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Modeling Users' Acceptance of Social Commerce

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ABSTRACT

Social commerce creates a range of tremendous opportunities and new revenue streams for businesses worldwide across all industry sectors. To keep up with this pace, companies increasingly want to understand the behavioral attitude of social networking site (SNS) users. This article examines SNS users' reaction towards different parameters that would influence their intention to purchase products and services through or via SNS. The extant literature focuses on understanding the factors that might affect consumers' behavioral intention to adopt social commerce. In this study, new theoretical constructs are combined with existing evidence in order to extend the technology acceptance model as it was initially established by Davis and later further enriched by other researchers. The proposed conceptual model includes behavioral intention, perceived ease of use, perceived usefulness, trust, enjoyment, closeness, familiarity and reward.

KEYWORDS

Closeness, Enjoyment, Familiarity, Reward, Social Commerce Acceptance, Social Shopping Intention, Trust

INTRODUCTION

Over the last years the Internet technology has considerably changed people's way of buying and selling products and services online. The advancements in Information and Communication Technologies (ICT) and the broad use of Web 2.0 technologies along with the popularity of social media and Social Networking Sites (SNS) have created a new dimension in online buying and selling procedures. Specifically, the wide acceptance of social media as an efficient tool for socialization and information sharing has given rise to a new stream and subset of e-commerce called social commerce (Liang et al., 2011). In a broad sense, social commerce involves the use of Internet-based media that allow people to participate in the marketing, comparing, sharing, curating, buying and selling of products and services in both online and offline marketplaces, and in communities as well (Zhou et al., 2013). Its early applications can be found in the late '90s when Amazon introduced the rating and review systems (Lu et al., 2016). Liang & Turban (2011) summarized its three major attributes: social technologies, community interactions and commercial activities. The dynamics of social commerce is beyond any doubt. According to Cheung & Thadani (2012), 91% of participants mentioned that they use online reviews, blogs and other forms of user generated content before buying a new good,

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product or service, and 46% of them said that these comments impact on their decision. Saprikis (2013b) stated that SNS friends' opinion can significantly influence their members buying behavior. Furthermore, Barclays (2012) indicated that by 2021 nearly half of the UK consumer population will be engaged in social commerce. Therefore, individuals can co-create value with the firm (Wang & Hajli, 2014). Overall, the aforementioned statistics do show such a promising present and future for social commerce. As a consequence, the indisputable bargaining power of consumers along with the popularity of social media have significantly altered how firms approach them, and it is believed that these are the main reasons why even more traditional e-commerce sites add social networking capabilities or utilize social media and the commercial features provided to promote and sell their goods and services.

Social commerce has quickly considered as the new area of survey for both researchers and practitioners, suggesting the potential impacts of social media and social networking technologies and services in shaping commercial channels on and off the Internet (Zhou et al., 2013). The purpose of this paper is to identify key influential factors that impact internet users on social commerce adoption. In spite of the rapid and wide growth of social media and related tools, comparatively a few studies have adapted the behavioral intention theories and examined internet users' attitudes and behaviors towards social commerce (Gatautis & Medziausiene, 2014; Taheri & Shourmasti, 2016). Thus, this paper aims to help online firms better understand their current and potential customers in order to improve consumers' shopping experience and formulate a target-oriented business strategy to increase their sales. Furthermore, it aims to find out users' reaction towards different parameters that would influence their intention to social commerce; focusing on Greek university students. More specifically, the study promotes an instrument in order to provide an explanation of the determinants of social commerce acceptance by extending the Technology Acceptance Model (TAM). The study suggests a conceptual model that shows how its different constructs influence users to adopt social commerce. As far as it is concerned, this is the first attempt to extend TAM with the concurrent investigation of new, as well as vital social-commerce related variables to it, such as closeness, reward and familiarity. The paper is expected to both contribute research and practice by providing enlightenment and thoughts for the academia and the industry.

The rest of the paper is organized as follows: In the next section, the literature review of social commerce is presented. This is followed by a presentation of the most popular and widely used behavioral intention theories. In Section 3 there is an explanation of the hypotheses formed based on literature review and the description of the constructs that are included in the proposed conceptual model. It is followed by Section 4, which describes the applied methodology, whereas in Section 5 the results of the empirical research are presented. The final Section concludes with a discussion commenting on the data gathered and recommends some ideas for future research directions.

LITERATURE REVIEW

This section presents the basics of social commerce and the most well-known and widely applied behavioral intention theories. In the first sub-section, social commerce characteristics are analyzed along with its definition. Moreover, the differences between social and e- commerce and the advantages of both consumers and sellers are investigated. In the second sub-section, the behavioral intention theories are presented and there is an explanation for the selection of the Technology Acceptance Model (TAM) for our research.

Social Commerce

Social commerce, according to Zhou et al. (2013), is a multidisciplinary topic that concerns business models and strategies, business practices, analytical techniques, social networking technologies, system designs, consumer and organization behavior, research methodologies, and retrospective and potential assessment of business value. What makes researchers and practitioners believe that social

commerce is the new evolution of e-commerce is its ability to overcome difficulties that take place in 'traditional' online shopping. According to Huang & Benyoucef (2014), the differences between e-commerce and social commerce can be highlighted in terms of business goals, customers' connection and system's interaction.

Social commerce provides considerable benefits to both firms and individuals. In specific, it enhances customers' participation and allows them to collect rich information observing the actions of other buyers or by interaction with online sellers, resulted in a more trustworthy and sociable transaction environment (Lu et al., 2016). Consumers can connect with, listen to, understand and engage others regarding their buying experience to make more informed and accurate decisions and improve their future shopping experience (Cecele, 2010; Dennison et al., 2009). At the same time, they can also share their own knowledge, information and experience about goods and services with the utilization of social tools. On the other side, sellers take advantage of the fact that consumers do not arrive at a website alone but bring their entire social networks with them (Marsden, 2010) as well as they used to share their shopping experiences and products' information (Taheri & Shourmasti, 2016). Thus, they can reach much more potential customers and analyze data provided to get closer to them and better understand them. It also allows firms to engage in timely and direct end-consumer contact at a relatively lower cost and higher level of efficiency (Pookulangara & Koesler, 2011) resulted in building stronger customer relationships, better product and service offerings, optimized e-commerce sales and revenue growth (Zhou et al., 2013). Therefore, it goes without saying that an understanding of customers' motivation to participate in social commerce can support firms boost their potential. Generally, in social commerce, the core aim of the firm is to convert customers into brand advocates, whereas the core aim of the customer is to make better informed buying decisions (Kaplan & Haenlein, 2010; Marsden, 2011). Both of them can be achieved provided that customers share their purchasing experiences and intentions (Ng, 2013).

