), for example, has admitted that ‘lack of transparency’ remains a major obstacle in integrating art-based derivative products into the financial wealth management market (Ivanova, 2016). The Hiscox Online Art Trade Report (2017) further indicated that “the art market is still notoriously opaque when it comes to revealing prices.”

According to Reibstein (2002), consumers must be in a position to access and more importantly, utilize all relevant information concerning a particular purchase decision, if perfect markets are to evolve. As art information is becoming available at the touch of a button, there is a consensus among scholars that the move to the online realm has improved the transparency of the secretive art market (Arora and Vermeyley, 2013; Polleit-Riechert, 2010, p. 267). Nevertheless, early predictors of market efficiency failed to weigh in that for certain experiential products, consumption benefits were more accurately predicted from information searchable within traditional stores, when compared to surrogate information derived from EC (Jiang and Balasubramanian, 2014).

The Hiscox Online Art Trade Report (2017) acknowledged that a brick-and-mortar player, ‘Heritage Auctions’ alone generated close to \$350 million in online sales, an impressive number, and if both Sotheby and Christie’s are added to this, the amount exceeds \$720 million (19% of total online

art sales). This suggests that the future of the online art market is one dictated by the existing traditional players, and not the new online-only player (p.13).

Moreover, earlier predictions assumed that the Internet would make art markets perfectly competitive in terms of price alone. However, these art markets, similar to those of other markets, have “imperfect competition” with heterogeneous products due to product differentiation and competition on many things, apart from price alone. As such, Coslor (2016) voiced a note of caution arguing that price is only one factor in the complex art valuation process, as additional expertise is needed to interpret and to integrate the varying information. Consequently, the costs have not been offset by the leveling effect of EC and the Internet, as well as the law of one price, which would indicate a perfectly integrated market and where identical works of art (or close substitutes) are uniformly priced worldwide, which does not apply (Ashenfelter and Graddy, 2003; Isard, 1977, both cited from Arora and Vermeylen, 2013). Thus, it is imminent to look at the increased efficiency of the online art space as an expansion of a particular art market segment (low-mid end) for comparable art works. Consequently, possibly one of the most visible manifestations of the digital revolution is the segmentation of the art market (Arora and Vermeylen, 2012).

4.5.3 Reintermediation

Ho et al., (2007) stated that in many industries, EC has flourished in the business cycle, where the conventional brick-and-mortar businesses have undergone transition, thus leading to dotcom or click-only companies. Similarly, and in addition to debating the extent to which the point of purchase has shifted from physical to online space, scholars have looked into the ways and the possibility for the existing high street to react to the new digital hurdles.

Based on the previously cited Global Art Gallery Report (2016) by Resch, galleries are weak revenue producers. The report added that 55% of all galleries generated revenues of less than 200,000

USD a year, and only 16% exceeded the million-dollar mark. Of all these art galleries, 30% ran at a loss, while only 18% make a profit margin of 20% (Global Art Gallery Report, 2016).

Meanwhile, the study undertaken by McKinsey and Company (2014) found that “an additional 40% of luxury purchases were somewhat influenced by digital experience, for example, via online research of an item that is subsequently bought offline or social-media “buzz”, thus leading to in-store purchase”. Retrieved May 6, 2015, from <https://www.mckinsey.com/industries/retail/our-insights/luxury-shopping-in-the-digital-age>. Besides, according to Polleit-Riechert (2010), since information on art can be disseminated in seconds within the digital environment, the brick-and-mortar businesses are offered with new opportunities to exhibit their objects, not only locally, but also globally, with the potential to significantly increase the amount of customers. Moreover, Gupta and Aggarwal (2012) claimed that the essence of IT revolution has been considered the opportunity to build better relationships with customers.

Therefore, according to The Art Market 2017, in the dealer sector in 2016, the engagement in online sales was considerably hesitant with only 8% of dealers’ total sales, although 5% of these sales were made via websites and 3% from outsourcing towards cybermediaries. However, and according to the same report, although the participation in art EC is rather timid, online sales have become an important method in reaching new buyers, with 56% of the internet sales made to new clients who had never stepped into a gallery. The Hiscox Online Art Trade Report (2017) indicated that “in 2013, 15% of galleries surveyed said they would generate online sales by partnering with an existing art e-commerce platform, while in 2017, already 49% of galleries that sold art online claimed to do so via third-party online platforms” (p. 2).

