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Do Personality Traits and Shopping Motivations Affect Social Commerce Adoption Intentions? Evidence from an Emerging Market

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ABSTRACT

Social commerce has become a hot topic since the beginning of Web 2.0 era; however, relevant research is scarce in emerging economies. This study aims to fill this research gap and answer the main research question of "what type of relevant personality traits and shopping motivations affect social commerce adoption intentions". The research model was developed upon personality traits (openness to experience, need for uniqueness and buying impulsiveness) that are deemed to be relevant to online shopping and social media use. An online questionnaire was conducted on social media users. A total of 269 valid questionnaires were analyzed via structural equation modeling to test for the proposed relationships, majority of which emerged as non-linear. The findings highlight the significance of socialization motives in addition to utilitarian and hedonic shopping motives on social commerce adoption intentions. Openness to experience emerged as a significant trait that has an indirect effect on social commerce adoption intentions. Age and education materialized as significant demographics influencing shopping motivations in a social commerce setting.

Introduction

The significance of social media and related tools for e-commerce is increasing every year. "Social networking sites" (SNS), "social media" and "Web 2.0" are used interchangeably in the literature to define this new media. According to a categorization by Constantinides and Fountain (2008), social media encompasses a wide range of sites. Blogs and microblogs (e.g. Wordpress, Blogger, Twitter), general SNS (e.g. Facebook), thematic networking sites (e.g. Linked-in), content sharing sites (e.g. Flickr, YouTube), forums/bulletin boards, social bookmarking sites & collaborative filtering sites (e.g. Stumbleupon or del.icio.us) are all considered as social media platforms. The focal point of this study, social commerce (s-commerce), has

been conventionally considered as a type of e-commerce activity (Turban and Liang 2011), which is among the primary areas of focus among researchers of online marketing (Roy, Datta, and Basu 2017). From a wider perspective, social commerce can be defined as the use of social media sites and technologies in various stages of consumer decision process (Shen 2012). Turban and Liang (2011) highlighted the significance of social commerce as "an important platform in e-commerce, primarily due to the increased popularity of social networking sites such as Facebook, LinkedIn, and Twitter". As of the first quarter of 2017, the average global online shopping orders generated by social network sites were valued as 85.21 billion USD (Statista 2017a). As the well-known SNS (Facebook, Pinterest etc.) facilitate the sales transactions, the risks involved are being reduced both for sellers and buyers (Gibreel, AlOtaibi, and Altmann 2018), which may result in wider adoption. In this context, factors that motivate consumers to use social media sites in their buying journey is of utmost concern to the relevant parties.

The transition to Web 2.0, facilitating the interaction between organizations and users is urging consumer companies such as online retailers to offer better, interactive shopping experiences. Consequently, companies are utilizing various Web 2.0 tools such as reviews, scores/ratings and recommendations either on their own platforms or on established social networking platforms to satisfy changing customer expectations (Chua 2011). Websites that utilize social media tools can be considered under two categories; first is the established e-commerce websites that incorporate Web 2.0 tools to offer social aspects in shopping; latter is the social media platforms that attempt to add e-commerce features to their systems (Huang and Benyoucef 2013). Companies in both categories (i.e. major social media sites and e-retailers) have been making efforts to better understand and tap s-commerce opportunities in the past few years. For instance, shoppable Instagram features and Pinterest posts allow the user to easily reach products they are interested in. Facebook is working on a "Buy" button to make it easier for customers to purchase products without leaving their social media accounts. Leading e-retailers such as Amazon attempt to launch their own platforms (i.e. Spark) with several capabilities comparable to SNS. Moreover, Facebook and Instagram themselves offer a one-stop place to execute several processes such as collecting information on consumer trends, promoting products, handling incoming communication and carrying out the sales transaction itself.

Background: Social media use and E-commerce in Turkey

Turkey, the 18th largest economy in the world, situated at the crossroads between Asia and Europe, was selected as the country of interest in this

study. Turkey is among the largest social media markets and ranks 8th largest in terms of the number of members (Statista 2018). In Turkey, where several social media sites (e.g. YouTube) have been banned for durations exceeding several months, Facebook has been unharmed and became the primary choice of Turkish population. Facebook is the second most popular site among the internet users in Turkey after google.com in page views (IAB Turkey 2017) and is the most popular social media site followed by Instagram (We Are Social and Hootsuite 2017). With the rapid proliferation of smart mobile devices, the popularity of social media shows no sign of weakening. There are over 48 million active Facebook accounts in Turkey, where more than 80 million people live. This figure corresponds to almost all the country's connected population. However, due to multiple account use, the number of unique users is estimated as 34 million (We Are Social and Hootsuite 2017; Statista 2017b). Almost half of the Turkish population is under the age of 30 and are familiar with mobile technologies and the Internet.