So, how can we define social commerce? Up to now various researchers have tried to describe social commerce through different perspectives. For example, Marsden (2010) defined social commerce as a subset of e-commerce using social media to facilitate social interactions and the online shopping experience. Stephen & Toubia (2010) defined it as a form of Internet-based social media that allows people to engage actively in marketing and selling products and services in online market places and communities; and Liang & Turban (2011) mentioned that social commerce is the use of Web 2.0 applications to support interaction of people in an online context where the contribution of users can help in the acquisition of services and products. Based on the aforementioned explanations and following Ng's (2013) approach, we define social commerce as online marketing, buying and selling activities that take place directly via social media, which entail business transactions or when a SNS user is redirected to an e-commerce site to conduct a transaction.

Behavioral Intention Theoretical Background

A literature review on information systems and innovation technology provides various theories and conceptual models, which are commonly used or extended with other variables to investigate a number of contexts of the technology adoption by users, as well as consumers' reaction toward factors affecting their intention to utilize them. The most popular and widely used behavioral intention theories are as follows. The Diffusion of Innovations (DOI) investigates a variety of factors that are considered to be determinants for the actual adoption and usage of Information Systems (Rogers, 1995). The Theory of Reasoned Action (TRA) suggests that users' intention to adopt a technology is determined by two factors: personal in nature (attitude) and social influence (social or subjective norm) (Fishbein & Ajzen, 1975). Based on TRA, the Theory of Planned Behavior (TPB) emphasizes adopters' attitudes towards technology and their personal characteristics via perceived behavior control, and expressed social influence factors via the subjective regulated variables. Furthermore, the Technology Acceptance Model (TAM) indicates that perceived ease of use and perceived usefulness

are the two main beliefs that determine one's intention to use technology (Davis, 1989). Information Adoption Model (IAM) is proposed by integrating TAM with the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986; Petty et al. (1981) and posits that people can be affected by a message in two routes, which are central and peripheral (Shen et al., 2013; Sussman & Siegal, 2003). Finally, based on the above theories, the most recent Unified Theory of Acceptance and Use of Technology (UTAUT) combines eight models, plus a few of their extensions, in a unified technology acceptance concept (Venkatesh et al., 2003).

Comparing the aforementioned behavioral intention theories, TAM has been widely used and adapted, and is seen as the leading model in explaining and predicting systems' use. Turner et al. (2010) verified that in most of the cases TAM can adequately predict the adoption of a new technology. Up to now various studies in the broad e-commerce scientific field have utilized TAM. For example, Gefen et al (2003b) confirmed the impact of trust on online shopping, Qiu & Li (2008) approved the effect of trust, social presence and enjoyment in business-to-customer e-commerce, Chan et al. (2015) confirmed the impact of enjoyment and risk on m-commerce; and Zarmpou et al. (2012) proved the influence of trust, functionality, relationship drivers and innovativeness to users' acceptance of mobile services. However, despite the rapid and wide growth of social media and related tools, comparatively a few studies have adapted these theories and examined internet users' attitudes and behaviors towards social commerce with the TAM use (Gatautis & Medziausiene, 2014; Taheri & Shourmasti, 2016). For instance, Teh & Ahmed (2012) confirmed the impact of trust on social commerce adoption, Rashid et al. (2017) proved the effect of trust and risk on social commerce behavioral intention, Um (2018) verified the influence of enjoyment and risk on consumers' attitude toward social commerce sites; and Liebana-Cabanillas et al. (2014) confirmed the impact of subjective norms and risk on mobile social commerce intention.

Hence, in the current study, we use the TAM and extend it by adding newly examined variables. As far as it is concerned, TAM is considered the ideal behavioral intention theory for the purpose of this empirical study. Apart from its better fit to the scope of this investigation and the comparatively low adoption from previous researchers, the fact that no one has attempted to extend it by adding vital social-commerce related variables such as closeness, familiarity and reward to the original model, force us to select it for the study. In specific, we keep its basic variables -perceived ease of use, perceived usefulness and behavioral intention- and through literature research we contribute with new variables - familiarity, closeness, reward, trust and enjoyment - which are expected to have influence on the social commerce (behavioral) intention in order to provide a conceptual model.

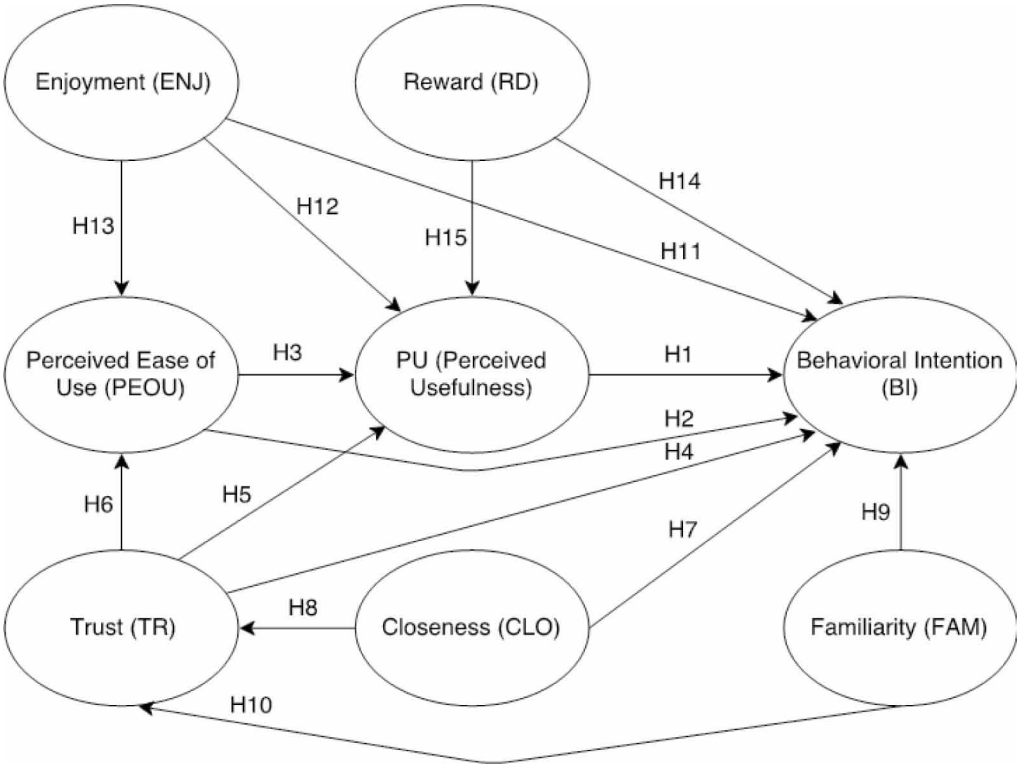
HYPOTHESES AND RESEARCH MODEL DEVELOPMENT