However, while many other industries have progressed in utilizing electronic distribution strategies to augment their physical infrastructure and to sustain their competitive advantage (Gunasekaran et al., 2008), the art market is lagging far behind in making EC an integral part of the

business strategy and the existing ecosystems have barely changed during the last decades (Hausmann, 2010; Robertson, 2008). Besides, Velthuis (2012) observed that while the Internet has undoubtedly enhanced the further globalization and commercialization of the art market in general, the time-old practices of the industry forces have yet to be profoundly challenged, and the methods to conduct businesses on behalf of the commercial galleries have almost remained identical to those implemented in the twentieth century. The Art Market Report 2017 (2017) further added that “although the market has undoubtedly become more global in the last two decades in terms of both demand and supply, sales and values in the market have regionalized, and the distribution of these economic benefits has, therefore, been relatively concentrated, with key art market hubs still accounting for the majority of sales” (p. 275).

In addition, Velthuis (2012) asserted that the market still operates through a relatively small number of well-known brick-and-mortar businesses (such as Gagosian, Pace, David Zwirner or Hauser and Wirth gallery) that represent a limited number of artists on a more or less permanent basis, which promote and place the work. While a variety of new online auction houses are entering the arena, the most prominent ones, the dominant duopoly of the art auction market: Sotheby's and Christie's, have been undisputed “for decades if not centuries” (Velthuis, 2012). Earlier predictions concerning reintermediation seemed, thus, to materialize. According to Kohle (2014, p. 442), the cultural institutions, regardless of their link to non-profit public or commercial sector, are still characterized by high level of exclusivity, with barriers that still appear as reasonably high.

Meanwhile, in an exploratory study on strategies to build sustainable success in art galleries, Smith et al., (2005/2006 p. 38) confirmed that “art galleries are relatively unconcerned about key economic and technological pressures that could affect many businesses.” The authors claimed that this is because art is still a very personal product that requires highly personal client/customer relationships and the high prices force buyers to see the work in person to experience the visual

granularity and clarity of the object, before making purchase decisions (Smith et al., 2005/2006). With that, galleries may be counting on consumers to seek visual confirmation of artwork first-hand, even if full information and price are available online (Smith et al., 2005/2006). According to the Hiscox Online Art Trade Report (2017), limited physical inspection has remained a key challenge for hesitant art buyers. As a result, art galleries do not perceive that new technological and market pressures accompanying the Internet may have much impact upon the success of their firms (Smith et al., 2005/2006). In fact, the recent failure experienced by the high-profile online auction house, Auctionata (announced in January 2017), has raised questions pertaining to the ability of new online players to grow rapidly and become profitable in the increasingly congested marketplace.

Notably, despite of the explosion of cybermediaries in this sector, and based on the previously cited “The Global Art Gallery Report (2016)”, art galleries do not see online ventures as a serious threat to their businesses and rank online ventures only number 5 (after other galleries, dealers, artists, and auction houses). The report also pointed out that most online platforms have a partnership with galleries to display a selection of the gallery’s portfolio on commission basis, and are therefore, seen as partners. Meanwhile, other online platforms that disregard art galleries as intermediary between an artist and a buyer usually serve separate and often lower-end clients, but never seen as contenders among the clients.

Other than that, Chu and Smithson (2007) asserted that particularly for traditional firms, whose nature is far more social than technical, implanting EC is a significant challenge. Hausmann (2012) stated that an efficient online communication typically reaches its limitation in the overall lack of time and personnel resources within the art sector. Looking at the numbers presented by The Global Art Gallery Report (2016), galleries generally run on an insufficient labor force, and when they do employ, they favor part-time workers. According to the same report, only 25% employed four staff members.

However, in an exclusive market, where it was “all about building close and personal client/customer relationships” (Smith et al., 2005/2006 p. 38), there is a consensus in the extant literature that the core economic processes of the art market, are comparable to those in markets for any luxury or collectible items (e.g. Savage, 1969; Rheims, 1980, as cited in Plattner, 1998). Thus, the overall reluctance to engage in the radically different EC environment is probably somehow similar to what has been observed in the luxury fashion sector, where research has shown a particular resistance even among the most established brands to sell online (Seringhaus, 2005; Kapferer and Bastien, 2009).