In addition to social media use, e-commerce volumes are also growing rapidly in Turkey pursuant to increasing per capita disposable income and increasing technology adoption. E-commerce revenues have reached 11.6 billion USD in 2017, realizing a 37% increase over 2016. Almost 55% of the total volume (6.3 billion USD) is generated by online-only and multi-channel retail companies (Deloitte 2018). E-commerce is becoming a common practice as 60% of Internet users shop online at least once a month (Babaoğul, Şener, and Buğday 2016). Given the increasing e-commerce adoption and popularity of social media, social commerce is a promising field for practitioners and academicians alike in this emerging market.

Turkey is a predominantly Muslim country where liberal and Westernized ways are integrated into the culture. Several aspects of Turkish culture are provided below with regards to the Hofstede's methodology to highlight relevant cultural aspects (The Hofstede Centre 2018):

- Dependent and hierarchical, superiors are often inaccessible.
- A collectivistic society where people belong to in-groups (families, clans or organizations). Relationships have a moral base, which is prioritized over task fulfillment.
- Communication is indirect and the information flow is selective.
- Conflicts are avoided in private and work life and consensus at the end is important, open conflicts are avoided.
- Leisure time when the whole family, clan and friends come together is important for Turks.
- Turkey has very high uncertainty avoidance, in order to minimize anxiety, people make use of a lot of rituals.

- Turkey ranks in the middle in terms of maintaining some links with its own past while dealing with the challenges of the present and future. Also, in the extent to which people try to control their desires and impulses.

When the informal economy is considered, the share of organized retail among overall retail market is forecasted as 33% which is significantly below that of European counterparts where this figure corresponds to almost 80%. The low level of professional retail penetration throughout emerging markets such as Turkey increases the significance of social media-a medium that can reach the majority of the population-especially for online retailers and consumer goods companies (PricewaterhouseCoopers 2016).

Research scope and aim

Despite its significance, not all consumers benefit from social media in shopping. Considering the consumer behavior and shopping literature, two areas emerge as significant yet overlooked antecedents of adoption of new technologies and services. One is the differing type of motivations found to affect traditional and online shopping decisions (To, Liao, and Lin 2007; Chiu et al. 2014), the latter is the personality traits of individuals that have been found to affect social media use and online shopping behaviors significantly in previous studies (Amichai-Hamburger and Vinitzky 2010; Bosnjak, Galesic, and Tuten 2007). Differing from the majority of research that was founded upon technology adoption models (e.g. Blaise, Halloran, and Muchnick 2018), the present study assesses the effect of different types of motivations on social commerce adoption intentions and considers a set of relevant personality traits' effect on motivations and social commerce adoption intentions (SIN). The setting of the study was chosen as Turkey, an emerging market that ranks among Top-10 social media markets. This paper focuses on s-commerce, considering it among the most promising venues expected to affect businesses in the near future (Turban and Liang 2011).

Differing from studies utilizing traditional dichotomic shopping motivations (i.e. hedonic and utilitarian), the inclusion of "socialization motives" construct provides better insights into the s-commerce adoption intentions. Moreover, the consideration of significant yet overlooked personality traits (buying impulsiveness and need for uniqueness) offers fresh insights into the personality's relevance in shaping shopping motivations. Furthermore, non-linear effects that are assessed between personality traits, motives and

intentions offer deeper insights into the underlying complex online consumer behavior compared to extant literature.

From a managerial perspective, a sample from a developing country situated at the crossroads of Europe and Asia provides a unique setting to gain insights into emerging markets. Given that scales aiming to measure personality traits and motivations may not perform well in diverse cultures and contexts, providing evidence on established models' validity in different cultural settings is of significance to researchers. Revealing the relevance and impact of motivating factors may offer insights to the limited s-commerce literature in emerging markets.