Based on the literature review, a conceptual model including the initial hypotheses is formulated (Figure 1). The model consists of the following variables: Behavioral Intention, Perceived Usefulness, Perceived Ease of Use, Trust, Closeness, Familiarity, Enjoyment and Reward. In this section, the variables are explained, and the related hypotheses are developed.

Behavioral Intention

In the aforementioned models of behavioral intention theories, there has been an attempt to examine the factors that affect the consumers' decision on using a technology studied (Wu & Wang, 2005). Fishbein & Ajzen (1975) first defined the term "Behavioral Intention" to depict "an individual's subjective probability that he or she will perform some behavior". Davis (1989), also, followed up with this idea to give shape to TAM, which finally concludes to the "Actual System Use". Based on these concepts, in the paper herein, there is a construct included in the proposed model entitled "Behavioral Intention" to describe "an individual's subjective probability that he/ she will buy online via a SNS".

Figure 1. Hypothesized conceptual model (Model 1)



Perceived Usefulness

Perceived usefulness is considered as a fundamental construct in the TAM and there is a plethora of studies which report that perceived usefulness has a positive effect on behavioral intention to use e-commerce (e.g., Jayasingh & Eze, 2015; Kalinic & Marinkovic, 2016; Moorty et al., 2014). With regard to social commerce, Teh & Ahmeb (2012) confirmed that perceived usefulness is positively related to social commerce behavioral intention. Similarly, Hajli (2013) proved that perceived usefulness positively affects social commerce adoption. According to Jiyoung (2009), the more consumers shop in SNS that they perceive to be useful, the more intention they have to buy in SNS. In this study, "perceived usefulness" refers to "the degree which an individual believes that purchasing via SNS would enhance his/ her job performance". Hence, the research postulates the following hypothesis:

H1: Perceived usefulness has a positive effect on social commerce behavioral intention.

Perceived Ease of Use

Similarly, to perceived usefulness, perceived ease of use has been a vital concept in numerous innovation technology studies where TAM was applied. It is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). Many researchers argued that perceived ease of use is not only considered as important factor for the adoption of a technology, but it also affects the long-term use of a technology (e.g., Guriting & Ndubis, 2006; Ignatius & Ramayah, 2005; Ramayah, 2006). Generally, in new technologies' investigation various studies provided the positive impact of perceived ease of use on behavioral intention (e.g., Polancic

et al., 2006; Wang et al., 2008). Furthermore, a number of studies have also confirmed that perceived ease of use can also impact indirectly behavioral intention through perceived usefulness. On these studies, researchers have proposed adoption intention models where perceived ease of use strongly impact on perceived usefulness. With regard to social commerce, Teh & Ahmeb (2012) confirmed that perceived ease of use impacts indirectly behavioral intention via perceived usefulness. Based on the theoretical foundation of TAM, it is alleged that the higher the ease to use a SNS, the more useful the SNS is considered to be (Teh & Ahmeb, 2012). In this study, "perceived ease of use" refers to "the degree which an individual believes that purchasing via SNS would be free of effort". Hence, the following hypotheses can be stated:

H2: Perceived ease of use has a positive effect on social commerce behavioral intention.
H3: Perceived ease of use has a positive effect on perceived usefulness.

Trust

Trust is often considered the foundation of e-commerce (Keen et al., 1999) and the most crucial factor for its success (Wang & Emurian, 2005). Therefore, it has been intensively investigated by various researchers to understand its impact on individual's intention to use online platforms for purchases (e.g., Gefen et al., 2003; Hoffman et al., 1999; Kim, 2012; McKnight & Chervany, 2001). Trust is a complex and multifaceted construct (Gefen et al., 2003), and up to now there have been several differences on its definition depending on the diverse dimensions involved. These suggestions in literature attributing it to meaning like privacy protection permitting a user to choose how his or her personal information is used (Bhattacherjee, 2002), or perceived credibility presenting that one partner believes that the other partner has the required expertise to perform a job effectively and reliably (Cho et al., 2007; Crabbe et al., 2009). Min et al. (2008) divided the entity of trust in two sub-entities; trust in technology and trust in service providers. Pavlou (2003) stated that "…trust in e-commerce is the belief that allows consumers to willingly become vulnerable to the online retailers after having considering the retailers' characteristics…" including goodwill trust (benevolence) and credibility (honesty, reliability, and integrity). Gefen & Straub (2003) mentioned the three-dimensional definition of trust namely integrity, ability and benevolence, and information systems research of trust identified four determinants of it namely security, situational normality, vendor familiarity and structural assurance (e.g., David, 2000; Gefen et al., 2003; Li et al., 2008; McKnight & Chervany, 2001).

With regard to social commerce, trust towards a community like SNS refers to individual's perceptions that the online community is a reliable and capable online platform to provide quality services for social interaction and commerce (Chen & Shen, 2015; Lu et al., 2010). The relationship between trust toward a community and customers' loyalty was well established in the literature (e.g., Salo & Karjaluoto, 2007; Shen, 2012). In order an individual to purchase products via SNS it is essential for the SNS to provide commonly accepted standards and a fair and definite regulatory framework against the possible opportunistic behaviors of e-vendors (Marsden, 2013), as well as to avoid deceptive advertising and/ or inappropriate use of personal information (Chen & Shen, 2015; Chen et al., 2009). Furthermore, SNS should ensure mutual and reciprocal benefits for the brand of the provider of the online social commerce platform and be able to meet user's expectations (Gefen et al., 2003a, b). Thus, if an individual has a positive perception towards social commerce community then he or she will be influenced to utilize social commerce (Lal, 2017). Based on the aforementioned literature review, in this study, the factor of "trust" refers to a) the security of the monetary transactions, b) the confidentiality of the personal data and c) the full compliance with the terms and conditions of each transaction. Chen & Shen (2015), Hajli (2015), Kim & Park (2013), Lal (2017), Lu et al. (2016) and Teh & Ahmeb (2012) proved the positive impact of trust to social commerce behavioral intention, whereas Hajli (2013) confirmed the impact of trust to perceived usefulness. Following

extended literature review Zarmpou (2012), we also assume that trust does have a positive impact on perceived ease of use as well. Hence, the research postulates the following hypotheses:

H4: Trust has a positive effect on social commerce behavioral intention.
H5: Trust has a positive effect on perceived usefulness.
H6: Trust has a positive effect on perceived ease of use.