In a study pertaining to Internet communication for luxury brands, Geerts and Veg-Sala (2011) asserted that one reason to explain the reluctance on the part of the established players in the luxury industry could be that due to the intermediary positioning that derives from informal exchange of information and a spirit of community, as well as the internet communication that is closer to mass communication than to selective one, which seems incompatible with the luxury world. While the Internet has often been associated with ubiquity (Laudon and Traver, 2012) and as clearly the most central mass medium of the present time (Chan and Fang, 2007, p. 244), this argument applies to the traditional art market. According to Arora and Vermeyleen (2012), for centuries, the art sector has positioned itself far from the masses. As indicated earlier, art galleries have been known for their selective and strategic placement of art works far off the larger public (in private or public collections) by simultaneously restricting access in the hope of pushing the value of artwork to its maximum height.

In addition, there may be a belief that selling art via Internet medium is more suitable for the mass market and may bring down both the art and its value. Once the gallery makes a strategic decision to sell art online with a web-based EC strategy, this may harbor the scare that the reputation of the gallery might be stigmatized and influenced negatively. Such perceived risk of image control can lead to a prestige loss associated with mass media communication, which was observed in the luxury sector (de Chernatony, 2001).

Moreover, the Internet has improved price comparison possibilities exponentially in the art market (Kohle, 2014). Online sales foster transparency as it forces the participants, particularly those engaging in EC, to reveal price information online. Consequently, by participating in online sales, galleries may face another risk, which is loss of control over their privacy, including losing control over their sales. This is one reason why disclosing too much information online is a concern among the established traditional market players, including among many artists (Horowitz, 2012). Revealing price information online might make private negotiations increasingly difficult by simultaneously calling the authority of the gallery on price setting into question.

In a market where operation analysis is absent, but instead, adopts a contemporary art's ethico-cultural imperative as the mechanism to protect the field against economic rationalization by the non-art world actors (see Helmore, 2014), the value of exceptionality is recuperated so as to maintain a protected market via lack of transparency for price-setting and transaction (Ivanova, 2016).

4.5.4. Outlook

Although the fate of art EC is a speculative issue, by looking at the recent developments, it has been expected that art EC will continue to grow in the following years, since it may likely reach a higher level of acceptance among art buyers. With the growing confidence among consumers in spending money online, the market value may likely increase, moving to a higher price segment. However, given that on average, art industry shift in the art market tends to be rather slow, the changes in the old economy landscape and the establishment of valuable sources in the digital realm will likely occur less dramatically than in many other cultural sectors (e.g. film, music).

While the amount of content, participation, and information on the Internet will undoubtedly continue to grow in this sector, so will the need for trusted sources. Thus, disintermediation may never take place. Instead, it is likely that the online art space will rather expand its network of mutual relations and provide enough space for both existing brick-and-mortar businesses, online entrants, artists, and

cybermediaries; all providing the art buyer audience of tomorrow the benefits from the mixed channels. In addition, given the consumers' desire to use the Internet as a flexible instrument to research for products and locate stores, the multi-channel format emerges as the preferred design (Hahn and Kim, 2009). With that, the future western art markets may be characterized through increment in segmentation and differentiation of market channels, thus representing a continuum of amalgamation along the conventional channels, as well as dis-, re-, and cybermediation.

Having said that, the brick-and-mortar galleries cannot expect to survive by doing business as usual, and it is inevitable that online competition may eliminate companies that fail to add value beyond simple matching services. In figuring out how to retain the aspect of loyalty among buyers across distribution channels and to improve their business performances, several questions may have to be addressed concerning the diversification of their income streams. These issues include the ongoing evaluation of their core value proposition, the improvement of buyers' in-gallery experience, as well as embracing the new electronic environment, maintaining their exclusive reputation in an increasingly democratic online space, and exploiting technology-driven opportunities to better understand and connect more often with new art buyers and collectors.