Within this context, the present study aims to answer the following research questions:

1. How do the relevant consumer traits affect consumer motives?
2. How do the different type of motives affect social commerce adoption intentions?
3. Do the consumer traits influence social commerce intentions through motives?
4. Do the major demographics play a significant role in shaping intentions and its predecessors?

In order to answer these research questions, the literature on e-commerce/s-commerce consumer behavior is reviewed, several hypotheses are developed and presented in section "Literature review" and "Hypotheses development". These sections are followed by section "Research methodology", where the methodology is provided in detail. The data analysis results are provided in "Data analysis and results" section while findings are discussed in "Discussion" section. Finally, theoretical and practical contributions are provided in "Conclusion" section, which also highlights the limitations of the present study and offers future research avenues.

Literature review

Adoption of new technologies has been found to be affected by personal factors such as personality traits and individual motives. Thus, the present study uses shopping motivation studies on traditional and online commerce in addition to Big-Five personality theory and two single-trait personality theories (i.e. Need for Uniqueness, Buying Impulsiveness) as a theoretical framework. The constructs utilized in the study are explained in detail in the following sections.

Social commerce and social commerce adoption intentions

Fundamentally, social commerce (s-commerce) is accepted as a new form of electronic commerce (e-commerce) and involves social networking systems and tools that facilitate social interaction among users and promote user contributions to the system (Kim and Park 2013; Liang et al. 2011). The majority of researchers accept social commerce as the use of social media sites and technologies in various stages of consumer decision process (Shen 2012). Adopting this approach, e-commerce and s-commerce encompass a wide range of business activities, such as marketing and customer relationship management rather than just carrying out transactions online. Embracing this perspective, s-commerce adoption intentions manifests itself in the search for information on products/services, evaluation of alternatives and carrying out transactions on social media. Consumers can look for emerging trends and products relevant to their interests; track what products their friends or aspirational groups are using/liking; ask for recommendations; read relevant comments and provide feedback. Consequently, s-commerce adoption intentions indicate the intention to use social media in online shopping in any stage of the buying process. Within the context of this study, s-commerce adoption intentions are basically operationalized as "use of social media in the entire buying journey of consumers including pre-purchase, purchase and post-purchase stages".

Personality traits

It is known that personality traits can have a noteworthy impact on consumers' choices and decision making (Bettman 1979). Several approaches to categorize personality traits have been proposed in consumer behavior literature, three of which have been utilized in the present study. Among the popular approaches to personality is the Big Five personality traits model (McCrae and John 1992), robustness of which has been tested in various cultures (Schmitt et al. 2007). As the name suggests, there are five personality traits in this framework. "Agreeableness" in the Big Five model indicates cooperative, well-mannered, trustworthy and empathetic behavior. "Conscientiousness" relates to orderliness, resourcefulness and determination of individuals. "Extraversion" is associated with friendliness, sociability, and being outgoing. "Neuroticism" indicates recklessness, emotional instability, and expressing negative emotions (Chorley, Whitaker, and Allen 2015). Yet not all traits have been found to affect shopping motivations or intentions in studies on online shopping. For instance, among all the Big Five personality traits considered for potential effects on relevant technology adoption (e.g. social media, internet, m-commerce, e-commerce), only openness to experience (OXP) has consistently emerged as the personality

trait that has a significant effect on dependent variables. Other personality dimensions on the other hand, haven't exhibited significant effects on related dependent variables in the majority of ten relevant studies reviewed within the context of this study (Amichai-Hamburger and Vinitzky 2010; Bosnjak, Galesic, and Tuten 2007; Butt and Phillips 2008; Correa, Hinsley, and de Zúñiga 2010; Gohary and Hanzaee 2014; Svendsen et al. 2013; Tan and Yang 2014; Tsao and Chang 2010; Wang and Yang 2008; Zhou and Lu 2011). Thus, only OXP was chosen as a relevant personality trait hypothesized to affect shopping motivations from the Big Five in the present study.

Apart from the Big Five model, several single-traits have emerged as significant factors affecting consumer behavior in online shopping literature. Single-trait theories emphasize one personality trait as being predominantly relevant in shaping a specific set of consumer behaviors. Thus, they study a single traits' relevance in consumption-related behaviors (Hawkins and Mothersbaugh 2010, 375). Two of the promising traits relevant to social commerce-need for uniqueness and buying impulsiveness-were selected by the authors to be incorporated into the present study.