Closeness

SNS are well-known for their numerous and continuous interactions between their members. These interactions are characterized by a sense of moral support and emotional bonding between SNS friends, and are expected to definitely build a feeling of closeness between users in the social network community. According to Ng (2013), a SNS user who has more social interactions with others in the social network community builds a stronger feeling of closeness with others. Ng (2013) used the term "closeness" to describe "the emotional bonding that involves intense liking and moral support from SNS friends, and the ability to tolerate SNS friends' mistakes". A number of studies proved the impact of closeness to users' behavioral intention. For example, Lee (2011) proved that closeness affects users' continuance intention to utilize web-based services. Shin et al. (2011) study in social promotion sites confirmed that there has been an increase in SNS users' buying intention for deals recommended by SNS friends. On the other hand, other studies have also confirmed that closeness can impact trust as well. Ng (2013) confirmed that closeness does impact positively on both trust and social commerce behavioral intention, Gefen (2000) proved an association between social interaction and trust, and Chen et al. (2009) revealed that social interactions in C2C environments increase the level of trust among its members. Hence, the following hypotheses can be stated:

H7: Closeness has a positive effect on social commerce behavioral intention.
H8: Closeness has a positive effect on trust.

Familiarity

Similarly to closeness, familiarity is considered as a key characteristic between SNS friends. The frequent and constant online interactions between SNS friends bring out close acquaintance with each other. According to Liu & Liu (2011), the greater the familiarity between the information sender and receiver implies greater intention to purchase a product or a service recommended by the information sender. Ng (2013) defined "familiarity" as "the feeling of understanding between SNS friends, often based on previous interactions, experiences, and learning of the what, who, whom, how, when, and why of what is happening". Lee (2011) confirmed that familiarity impacts on users' continuance intention to utilize web-based services. Conversely, other studies have also proved that familiarity influences trust as well. For example, Ng (2013) confirmed that familiarity does impact positively on both trust and social commerce behavioral intention. Hence, the more the social interactions a SNS user has in a social networking community the strongest the feeling of familiarity with others (Ng, 2013). Furthermore, the familiarity feeling brings out a sense of belonging and commitment, and it may help users to feel more secure in the SNS and as a consequence trust their connections. Thus, the following hypotheses can be stated:

H9: Familiarity has a positive effect on social commerce behavioral intention.
H10: Familiarity has a positive effect on trust.

Enjoyment

Shopping is traditionally considered as one of the fun and pleasure activities that leads to feelings of joy (Jin & Sternquist, 2014). The retail literature has also focused on the notion of excitement

(Wakefield & Baker, 1998). However, Hart et al. (2007) trying to define enjoyment claim that "excitement corresponds to an emotional state that elicits high levels of pleasure and arousal", whereas enjoyment refers to "a less emotional motivation correlated with consumers' logic, which lets them decide their likings while shopping". With regard to e-commerce, online stores can offer satisfaction to consumers who are internet literate and technology fans. Those types of customers can correlate the buying process with a shopping channel, which in turn it offers them pleasure (Saprikis et al., 2018). That is the reason why enjoyment has been found to be a factor with a positive impact on e-commerce intention (e.g., Ramayah & Ignatius, 2005; Teo & Lim, 1999). Furthermore, apart from the studies that verify the direct effect of enjoyment on the "intention to use" factor of the TAM model, there are researches that proved the correlation between enjoyment and perceived usefulness and perceived ease of use. Specifically, Teo & Noyes (2011) confirmed that perceived enjoyment is a significant predictor of perceived usefulness, perceived ease of use and intention to use technology. Saprikis et al. (2018) proved the positive impact of enjoyment to perceived usefulness, perceived ease of use and mobile shopping behavioral intention. Similarly, Davis et al. (1992) observed the positive interaction between enjoyment and perceived usefulness while studying the motivations to use computers in the workplaces. Based on the aforementioned literature review the following hypotheses can be stated:

H11: Enjoyment has a positive effect on social commerce behavioral intention.
H12: Enjoyment has a positive effect on perceived usefulness.
H13: Enjoyment has a positive effect on perceived ease.

Reward

Modern marketing points out that it is vital for a brand to engage with the customers in order to earn their loyalty and hence, increase the buying interest for its products and services. Moving towards this direction, one of the actions a firm should do to build successful relationships with its customers is to provide distinctive competencies (Morgan, 2000). According to Lacey (2007) preferential treatment has a direct positive effect on customer's commitment to a firm, which finally leads to increased purchase intentions. Up to now various studies revealed the importance of distinctive competencies in e-commerce via customized redeemable e-e-coupons, loyalty (frequent visitor) points and special discounts. For example, Kim & Kim (2004) pointed out that e-retailers of clothing products could gain a competitive advantage by providing promotional incentives, such as gifts with purchases, loyalty points, free trials, giveaways, and redeemable e-coupons. Similarly, Jang et al. (2013) confirmed that the e-coupon users' satisfaction has a positive effect on group-buy social commerce intention. Therefore, it is vital for firms to reward their customers with the aim to reinforce the relationship between each other, increase engage and improve social commerce experience. It is assumed that the more rewarded a consumer could be, the more motivated he or she would be to purchase via SNS. Based on the aforementioned literature review, we use the term "reward" to define "the provided discounts, loyalty points and e-coupons which firms' offer to the customers". Thus, we hypothesize that such rewards affect individuals' social commerce intention, as well as perceived usefulness:

H14: Reward has a positive effect on social commerce behavioral intention.
H15: Reward has a positive effect on perceived usefulness.