At this background, participation in online sales will not likely be the answer to all problems. However, stigmatizing the opportunities provided by the Internet solely as a distribution channel for the mainstream art buyers would also be too simplistic and misleading. Each brick-and-mortar gallery will be challenged to find their very own online strategies, depending on the trading segment and the consumer focus, given that for some consumer segments, art EC is more meaningful than for others. On top of that, given the fact that consumers take a lot of information online, scholars agree (see Levary and Mathieu, 2000; Otto and Chung, 2000; Tse, 2007) that retailers can bring new value to their customers by providing information and services online to complement those offered in the physical space. Nonetheless, similar to the luxury sector, some scholars recommend avoiding EC in promoting

their brands (see Seringhaus, 2005; Kapferer and Bastien, 2009), while others only propose being especially cautious and accurate when integrating EC into business strategy (Okonkwo, 2005; 2010).

Moreover, the future art market might see some brick-and-mortar galleries devise strategic plans to feature art objects on the web and mobile sites of cybermediaries to broaden their sociodemographic customer base. Meanwhile, other high-class galleries may engage in the upper price segments of the market to create a touch of exclusivity and prestige that will further remain absent from any EC activity, but cultivate an exclusive image/brand solely through an electronic business (e-business) website. The challenge of the latter businesses is similar to those of the luxury sector, namely to appear accessible only to a few individuals, emphasizing the importance of the careful choice of communication tools that have to fit with such parameters (Geerts and Veg-Sala, 2011; Vigneron and Johnson, 2004). Thus, irrespective of the fact that an appealing Internet presence has become a mandatory standard (Pavlou and Fygenson, 2006), it is argued that the strategic re-intermediation within the digital environment, including the adaptation of business models to new technologies, and more importantly, the adequate positioning within the art economy of tomorrow, as well as the establishment of the legitimate mechanisms for value creation on the Internet, will likely remain a major challenge for the future art market.

4.6 Conclusion

The historical analysis has provided a broader and updated discussion of the implications that arrived with the advent of the Internet and ICT. Without rejecting the fact that the relationships between artists, gallerists, dealers, and collectors are in the midst of an era of flux, the art market, however, is more active than ever. The results of this study appear to contradict some earlier key propositions, showing the market has not been revolutionized from zero, particularly pertaining to initial predictions of disintermediation, cybermediation, and reintermediation.

Initially, the findings indicated that although the opportunities provided by the outgrowth of the internet and ICTs have enabled mainstream artists more than ever to interact with potential buyers in a direct manner, with the escalating opportunities for bypassing and arbitrage, no evidence was found in the extant literature to support the view that online art channels have been used to any great extent, and that art galleries have been pushed away to the extent that we will likely never see disintermediation. Thus, Internet distribution among artists has only marginally altered trading and business patterns between art buyers and producers, instead of becoming a high supplemental part of artists overall outreach and marketing efforts than a substitute for cooperation with galleries. While the Internet and ICT have set shifts of democratizing the low and middle sector price segments of the art market (by providing emerging artists the opportunity for participation), the Internet, as a source of artist recognition and legitimation, is still not the answer that attracts top-end buyers, but rather contributes to the fundamental segmentation of the market at large.

Second, although cybermediaries have not changed the rules of the old economy from zero, they have helped to organize the new digital content and increased efficiency among individual market segments, changing consumers' behavior, and empowering consumers, particularly those engaging in the lower- and middle-priced market. Thus, on a more fundamental level, the digitization of the art market is experiencing an impact on both the demand and valuation of artworks (Arora and Vermeylen, 2013).

Finally, although some galleries seem to go through digital shakeouts, the findings indicate that reintermediation seems not to be a strategic priority and has so far only marginally altered trading patterns. For significant and truly game-changing disruption to occur, the monopoly of brick-and-mortar art galleries must be willing to adopt EC to fully integrate transactions and move major parts of the offline art market into the cyberspace. However, as yet, online sales make up a small fraction of

the total art market. It remains to be seen if the ongoing developments in ICT will ever have the impact on these dominant and influential players, whereby some think it will and some so badly wish.

4.7 Limitations and Future Research

According to Patton (1990), “there is no perfect research design, as there are always trade-offs” (p. 162). Providing a review of the past and present is a highly ambitious undertaking, especially given the scarcity of available quantitative data and literature in this particular segment. Thus, it is very challenging to provide a critical update on the extent of which the Internet’s predicted extent concerning intermediation, cybermediation, and reintermediation to the established art markets, which have appeared exactly since data in the market is fragmented. Thus, the author admits to changes in the market, but is uncertain of their measurable impacts.