Whether they focus on Big Five or other relevant single-trait models, the relationships tested in literature have predominantly discussed linear relationships between personality traits, motivations and intentions. Given the nature and complexity of these constructs, it is inherent that relationships between them can be of non-linear-forms as well. This is a significant research gap that is aimed to be filled by the present study.

Openness to experience

Among the five traits in the Big-Five framework, the "openness to experience" (OXP) trait that represents an individual's willingness to consider alternative approaches, intellectual curiosity and enjoyment of artistic pursuits, is probably the most prominent dimension relevant in new technology adoption (Butt and Phillips 2008). OXP reflects a person's aptitude to try new things, to appreciate new ideas and go for new experiences. The individuals with high scores in OXP are full of curiosity and expected to be early adopters and innovators of new technologies and services considering that they take a notable interest in new things. Conversely, individuals with low openness to experience are conventional, prefer familiar things and exhibit narrow interests and less curiosity (George and Zhou 2001; Gohary and Hanzaee 2014).

Need for uniqueness

Another single personality trait of significance is the "need for uniqueness" (NFU), which has so-far attracted limited interest of online consumer

behavior researchers. Uniqueness is considered by psychology scholars as a basic requirement for happiness (Frankl 1959). Scholars observed that individuals try to establish a unique image in society that can provide them a distinct social image (Fisher and Price 1992). This tendency is related to the individuals' desire to move away from conformity-the established group opinion norm (Burnkrant and Cousineau 1975; Snyder and Fromkin 1980). NFU trait focuses on individuals' behavioral responses to information related to their similarity to others. It can be considered as a trait triggering motivation for differentness that originate from the tendency of individuals to move away from social norms (Snyder and Fromkin 1980). According to the underlying psychological theory, an individual want to be different from others but to a certain extent. When individuals perceive high level of similarities with others, they attempt to create a moderate level of dissimilarity from them. According to this argument, when someone has high level of NFU, he or she wants to be more different from his or her peers (Lynn and Harris 1997; Snyder 1992). Consumers' quest for uniqueness in shopping is tied to the NFU personality trait. This need for being different and unique manifests itself in the search for and use of unique possessions. In commercial settings, uniqueness in brands and products are promoted regularly, especially in luxury and artisan goods and services. Individual designers and craftsman as well as larger companies benefited from this phenomenon and the capabilities provided by the Internet and social networking sites has led to success of countless entrepreneurs that promote unique and artisan products (Tabuchi 2015).

Buying impulsiveness

Impulsiveness has been a promising area of study among consumer behavior scholars starting from 1950s. Yet, studies in the last 40 years are predominantly (63% of all) carried out in the U.S. as highlighted by Amos Holmes, and Keneson (2014) in their comprehensive meta-analysis. Studies in emerging markets that focus on new digital channels and transforming nature of e-commerce towards s-commerce are scarce. Impulsiveness is related to acting prematurely and without thinking the decision itself or its long-term consequences thoroughly. Impulsiveness in consumer behavior literature is reflected to the "impulsive buying" concept, which represents an unplanned purchase based on immediate gratification of needs (Beatty and Ferrell 1998; Rook and Gardner 1993, 3). Impulsive buying tendencies are found to be influenced by person-related variables (Verplanken and Herabadi 2001) and were conceptualized as a consumer trait named "buying impulsiveness" (IMP). Given that impulsive buying covers a variety of purchase behaviors, different definitions have been put forward. The common ground is that it has at least two major aspects; one is the lack of

planning and assessment of the purchase and the latter being the stimuli-led emotional response related to the purchase (Verplanken and Herabadi 2001; Piron 1993). Within the context of this study, the following definition by Rook and Fisher (1995, 306) was adopted for buying impulsiveness: "a consumer's tendency to buy spontaneously, unreflectively, immediately, and kinetically". Impulsive buying behavior is considered as self-centered and may lead to post-purchase guilt, disappointment and even social disapproval of peers and family (Rook 1987; Rook and Fisher 1995). Yet, it is easier than ever to buy products or services on a whim through new technologies such as mobile devices, internet and Web 2.0. Consequently, IMP have become a more crucial trait with the emergence of social media and mobile shopping. There are only a limited number of studies on IMP and most are limited to developed countries. How this trait is reflected to motives, purchase intentions and adoption of s-commerce in emerging countries where the budgets are relatively limited is a question that leads to a significant research gap.