HYPOTHESES AND RESEARCH MODEL DEVELOPMENT

This section presents the methodological approach adopted in the current study. In specific, operational definitions of the study variables are provided and the study procedure (data collection and sample characteristics) is presented. The section concludes with a description of the structural equation modeling framework used for analyzing the data.

Operationalization of Variables

Operational definitions of the study variables are shown in Table 1. For each variable, a multiple-item scale was developed based on literature review; where each item was measured based on a 5-point Likert scale, ranging from 1- "Completely Disagree" to 5- "Completely Agree". Four items were used to measure behavioral intention, perceived usefulness and perceived ease of use, whereas three items were used to measure, trust, closeness, familiarity, enjoyment and reward.

Table 1. The operational definition of research variables

Research Variables	Operational Definition	Source
Behavioral Intention (BI)	BI1: I intend to buy via SNS in the near future	Adapted from Gefen et al. (2003b) and Zarmpou et al. (2012)
	BI2: I believe my interest towards social commerce will increase in the future	
	BI3: I intend to buy via SNS as much as possible	
	BI4: I recommend others to utilize social commerce	
Perceived Usefulness (PU)	PU1: I think you save time when you buy via SNS	Adapted from Saprikis et al. (2018)
	PU2: I think buying via SNS would increase my effectiveness	
	PU3: I think buying products and services via SNS is cheaper	
	PU4: I think buying via SNS would increase my usability	
Perceived Ease of Use (PEOU)	PEOU1: I think buying via SNS would be easy	Adapted from Zarmpou et al. (2012)
	PEOU2: I think learning to buy via SNS would be easy	
	PEOU3: I think finding what I want via social commerce would be easy	
	PEOU4: I think becoming skillful at using SNS to buy online.	
Trust (TR)	TR1: I feel monetary transactions in SNS is safe	Adapted from Zarmpou et al. (2012)
	TR2: I feel my personal data are in confidence in social commerce	
	TR3: I feel the terms and conditions of the transactions are strictly followed while buying via SNS	
Closeness (CLO)	CLO1: I feel a sense of closeness with my friends in SNS	Ng (2013)
	CLO2: I feel a sense of intimacy with my friends in SNS	
	CLO3: I feel my friend's recommendations about products and services promoted in SNS are very important of my consumption life	
Familiarity (FAM)	FAM1: I communicate very often with my friends in SNS through message exchanges	Adapted from Ng (2013)
	FAM2: I communicate very often with my friends in SNS through photo/video sharing	
	FAM3: In general, I use very often SNS to communicate with my friends	
Enjoyment (ENJOY)	ENJ1: I think buying via SNS is enjoyable	Adapted from Saprikis et al. (2018)
	ENJ2: I think buying via SNS is a pleasure process	
	ENJ3: I think buying via SNS is fun	
Reward (RD)	RD1: I think that special offers provided only to online purchases via SNS are important to me	Adapted from Saprikis et al. (2018)
	RD2: I think that the availability to e-coupons' redemption from shopping via SNS is important to me	
	RD3: I think that the loyalty points reward from shopping via SNS is important to me	

Data Collection and Sample Characteristics

Data were collected through a structured electronic questionnaire which was uploaded on a website for two months; from May to June 2017. All survey responses were collected using QuestionPro's online survey software (http://www.questionpro.com). Additionally, contacts from various university students' mailing lists were asked to fill in the questionnaire, as well as members of two popular social networks—Facebook and Twitter—were encouraged to participate in the survey. The questionnaire was based on prior surveys approved for their validity and reliability and was pretested before being widely distributed. A pilot study using a sample of twenty university students helped to identify possible problems in terms of clarity and accuracy. Thus, their comments and feedback improved the final presentation of the items. In the main study, twenty-eight participants gave incomplete answers and were dropped from the analysis. As a result, the final sample consisted of 433 respondents. Non-response bias was assessed by verifying that early and late respondents did not significantly differ in their demographic characteristics and responses on principal constructs (Armstrong & Overton, 1977). The groups did not significantly differ in terms of demographics or study constructs.

Among the respondents 54.3% were male and 45.7% female. The majority of the participants (79.2%) were between 18 and 24 years old, whereas only 9.2% were above the age of 34. In terms educational level, almost 80% attended an undergraduate program, whereas 20.8% attended a postgraduate program. With respect to their academic year of study, 22.4% were freshmen, 22.2% were sophomores, 18.9% juniors, 15.7% seniors, and 20.8% were postgraduate students. Table 2 summarizes the demographics of the respondents.

Data Analysis Plan

Structural equation modeling (SEM) using maximum likelihood estimation (MLE) was used to test the hypothesized model of Figure 1. SEM is appropriate to test hypothesized structural relations between multiple independent and dependent variables, through the use of estimated regression parameters (Kline, 2016). Although the use of SEM in cross-sectional designs cannot lead to establishing causal pathways, it is useful for testing the relative fit of a given causal model to an existing data set (Byrne, 2013). SEM is comprised of a measurement model and a structural model.

The measurement part of the model allows for the estimation of latent variables reflecting constructs of interest. The measurement model for all eight constructs was first assessed using

Table 2. Demographic characteristics of the study participants (*n* = 433)

Demographics		Frequency	Percent (%)
Gender	Male	235	54.3
	Female	198	45.7
Age	18-24	343	79.2
	25-34	50	11.6
	>34	40	9.2
Educational level	University/ Technical College	343	79.2
	Master/ PhD	90	20.8
Year of study	Freshmen	97	22.4
	Sophomores	96	22.2
	Juniors	82	18.9
	Seniors	68	15.7
	Postgraduate	90	20.8

Confirmatory Factor Analysis (CFA). CFA assumes each manifest variable to be a distinct indicator of an underlying latent construct, whereby different constructs are permitted to be inter-correlated. Further, reliability, convergent and discriminant validity of the constructs were evaluated. Convergent validity uses three recommended standards to assess the measuring model: (1) all indicator factor loading values should exceed 0.5 (Hair et al., 2014); (2) composite reliability (CR) should exceed 0.6 (Barozzi & Yi, 1988); and (3) the average variance extracted (AVE) of each construct should exceed 0.5 (Fornell & Larcker, 1981). Discriminant validity was also assessed examining whether inter-factor correlations are less than the square roots of AVE values (Fornell & Larcker, 1981). In order to detect common method bias, post hoc Harman's one factor analysis was conducted to check whether variance in the data can be largely attributed to a single factor (Podsakoff et al., 2003).