Moreover, the findings are primarily based on subjective interpretation of the literature and articles published in the field of MIS and Cultural Economic derived from existing secondary data sources, of which art market reports and surveys may not always reveal the actual scenario. In fact, art data that are mostly undertaken in the form of surveys are incoherent due to mixed methodological approaches, instead of concentrating on observations and trends. Hence, in the attempt to provide a comprehensive impression of the broad themes and most relevant statement to emerge from the historical analysis, it is inevitable that the author has either missed or underplayed necessary data or pieces of work. In addition, due to the qualitative interpretive paradigm, it had been difficult to generalize the findings, while the pursuit of objectivity of research results had been rather impossible given the subject the researcher had selected to report.

It becomes more pervasive that further research, both qualitative and quantitative, as well as more comprehensive data collection (e.g., surveys), is required to validate the findings and help understand the many dynamics caused by the technological changes in shaping the new art economy.

Furthermore, it is crucial to gain more understanding of its driving forces, challenges, and impacts on its road ahead. As such, future attempt should possibly extend the time period of publications, besides critically analyzing the findings in a progressive manner.

4.8 References Essay 3

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PART C

5.1 OVERALL CONCLUSION

Part C begins with a summary and a recapitulation on the objectives outlined for this dissertation, apart from highlighting the key results for the research questions, as initially introduced in part A. Next, and in addition to discussions of limitations in previous chapters, the limitations of this dissertation and an outlook for further research are discussed, which ends the dissertation discourse.

RQ 1: What factors predict the variation in art consumers' adoption of art EC communications and applications technologies?

For this study, answering RQ1 will help disentangle the complex perceptions underlying potential art buyers' adoption of art EC applications and foster acceptance of art EC systems within the commercial art market. The results retrieved not only help to develop better understanding of art EC theories for researchers, but they also offer valuable information for the businesses involved in this sector. Thus, this exploratory study looked into consumers' acceptance of relatively new ICT, such as art EC, from the standpoint of the established IDT (Rogers, 1995; 2003). In this sense, the study proved that IDT (Rogers, 1995; 2003) is indeed a useful model.

Three innovation attributes associated with art EC adoption, namely: 1) relative advantage, 2) complexity, and 3) compatibility, were extracted and presented from IDT for this study. Furthermore, to establish a research model suited for the context under study, the existing literature that incorporated numerous research publications pertinent to the adoption of ICT or the diffusion of innovations were critically reviewed. Accordingly, two additional factors, namely: 4) trust in electronic vendor (e-vendor), and 5) demographic factors, were embedded into the conceptual model.

Upon reviewing the literature and considering the empirical results of other studies on Internet technology-related IS, the presented framework uncovered a set of propositions that displayed the correlations between the intention to use art EC applications and these five factors. Accordingly, all the five constructs were projected to have direct effects upon consumers' art EC adoption. Art EC adoption, as perceived by consumers, was measured by using two constructs, which refer to the intent to transact and the actual transaction behavior (Pavlou, 2003). All the constructs were then operationalized so that they could be accurately measured by future studies. Overall, the study suggests an extended model of IDT for acceptance among consumers in the light of art EC.

Within the presented theoretical framework and based on the extant literature, it was hypothesized that the perceived relative advantage of art EC, the degree to which art EC is perceived as better than other innovations (e.g. MC) or current practices (e.g. in-gallery purchasing) (Rogers, 2003) by potential adopter, is positively related to the adoption of EC. In a similar vein, it was hypothesized the adoption of art EC was positively related to the perceived compatibility of art EC, which is the degree in which art EC is seen to be consistent with the adopters' existing lifestyle and experience, as well as catering to the needs of potential adopters (Rogers, 1995; 2003). Moreover, it is proposed that the adoption of art EC by individuals may be inversely related to the perceived complexity of using art EC.

In addition, Rogers (1995) asserted that art EC applications easy to understand and to use will be adopted more quickly by most members of a social system, in comparison to intricate applications, even if they could be of great benefit. Thus, following upon past studies concerning IT adoption, the construct of “perceived ease of use”, instead of ‘complexity’ was adopted. Furthermore, it was suggested that the adoption of art EC by potential art buyers might be positively associated to the perceived trust in e-vendors. Finally, in agreement with prior studies (albeit not in the art EC context),

the demographic factors, including gender, age, income, and education level, seemed to affect the adoption of art EC.