Shopping motivations

Consumer motives indicate the processes originated by needs aroused in an individual to achieve certain benefits or avoid unsought outcomes (Solomon et al. 2013). Shopping is an act that consumers carry out voluntarily to satisfy needs that trigger distinct motives. In a shopping context, human motives are termed as "shopping motivations" and defined as ''a customer's needs and wants related to the choice of outlets at which to shop for a specific product or service class'' (Sheth 1981, 15).

Within the scope of the present study, a contextual (situation-specific) shopping orientation approach is adopted to operationalize shopping motivations. In e-commerce/s-commerce settings consumers' needs differ each time they shop and the related shopping motivations may vary from one situation to another (Arnold and Reynolds 2003; Close and Kukar-Kinney 2010).

Shopping motivations have traditionally been categorized into two basic categories, utilitarian and hedonic in the shopping literature (Hirschman and Holbrook 1982). Utilitarian motivation (UTL) refers to rational and task-oriented motives. On the other hand, hedonic motivation (HED) refers to consumer purchases made for pursuing adventure, seeking thrills, new experiences, enjoyment, cognitive or sensory stimulation, and an escape from daily life and boredom (Hirschman and Holbrook 1982). Thus, shopping motivations in their most basic categorization is either related to the functional needs and utilitarian value that the consumers seek to satisfy or to the hedonic value (experience/pleasure) they are after (Babin, Darden,

and Griffin 1994). Comparable to traditional shopping, consumers are motivated by task-focused utilitarian motives or hedonic experiential motives during online shopping (Büttner, Florack, and Göritz 2013). As several studies on e-commerce have highlighted, most purchases have both utilitarian and hedonic aspects and are not related solely to one type of motivation (Childers et al. 2001; Chiu et al. 2014; Gan and Wang 2017; To, Liao, and Lin 2007). Given the modern era capabilities, shopping has become a more enjoyable process than a boring task-oriented job (Babin, Darden, and Griffin 1994). Consequently, researchers' focal point is shifting from utilitarian to hedonic value (To, Liao, and Lin 2007), which can be differentiated to attract consumers to visit physical or virtual stores and thus create a competitive advantage over the competition (Parsons 2002).

Apart from this dichotomic view of shopping motivations, shopping can offer a way to socialize since social motives for shopping are also deemed important in the literature (Solomon et al. 2013, 73). Several studies have highlighted shoppers' desire for social interaction with others (Reynolds and Beatty 1999; Tauber 1972). Social shopping, in traditional sense, involves going to shopping with family and friends. This phenomenon of shoppers' desire for social interaction with others of similar interests, and affiliating with peer/reference groups was proposed by Tauber (1972) originally then deliberated in the following years by Dawson, Bloch, and Ridgway (1990). Almost a decade later Reynolds and Beatty (1999) also emphasized social needs of shoppers in a shopping environment, which was further conceptualized as "social shopping" (Arnold and Reynolds 2003). In an effort to imitate the offline experience of going out with friends and family to shop, e-commerce companies are trying to offer similar experiences using relevant social networking tools such as instant messaging, forums and group chats. Among online shopping consumer behavior literature, social aspects have been operationalized under "socialization motivation" (SOC) construct. Socialization motives were defined as "enjoyment of shopping with friends and family, socializing while shopping, and bonding with others while shopping" in this study in line with the relevant literature (Arnold and Reynolds 2003).