After the constructs have met the required measurement standards, the relationships between the constructs were estimated. This constitutes the structural model, which is tested to investigate the strength and direction of the relationships between the theoretical constructs. A model's overall goodness-of-fit can be assessed using a combination of measures. The basis for an adequately fitted model was a chi-square/df ratio less than five (Bentler, 1990), adjusted goodness-of-fit index (AGFI), comparative fit index (CFI), normed fit index (NFI), incremental fit index (IFI) and Tucker–Lewis index (TLI) values greater than 0.90 (Hu & Bentler, 1999), a root mean square error of approximation (RMSEA) less than 0.05 (Browne & Cudeck, 1993) and a standardized root-mean square residual (SRMR) less than 0.08 (Hu & Bentler, 1999). The stability of the model estimates was tested via a bootstrap resampling procedure (1,000 sub-samples). All SEM analyses were conducted in Mplus version 7.31 (Muthén & Muthén, 2015).

RESULTS

This section summarizes the results of the SEM framework used to empirically test the hypothesized relationships among the study variables. The measurement part of the model is first developed and tested, followed by the evaluation of the structural model.

Measurement Model

The measurement model (i.e. CFA model) included 27 items describing the eight latent constructs presented in Table 2. The model's overall goodness-of-fit was satisfactory (Table 3): chi square/df, SRMR, and RMSEA are less than the recommended values while GFI, AGFI, CFI, NFI, IFI and TLI are greater than the suggested threshold. The standardized indicator factor loadings for all

Table 3. Evaluation of model goodness-of-fit

Measures	Recommended Value	Measurement Model	Structural Model
χ^2/df	≤5.00a	2.23	2.35
CFI	≥0.90b	0.94	0.93
GFI	≥0.90b	0.92	0.91
AGFI	≥0.90b	0.91	0.90
NFI	≥0.90b	0.91	0.90
IFI	≥0.90b	0.94	0.93
TLI	≥0.90b	0.93	0.92
RMSEA [90%CI]	≤0.05c	0.053 [0.048-0.059]	0.056 [0.050-0.061]
SRMR	≤0.08b	0.050	0.071

a (Bentler, 1990), b (Hu & Bentler, 1999) and c (Browne & Cudeck, 1993)

observed indicators, shown in Table 4, were all statistically significant and exceeded 0.5. Skewness and kurtosis values for all items were less than three, which revealed no significant departures from the univariate normal distribution (see Table 4). Multivariate normality was indicated by Mardia's coefficient (3.629) being smaller than 5.00 (Byrne, 2013). Composite reliability (CR) of constructs ranged from 0.80 to 0.94, above the recommended threshold of 0.6. Internal consistency (Cronbach's alpha) was also high, ranging from 0.76 to 0.94. Average variance extracted (AVE) values were greater than the recommended 0.5 cut-off, ranging from 0.51 to 0.84. Therefore, all the conditions for convergent validity were met. Table 5 shows that the square roots of AVE were all greater than the inter-scale correlations (off-diagonal elements) in the corresponding rows and columns, and therefore, discriminant validity was supported. An un-rotated principal component factor analysis revealed eight factors with eigenvalues greater than 1, explaining 87% of the total variance. The first

Table 4. Standardized factor loadings, item skewness and kurtosis, composite reliability (CR), Cronbach's alpha and average variance extracted (AVE)

Construct	Item	Loading	Skewness	Kurtosis	CR	Cronbach's *a*	AVE
Perceived Ease of Use (PEOU)	1	0.760	-0.81	0.86	0.80	0.79	0.51
	2	0.751	-0.71	0.42			
	3	0.625	-0.78	0.04			
	4	0.705	-0.66	0.61			
Perceived Usefulness (PU)	1	0.651	-0.45	-0.13	0.81	0.80	0.51
	2	0.685	-0.73	-0.15			
	3	0.715	-0.12	0.02			
	4	0.805	-0.77	0.13			
Trust (TR)	1	0.779	-0.19	0.12	0.81	0.81	0.59
	2	0.822	-0.19	-0.18			
	3	0.707	-0.56	0.25			
Reward (RD)	1	0.635	-1.18	1.75	0.83	0.81	0.62
	2	0.915	-0.78	0.16			
	3	0.779	-0.41	-0.27			
Perceived Enjoyment (ENJ)	1	0.910	-0.13	0.09	0.94	0.94	0.84
	2	0.917	-0.16	-0.00			
	3	0.928	-0.10	-0.18			
Closeness (CLO)	1	0.782	-0.56	-0.15	0.77	0.76	0.54
	2	0.837	-0.04	-0.54			
	3	0.551	-0.10	-0.38			
Familiarity (FAM)	1	0.894	-1.19	0.96	0.87	0.86	0.70
	2	0.785	-0.67	-0.53			
	3	0.822	-1.01	0.21			
Behavioral Intention (BI)	1	0.737	-0.69	-0.14	0.87	0.86	0.62
	2	0.760	-0.37	-0.42			
	3	0.852	0.02	-0.31			
	4	0.797	-0.03	-0.55			

Table 5. Inter-factor correlations and square roots of average variance extracted (discriminant validity)

	1	2	3	4	5	6	7	8
PEOU (1)	0.71							
PU (2)	0.62	0.71						
TR (3)	0.60	0.53	0.77					
RD (4)	0.33	0.41	0.28	0.79				
ENJ (5)	0.40	0.54	0.38	0.45	0.92			
CLO (6)	0.30	0.37	0.36	0.28	0.30	0.73		
FAM (7)	0.31	0.25	0.20	0.26	0.17	0.49	0.84	
BI (8)	0.49	0.67	0.49	0.41	0.60	0.41	0.33	0.79