The study concluded the model is suitable to study consumers' art EC adoption, where IDT functions as an important pillar for the initial and fundamental understanding of the factorial drivers affecting both the behavior exerted and the decision-making process taken by potential consumers in the adoption process of art EC. Although further validation of the presented conceptual framework is needed to determine the exact impact of these factors, the theoretical model presented proved suitable to guide further research. Overall, the predictive power of this revised IDT seems rigorous.

RQ 2: Based on the revised DeLone and McLean's model (2003; 2004), what factors successfully influence the perceptions of consumers toward art EC applications?

Over the past years, firms operating in the online art market have expended a substantial amount of investments in an attempt to disrupt the art market. However, not all businesses have been successful, given that this young and nascent segment still has enormous growth potential and its capacity has yet to be efficiently exploited. In studies pertaining to IS, many research efforts have attempted to answer the questions as to what causes success. Customer satisfaction has always appeared to be a necessary condition for the success of businesses (Molla and Licker, 2001). With that, this study developed a research framework to explain the varied dimensions of the success of art EC applications in an effort to determine the benefits for perspective of users.

The answer to the question is expected to help develop appropriate ~~Electronic Commerce~~ EC strategies to harness the potential of this channel. Although the theoretical framework has yet to be validated, this study indicates that the theoretical base is adequate for analysis of the multidimensional perspective of EC success at the individual level.

As noted earlier, the analysis performed was based on the D and MM (2003; 2004). The validity of this framework has been proven after evaluating several successful EC applications and a web-based IS (e.g. e-government applications). The process model of DeLone and McLean (2003) is derived from a well-accepted and tested model of IS success (Molla and Licker, 2001; Seddon and Kiew, 1994), and found appropriate to the communications and commerce processes, which are rather common to EC applications. Following the call of DeLone and McLean (2004) to apply the existing measures to generate a cumulative tradition in a qualitative manner, this study presents a research model capturing the multidimensional and interdependent nature of art EC systems success. The study demonstrated that DeLone and McLean's (2003; 2004) six success measures of 1) information quality, 2) system quality, 3) service quality, 4) use, 5) user satisfaction, and 6) perceived net benefit were indeed applicable in the context of art EC systems. Following the principles highlighted by DeLone and McLean (1992) to ascertain content validity, numerous existing measures from prior studies were also applied. Each construct was operationalized so that it could reliably and accurately measure more aspects in further research. By considering the varied success dimensions listed in the proposed model and looking closely at their interrelationships, a better understanding of how to measure and to improve EC offerings could, thus, be obtained.

As enablers, all the three quality constructs were hypothesized to have direct effects upon art EC system use and user satisfaction. In addition, the model proposed that both use and user satisfaction constructs determine the benefits of art EC systems perceived by individuals.

In total, 10 propositions associated with success were formulated. Finally, a set of measurement variables were selected from the extant literature to gauge the model constructs. This investigation successfully expanded the capacity to generalize all constructs to the context of art EC. On top of the net benefits links to usage and user satisfaction constructs, the hypothesized propositions among the six success variables represent a springboard for future systematic research in the area of consumer art

EC. Furthermore, the analysis also yielded some insights and basic knowledge for business owners for high performing art EC applications.

RQ 3: How has the advent of the Internet and EC transformed the ecosystems of Western commercial art markets regarding intermediation, cybermediation, and reintermediation over the last two decades?

Over the past two decades, industry pundits and scholars have made assumptions about the transformative effects of Internet and ICT on established art markets. The advent of art EC has been hypothesized to usher in a new paradigm shift that is permanently reshaping the industry through the advanced use of IT by individuals. In fact, the impact on the evolution of electronic marketplaces has expected to materialize among three different scenarios: disintermediation, cybermediation, and reintermediation.

This qualitative study considered these highlighted issues by performing a historical analysis (Gottschalk, 1969) of the reappraisals of the initial literature concerning Management Information System (MIS) and Cultural Economics, and reviewing the early predictions published at the dawn of the digital era. By doing so, the study contributes to the lively debate of how and if the Western traditional art markets have responded to ongoing developments in ICT over the last two decades in terms of disintermediation, cybermediation, and reintermediation. The findings of the study demonstrated that after a disruptive start back in the 1990s, the Western art markets at present times are more lively and dynamic than ever. However, the results appear to contradict some propositions, as propounded by many optimists at the dawn of the digital era. The influence of ICT, hence, has been shown not to have been as dramatic as some of the pundits predicted.