Hypotheses development

Inspired by the existing knowledge and theories on personality traits (i.e. Big-Five and single-trait models), shopping motivations and online commerce (Li, Liu, and Tukkinen 2014; Chiu et al. 2014; Butt and Phillips 2008; Correa, Hinsley, and de Zúñiga 2010; Liu, Lu, and Yu 2018; Zhang et al. 2014; Arnold and Reynolds 2003) the research model was constructed
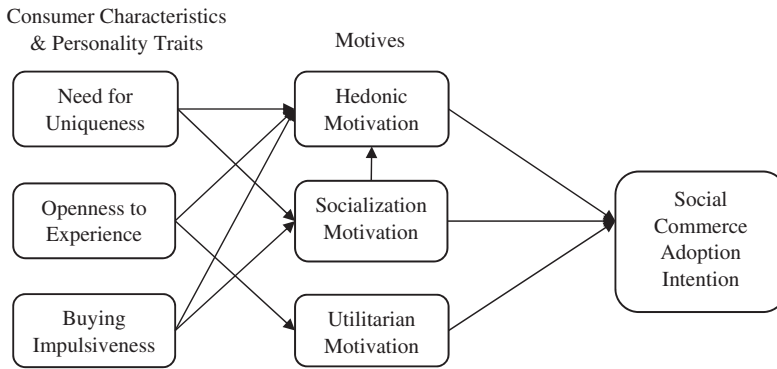
Figure 1. Proposed model.

as illustrated in Figure 1. Individual hypotheses related to the model constructs are elaborated in detail in this section.

Personality traits and motivations

According to Matzler, Bidmon, and Grabner-Kräuter (2006), individuals with high OXP live experientially richer lives, thus they can be assumed to be motivated by hedonic aspects more than individuals with lower OXP. On a separate track, the relationship between OXP and intelligence of individuals have been found to be correlated (DeYoung et al. 2014; DeYoung, Peterson, and Higgins 2005). Intelligence is a predecessor of problem-solving and decision-making, which subsequently plays a significant role in shopping motivations and intentions. It should be noted that problem-solving has been considered as a sub-category of utilitarian values in relevant literature (Voss, Spangenberg, and Grohmann 2003). This proposition has been confirmed in several studies on new technology adoption, internet use and blog use where positive influences of OXP on use behavior has been observed (Guadagno, Okdie, and Eno 2008; McElroy et al. 2007; Tan and Yang 2014). Similarly, studies on online shopping have revealed the significant effect of OXP on utilitarian and hedonic shopping values and motivations (Gohary and Hanzaee 2014; Tsao and Chang 2010). Wang and Yang (2008) found that OXP can lead individuals to develop a passion for online shopping activities. Bosnjak, Galesic, and Tuten (2007) and Zhou and Lu (2011) observed that OXP affects commerce intentions. These findings have supported Goldsmith's (2002) proposition that more innovative and adventuresome consumers would engage in online commerce more than less innovative consumers. Similarly, in social media settings, research confirmed OXP's influence on social media application use (Butt and Phillips 2008; Correa, Hinsley, and de Zúñiga 2010).

Given the way OXP has been defined and findings of relevant studies on social media and online shopping, the following were hypothesized:

H_1: Openness to Experience has a positive effect on utilitarian motivation

H_2: Openness to Experience has a positive effect on hedonic motivation

Feeling different from others and displaying this differentness to their peers, consumers use their possessions (Brock 1968). Using material possessions for self-expression and utilizing products that are artisan and unique to create distinctiveness has been an established behavior of consumers (Belk 1988; Wilcox, Kim, and Sen 2009). This appeal may explain the success of thousands of entrepreneurs promoting hand-made, unique artisan products that provide its bearer a sense of uniqueness on social media. However, not all individuals are affected by these appeals. Consumers' propensity to buy unique and artisan products is most closely related to the need for uniqueness (NFU) personality trait. Considering NFU in an online shopping context, it is evident that NFU is a consumer trait relevant in the presence of a social group. Without anyone to compare herself/himself to, being different is of no significance for an individual. Furthermore, this differentness was proposed to provide happiness to individuals (Frankl 1959). Considering that happiness is related to hedonic aspects, NFU is conceptually related to social and hedonic motives. Consequently, NFU was proposed to affect SOC and HED with the following hypotheses:

H_3: Need for uniqueness has a positive effect on hedonic motivation

H_4: Need for uniqueness has a positive effect on socialization motivation

Limits to impulsive buying such as personal carrying capacity or social influence in a physical environment, is overcame by opportunities offered through internet technologies such as browsing and shopping for products in a private environment (at home etc.). First, browsing products is undeniably easier and more effective online as search engines and algorithms help exploring nearly endless product assortments found online. Also, there are no weight or carrying capacity concerns when buying online. Hence, IMP can be a more significant issue for e-commerce and s-commerce compared to traditional shopping. Furthermore, "browsing" behavior has been found to fuel impulsive buying, consequently, as the browsing gets easier with the Internet technologies, impulsive buying tendencies may as well increase (Beatty and Ferrell 1998; Koufaris 2002). As purchases made impulsively tend to be unplanned and more hedonic in nature, several researchers have found a signficant effect of IMP on hedonic value and motives in a variety of online settings (Chung, Song, and Lee 2017; Shukla and Babin 2013). Nevertheless, no directly comparable studies were available in extant

literature that consider the relationship between IMP and social aspect of shopping. Yet studies of similar nature indicate a possible relationship between buying impulsiveness and social motives. For instance, in a study by Huang (2016), impulsiveness was found to be correlated to friends' and users' opinions on social media. Similarly, Xiang et al. (2016) found that parasocial interaction, a concept that focuses on one-sided relationships on social media is correlated with impulsiveness on social commerce. Consequently, the following were hypothesized:

H₅: Impulsive buying tendency has a positive effect on hedonic motivation

H₆: Impulsive buying tendency has a positive effect on socialization motivation

Motivations and social commerce adoption intentions

Consumers with utilitarian motives begin their shopping journey with a task to be completed, hence the value obtained depends on whether this task is successfully completed or not (Babin, Darden, and Griffin 1994; Batra and Ahtola 1991; Hirschman and Holbrook 1982). UTL are among the primary forces that trigger purchase decisions and lead consumers in the buying process. They are considered to be significant in a variety of mediums as consumers are found to be willing to seek and purchase products regardless of the channel the product is offered (To, Liao, and Lin 2007). The early studies on e-commerce considered the price comparison ability, wide assortments and convenience provided by e-commerce sites to be major utilitarian factors that motivate online consumer behavior (Donthu and Garcia 1999; Morganosky and Cude 2000). Utilitarian aspects are still one of the – if not the primary – motivations of carrying out online shopping (Chiu et al. 2014; To, Liao, and Lin 2007). This phenomenon has been considered to reflect to s-commerce based on the well-established theoretical background and abundant applied studies, thus the following was hypothesized:

H₇: Utilitarian motives has a positive effect on social commerce adoption intentions

Given the convergence in technologies and product features, it has become challenging to offer extra value to consumers by satisfying utilitarian motives solely. This phenomenon has led researchers and practitioners to focus on other aspects such as hedonic and social motives. With the emergence of social networking system that creates a novel experience and an enjoyable purchase journey, shopping online has become a more pleasurable experience for consumers. Similar to traditional shopping, the significance of hedonic aspects in online settings has been confirmed in well-established and contemporary studies both in developed and emerging

countries (Arnold and Reynolds 2003; Chiu et al. 2014; To, Liao, and Lin 2007). For instance, in a study in Saudi Arabia, users were found to be motivated by hedonic aspects as well as utilitarian aspects in a social commerce adoption context (Sheikh et al. 2017). Similarly, hedonic aspects were found to be significant both for utilitarian and experiential shoppers in a study on e-commerce in the US by Fang et al. (2016).

Considering the relaxed, entertaining and interactive atmosphere created by social media tools, hedonic motives are expected to affect s-commerce adoption intentions positively. Thus, the following was hypothesized:

H$_8$: Hedonic motives has a positive effect on social commerce adoption intentions

Social aspects of social commerce, such as communicating and interacting with friends and like-minded people, can have significant influences on consumers' shopping intentions (Dennis et al. 2009). This hypothesis is contrasting the early studies on e-commerce that consider the lack of socialization as a deterrent of carrying out e-commerce (Swaminathan, Lepkowska-White, and Rao 1999; Wolfinbarger and Gilly 2001). Nevertheless, social interaction is an innate element of social media sites (Park, Kee, and Valenzuela 2009; Whiting and Williams 2013) and they have the ability to deliver several social shopping aspects in a digital environment. In relevant studies, social motives have often been considered under a larger "hedonic motivation" category (Arnold and Reynolds 2003; Chiu et al. 2014; Martínez-López et al. 2016) or similarly under "experiential motives" category (Wolfinbarger and Gilly 2001). Yet, given that socialization motives have become increasingly relevant for e-commerce with the emergence of social media and related tools, they should be contemplated thoroughly, which creates a research gap.