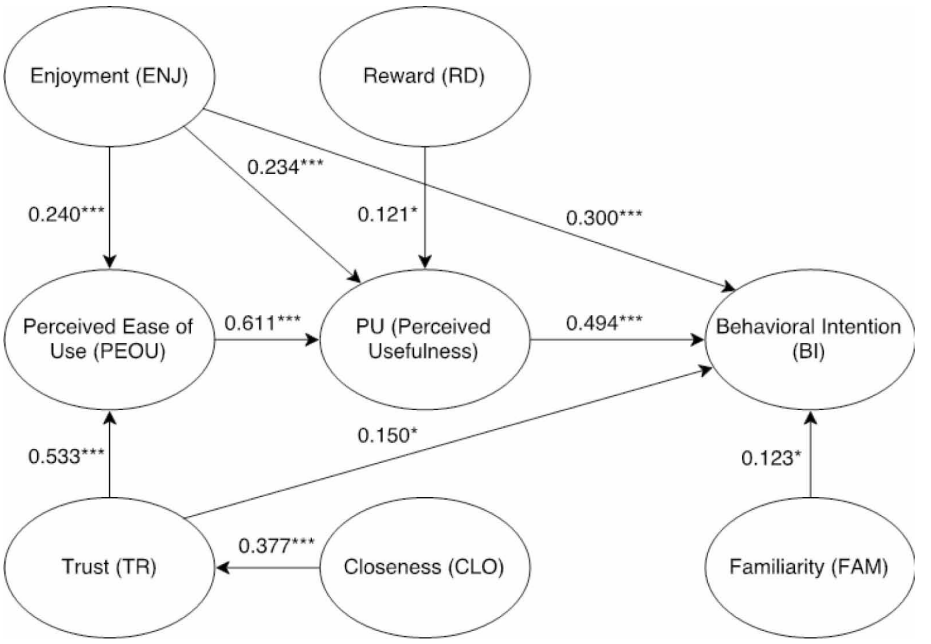
Note: The diagonal elements (in bold) show the square root of the average variance extracted. The off diagonal elements show the correlations between the constructs, all significant at 0.01 level.

factor accounted for 28.3% of covariance among the measures at maximum. Therefore, common method bias was not observed.

Structural Model

Since the measurement model was satisfactory, the structural model of Figure 1 was estimated to provide an empirical measure of the hypothesized relationships among the research variables. A comparison of all fit indices with their corresponding recommended values provided evidence of an acceptable model fit (see Table 3). Figure 2 illustrates the path diagram with the resulting standardized regression coefficients that were used to indicate the direction and magnitude of relationships among variables. The results for the structural model indicated that 10 out of 15

Figure 2. Results of structural model. Standardized parameters shown. Correlations between constructs are not shown for clarity. Solid lines represent significant pathways.



hypotheses were supported (Table 6). The exceptions were the direct effects of perceived ease of use, closeness and reward on behavioral intention (H2, H7 and H14), the effect of trust on perceived usefulness (H5), as well as the effect of familiarity on trust (H10). On the contrary, as expected, perceived usefulness exerted a strong positive effect on behavioral intention (H1; $\beta = 0.494$, $z = 3.679$, $p < 0.001$) and perceived ease of use had a strong effect on perceived usefulness (H3; $\beta = 0.611$, $z = 5.100$, $p < 0.001$). Trust was found to have significant positive effects on behavioral intention (H4; $\beta = 0.150$, $z = 2.332$, $p = 0.020$) and perceived ease of use (H6; $\beta = 0.533$, $z = 6.409$, $p < 0.001$), thereby supporting the corresponding hypotheses. As anticipated, closeness showed a positive effect on trust (H8; $\beta = 0.377$, $z = 3.583$, $p < 0.001$) and familiarity had a marginally positive effect on behavioral intention (H8; $\beta = 0.123$, $z = 2.392$, $p = 0.017$). Moreover, enjoyment had positive and strong effects on behavioral intention (H11; $\beta = 0.300$, $z = 4.746$, $p < 0.001$), perceived usefulness (H12; $\beta = 0.234$, $z = 3.412$, $p < 0.001$) and perceived ease of use (H13; $\beta = 0.240$, $z = 3.402$, $p < 0.001$). Finally, reward was found to have a marginally significant positive effect on perceived usefulness (H15; $\beta = 0.121$, $z = 2.195$, $p = 0.028$). All in all, the model accounted for more than 80% of the variance in behavioral intention.

The R-squared values of endogenous latent variables can be found in Table 6. From the Table, it can be observed that approximately 63% of the variance in perceived usefulness can be explained by perceived ease of use, enjoyment and reward. This suggests that perceived usefulness is strongly influenced by the three exogenous constructs. Similarly, behavioral intention had an R-squared value of 0.53, which indicates that it is strongly influenced by perceived usefulness, enjoyment, trust and familiarity. In addition, perceived ease of use is moderately influenced by trust and enjoyment (38% of variance explained). Last, trust is weakly influenced by closeness, with a R-squared value of 0.14.

Table 6. Path coefficients (standardized regression coefficients)

Hypothesis	Path	Coefficient	*z*-Value	Significance
H1	PU → BI	0.494	3.679	<0.001
H2	PEOU → BI	-0.168	-1.226	0.220
H3	PEOU → PU	0.611	5.100	<0.001
H4	TR → BI	0.150	2.332	0.020
H5	TR → PU	0.062	0.781	0.435
H6	TR → PEOU	0.533	6.409	<0.001
H7	CLO → BI	0.086	1.280	0.201
H8	CLO → TR	0.377	3.583	<0.001
H9	FAM → BI	0.123	2.392	0.017
H10	FAM → TR	0.039	0.440	0.660
H11	ENJ → BI	0.300	4.746	<0.001
H12	ENJ → PU	0.234	3.412	<0.001
H13	ENJ → PEOU	0.240	3.402	<0.001
H14	RD → BI	0.025	0.428	0.669
H15	RD → PU	0.121	2.195	0.028
R^2(PU) = 0.63, R^2(BI) = 0.53, R^2(PEOU) = 0.38, R^2(TR) = 0.14				

DISCUSSION AND IMPLICATIONS

The present study investigates how behavioral intention, perceived usefulness of social commerce, perceived ease of its use, enjoyment, trust, reward, closeness and familiarity co-exist in the same model predicting consumer behavioral intention to purchase from or via SNS. The findings of the study offer strong evidence in support of the proposed research model. The results have important implications for both practitioners and researchers by providing enlightenment and thoughts for the industry and the academia; especially those who are keen on studying technology acceptance models and social commerce. The theoretical and managerial implications are firstly described followed by research's limitations and future intentions.

Theoretical and Managerial Implications

This study, based on extended literature review, examines potential influences of the aforementioned constructs on behavioral intention, as well as possible influential relationships between them. The results suggest an enriched Technology Acceptance Model of social commerce. Despite the fact that not all the initial hypotheses are verified, however, all examined variables are recognized as essential factors in the decision to adopt social commerce because they affect directly or indirectly behavioral intention.