Early studies suggested that as soon as artists displayed interest in engaging in direct online sales, the decreased transaction costs in electronic markets might lead to reduction, or even extinction, of the traditional brick-and-mortar art galleries. Disintermediation was accompanied with the idea that

the new opportunities provided by the Internet and ICT could ultimately change the historically controversial balance of power within the Western art markets towards strengthening the position of both the producer (artist) and the consumer. Nevertheless, the findings revealed a different picture all together.

From the historical analysis, it was observed that while certain types of intermediaries in specific markets did face difficulties for survival, by and large, the brick-and-mortar galleries weathered the digital storm, as initial predictions on the success of art EC have yet to be materialized. Thus, while the effect of disintermediation was rather limited, cybermediaries quickly capitalized on the business opportunities offered by the technological developments, eventually shifting the competitive landscape in particular market segments while simultaneously offering a whole new range of opportunities, as well as threats, for all stakeholders. Cybermediaries enabled the development from conventional brick-and-mortar intermediaries, as well as their high entry barriers and social filters, to an immediate market access that reaches a whole new art buyer audience. Nonetheless, this is only true for the lower- to mid-price ranges of the market, given that the majority of online businesses have not managed to justify transactions, particularly in the upper price segments. As such, changes within consumer groups are inevitable.

Finally, one area in which early commentators have been, by and large, proven right concerning the reluctance of many brick-and-mortar galleries to engage in new media, their competitive response, or so called reintermediation, has been rather slow. The study exhibited that online channels are not being used to any great extent by established brick-and-mortar players. Although disintermediation – in theory – has been considered a threat, in reality the traditional brick-and-mortar galleries have attained sustenance in their position as of to date. However, while not much had been observed concerning reintermediation as a response to ongoing changes in ICT, the study concludes that given

the early stage of the market, one might expect substantial room for further development in this area in future.

5.2 Limitations of the Research, Suggestions for Further Research, and Outlook

Drawing on multidisciplinary qualitative approach and a different body of work, the dissertation does leave ample space for further research: both conceptual and empirical. Based on the qualitative approach applied in this study on the various topics of art EC, as well as other researchers that employed the same method, there may be an intricate challenge concerning the trustworthiness of qualitative research findings (de Casterlé et al., 2012). The chosen qualitative approach also limits the possibility of generalizing the findings (Flick, 2009, p. 27), whereby this dissertation may not be applicable to other EC contexts, especially those with varied social, cultural, and economic contexts (e.g. Asian art market). However, for this dissertation, the qualitative research method was selected mainly to produce a holistic understanding of the rich, contextual, unstructured, and non-numeric data (Mason, 2002) with the attempt to present a detailed view of the various subjects in the given environment.

Given the rapid development of ICT, it is also challenging to keep abreast with the dynamics and transitions of the nascent online art sector, which is still technologically, economically, and socially under construction. Thus, a theoretically justified and qualitative dissertation, such as this, inevitably imposes limits not only to any attempt to develop pretentious general assumptions, but also to any definite statements. Besides, the dissertation represents only a limited snapshot, but does not represent the finite moments in time. Instead, the study needs to be seen in the ongoing development of the emerging art online sector.

The shortcomings of the overall methodology have led to several directions for complementary research and the need for follow-up studies, aiming to provide deeper and richer understanding of the different aspects of art EC. According to the ArtTactic/Hiscox Online Art Trade Report released in 2017, the online art space that functions as “a market yet to be awakened,” is yet to witness market saturation. Furthermore, to add to the explanatory richness and conceptual clarity of the frameworks presented here (see Part B, essays 1 and 2), it is recommended to conduct a more in-depth qualitative research, one which holds interviews with art buyers to gain detailed information about their art EC adoption and the related usage behaviors. In this context, it may be particularly valuable to conduct focus group interviews. Although the literature shows individual interviews tend to produce a larger number of responses, focus groups are less costly and more efficient to investigate complex topics, which may be overlooked by the subjects individually (Morgan, 1996), and, in turn, produce more in-depth information as a result of interactive discussions (Goldman, 1962).