In specific, as expected, perceived usefulness has a strong direct effect on behavioral intention and perceived ease of use has also a strong direct effect on perceived usefulness. Both variables along with behavioral intention constitute the original TAM suggested by Davis (1989). Davis divided his original proposal of the TAM in two versions based on users' experience. Particularly, he proposed the pre-implementation and the post-implementation TAM models; that are behavioral intention's examination before or after the users' try the technology respectively. According to the former, the model predicts technology acceptance based on the perception of usefulness and ease of use, whereas in the latter, perceived usefulness affects behavioral intention unlikely to the perceived ease of use. On the other hand, perceived ease of use has an indirect effect on behavioral intention through perceived usefulness.

The role of enjoyment is noteworthy to be mentioned. All its three hypotheses were confirmed. Therefore, enjoyment does impact behavioral intention directly; and indirectly through perceived ease of use and perceived usefulness. The results reveal that the high levels of pleasure and arousal that are provided via SNS to their users can significantly impact them to purchase through them as well. The results confirm previous studies where Saprikis et al. (2018) and Teo & Noyes (2011) suggested the impact of enjoyment to the three aforementioned variables in m-commerce and technology respectively. Thus, SNS community should take into great consideration the role of enjoyment in purchasing procedures and try to promote products and services in a way as enjoyable as possible.

Trust has vital role in the proposed model as well. It goes without saying that the more reliable and capable to provide quality services for social interaction and commerce a SNS is, the more trustful is considered to be (Chen & Shen, 2015; Lu et al., 2010). The results reveal trust's indirect impact through perceived ease of use and its direct impact on behavioral intention. Specifically, the relationship between trust and perceived ease of use is the second strongest in the model. This theoretical conclusion indicates that social commerce is perceived as ease as long as it is trustworthy. Moreover, the results emphasize the need for greater control of any form of commerce activity offered through SNS to get rid of deceitful practices via advertisements provided. There are companies that take advantage of SNS enormous flow of information and offer deceitful ads to redirect users to their websites. These practices do harm not only users, but social commerce in general as well. Add to these, the relationship between closeness and trust also reveals the importance of trust in social commerce. The numerous and continuous interactions between SNS members that are characterized by a sense of moral support and emotional bonding make them feel that the online environment where they meet and interact each other is trustful. Therefore, SNS should try to understand users'

expectations and predict their future needs in order to provide them more advanced communication services with the aim to strengthen closeness.

The verification of the impact of familiarity to behavioral intention is also noteworthy to be mentioned. Similarly, to closeness, familiarity considers as a key characteristic in SNS. The frequent and constant online interactions between SNS friends bring out close acquaintance with each other. According to Liu & Liu (2011), the greater the familiarity between the information sender and receiver implies greater intention to purchase a product or a service recommended by the information sender. Thus, SNS should never stop improving such services with the aim to make their members buy through them. Finally, it is of great importance to remark that reward has an effect on perceived usefulness. Therefore, provided discounts, loyalty points and e-coupons offered from firms to SNS users make them feel that SNS are useful, so indirectly positively impact on social commerce behavioral intention.

Overall, the results have important implications for practitioners, especially SNS senior managers, marketing managers, e-shop managers, application developers, and scholars, who are keen on studying technology acceptance models and social commerce users' behavior. Consequently, the contribution of this article is multi-sided: First, the article contributes to the development and evolution of a proposed conceptual model for examining its effect on customers' intention to adopt social commerce; it builds on the growing literature of the behavioral intention theories. As far as it is concerned, the concurrent combination of these drivers-constructs, used as parameters-variables to predict the customers' behavior regarding social commerce has not been tested before in the literature. Most of them have been examined separately, or as parts of other conceptual models; this survey's model is newly suggested. Additionally, the current survey is conducted in a country, where no similar studies have taken place. Add to these, the conceptual model uses perspectives from the marketing area for a technology acceptance issue by including the enjoyment and the reward constructs, examining possible marketing solutions related to the SNS characteristics. It also uses perspectives from the SNS area by adding familiarity and closeness constructs; investigating potential solutions related to commerce activities. Therefore, practitioners could definitely estimate and take into consideration the influence of the investigated constructs to the social commerce behavioral intention. Survey's results possibly will help them better understand their current, potential, as well as past customers in order to improve consumers' shopping experience and formulate a target-oriented business strategy to boost their sales. The better their fit to the consumers' shopping behavior, the more profit is anticipated. This survey's conclusions can grow social commerce subject matter expertise and support practitioners evaluating their development and marketing solutions, based on the factors influencing the SNS users' purchasing behavior. Thus, companies and organizations involved in the social commerce could use them as a consultancy tool while organizing their commerce and marketing strategies based on consumer-preferred tactics and offerings and implementing their e-business ideas in order to motivate SNS users to purchase products and services from or via SNS.

Limitations and Future Work

Despite the fact that the aforementioned results provide meaningful implications, the research can be further improved by overtaking some important limitations. It is to be emphasized that these findings are limited to a sample of Greek university students. The selection of student respondents for primary research has been successfully used in many Web-related studies (e.g., Saprikis, 2013a; Shead et al., 2012), however, in order to generalize, further evidence from heterogeneous samples is needed to ensure that the observed relationships are similar across the whole population of the country. Moreover, similar studies could be conducted in other countries, taking into consideration the different cultural notions in order to get comparative data for a cross-cultural study or a meta-analysis of existing studies. Such a comparison could be beneficial for the deep understanding of social commerce behavioral intention worldwide. As the consumer's cultural background is one of the aspects which can influence the creation of a favorable climate for developing and consolidating social commerce, we consider that another interesting line of research would be to contrast the validity

of the proposed behavioral model with samples of consumers from other cultures and compare the results obtained. On the other hand, considering a larger sample size from the same population could give a more representative and accurate view of the social commerce behavioral intention across university students, and increase the external validity of the study. Based on it, a more thorough investigation of closeness and familiarity constructs can take place. It is of a high importance to clear out why these two constructs do not have a direct effect on social commerce behavioral intention. Furthermore, deeper analyzes can be conducted in order to compare them based on their demographical characteristics, such as gender, age groups and educational background. Finally, it would be of high interest to investigate the behavior of the model after the addition of other constructs suggested by the literature, such as risk and anxiety. These constructs might improve proposed model variance and provide even more meaningful implications to both academia and industry.

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