Moreover, consumer acceptance of online purchasing may differ based on shopping variances (Zhou et al., 2004). Accordingly, art buyers may have different perceptions and decision-making processes when purchasing, e.g. original paintings, editions, photography or sculpture online. Further research could also focus on one single artistic genre, besides exploring whether and how product category influences both the adoption and the use of art EC channels, as well as how ICT has transformed the rules of the market within one single product category. Such research should help with further comprehension of how art EC applications can better aid customer needs and values within this market segment.

Another factor to explore is the recent mobile commerce technology-driven innovations and transformations that derive from e-commerce, (cf. Yadav et al., 2016; Ngai and Gunasekaran, 2007), and social commerce (cf. Wang and Zhang, 2012; Akman and Mishra, 2017). Thus, while the art market attempts to keep abreast with the continuously changing EC environment, the ongoing

convergence of innovations, such as art mobile-commerce (MC) and art Apps (WYDR or MAGNUS), are already hot on the heels of the industry. For instance, a well-known and well-established South African and Zurich based artist, Conor McCreedy, has posted his work entitled “Secret Angel” for 781.000 EUR on the WYDR application (Bialek, n.d.), demonstrating his hope for a change in the market, specifically in the premium-priced segment.

As smart phones grow in capability, availability, and popularity, the need to evaluate art MC is already evident (Chen, 2012). The Hiscox Online Art Trade Report (2017) displays a growing reliance on smartphones for accessing online art platforms. While 85% of the respondents accessed online sellers via desktops, 20% used mobiles. As each phase of the ongoing cycle of technology tends to contribute to a clearer segmentation of the art market, rather than to narrow the field of competitors significantly, art EC scholars are encouraged to further study and explore consumers’ choices, given that ITC and the Internet will remain a critical medium for the growth of art market in the future.

In addition, following Choudhury and Karahanna (2008, p. 180), instead of assuming individuals would select the same channel (electronic or traditional) for all phases of the purchase process, art EC scholars have been encouraged to gain more nuanced understanding of art buyers’ venue choices, including their attitudes and preferences. Accordingly, future art EC researchers and practitioners should seek to comprehend the significance of both online and offline channels, including their interdependency and performance leverage, given that this reality has already turned into a crucial issue among business strategists (Ritchie and Brindley, 2007; Wallace et al., 2004). Nevertheless, understanding the art buyers of tomorrow and meeting their needs are not as simple as they may sound. These new consumers are more demanding and difficult to influence, as these customers systematically develop varied shopping patterns, when compared to offline buyers (Brynjolfsson et al., 2011). As the convergence of consumer-centric technologies and applications is slowly eliminating boundaries between dot-com and brick-and-mortar companies, entrepreneurs who reckon the factors that influence

consumers' channel decision are in a better position to generate sales channels to meet art buyers' evolving needs and preferences. In fact, this enables art sellers to tailor customers' personalized experiences, which have been deemed integral in this particular commerce sector.

The online art market is still in its infancy phase and ICT will remain an attractive medium for the expansion of the market in future. While it is challenging to accurately predict the mechanisms of the art market, adaptations to global trends of the diffusion of technology innovations and other multiple forces will be, undoubtedly, inevitable for all art market participants in the future. However, while it is true that powerful forces are at work in the present art market, history shows that industry shifts have a tendency to unfold very slowly (Hausmann, 2010) and the art market structure is only gradually changing, so as to support an evolutionary view of EC (Adelaar, 2000).

As such, where hierarchy is the soul of the art market's structure and identity (Arora & Vermeulen, 2012), it is vital to justify the exceptional status of arts market as a system that demands opacity that serves as a protective measure against 'external' forces" (Malik, 2013). As a result, the full impact of the flourishing art EC segment upon the existing ecosystem and market regime of the art market may not be felt in years, or else decades, in the attempt to sustain the art market value of extraordinariness. One main reason for the art market industry's protective stance against the paradigm shifts of the evolving ICT developments and its fundamental impacts upon transparency and efficiency is because the art market has its own distinctive rules, identity, and exceptional status governed since yesteryears, which are not only highly appreciated by art purchasers, but sought as well.

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