Among the findings of studies assessing social motives, one is that the social interactions on the Internet, whether they be on social media or on websites, lead to higher engagement and use (Ko, Cho, and Roberts 2005). Another conclusion derived from similar studies is that social interaction, social shopping and social desire are significant factors influencing user behavior on digital mediums (Choi et al. 2016; Huang 2016; Ko 2018; Parker and Wang 2016). Similarly, social aspects of social commerce operationalized under "social value" by Gan and Wang (2017) and "social gratification" by Li et al. (2014) have been found to affect satisfaction, purchase intentions and the intentions to participate in s-commerce activities. Considering social motives as distinct motives that influence use intentions but also accounting for the fact that these motives have been regarded under hedonic aspects, two separate hypotheses were proposed:

H$_9$: Socialization motives has a positive effect on hedonic motivation

H$_{10}$: Socialization motives has a positive effect on social commerce adoption intentions

Demographic factors' effect on motives and social commerce

Several studies on online shopping have considered demographic factors such as gender, age and education level significant for their influence on use intentions and purchase behavior (Chang, Cheung, and Lai 2005; Lian and Yen 2014; Sin and Tse 2002; Thamizhvanan and Xavier 2013; Zhou, Dai, and Zhang 2007; Hairong Li, Kuo, and Rusell 2006). building upon the conclusions of relevant technology adoption studies (Littleton and Hoyles 2002; Sun and Zhang 2006; Venkatesh and Morris 2000).

Based on the earlier technology adoption studies, men and younger population have been the primary target groups of e-commerce. Fueled by factors such as technology literacy, participation to workforce have led to differences in computer, internet and social media use among genders and different age groups. However, currently older population and women are using e-commerce sites more often than before and are considered among the fastest growing population segments of e-commerce sites (Akman and Mishra 2017; Hernández, Jiménez, and José Martín 2011; Yoon and Occeña 2015). Nevertheless, in the emerging markets, where average education levels are lower, demographic and socioeconomic variables may play a more significant role in shaping shopping motives and behavior. Barriers of use may be more pronounced in emerging markets and prevent older and less educated people from using new technologies and online channels (Maldifassi and Canessa 2009). Consequently, testing for differences among gender and age groups, and understanding the demographic factors effects in online consumer behavior is an essential avenue of research for entrepreneurs and marketing practitioners.

Several studies focusing on gender differences have indicated that usefulness of technological services is more important for men whereas social influence and interpersonal interaction are more significant for women to adopt new technological services (Haferkamp et al. 2012; Muscanell and Guadagno 2012). Previous studies on e-commerce also revealed the differences among genders in a variety of ways (Bae and Lee 2011; Chiu et al. 2014; McCloskey 2006; Rodgers and Harris 2003). Females in an e-commerce setting are found to be more rational and more cautious (risk-averse) than males (Van Slyke, Comunale, and Belanger 2002) and also found to be more prone to online consumer ratings and reviews in their purchase decisions (Bae and Lee 2011). Males perceive online shopping channels as more convenient and have greater trust in shopping online

than females (Rodgers and Harris 2003). Consequently, the following hypothesizes were proposed:

H$_{12}$: Social commerce adoption intentions are higher for men compared to women

H$_{13}$: Hedonic motives are higher among women compared to men

H$_{14}$: Utilitarian motives are higher for men compared to women

H$_{15}$: Socialization motives are higher for women compared to men

H$_{16}$: Buying impulsiveness is higher for women compared to men

It was shown that the younger population adopts new technologies (e.g. internet, mobile technologies and social media) more rapidly (Chung et al. 2010; Morris and Venkatesh 2000; Pfeil, Arjan, and Zaphiris 2009). Among the online shopping literature, the initial disposition to shopping on the internet and trust in e-commerce has been found to be affected by the age of consumers (McCloskey 2006; Yoon and Occeña 2015). It has been further established that younger population use social media more frequently for socialization and are motivated to a larger extent by hedonic aspects, whereas the older population by utilitarian aspects (Lenhart et al. 2010). Consequently, the following were hypothesized:

H$_{17}$: Social commerce adoption intentions are higher in younger users

H$_{18}$: Utilitarian motives are higher for older users

H$_{19}$: Socialization motives are higher for younger users

Accepting that education is typically positively correlated with an individual's income and technology/internet literacy, it is inherent to consider it as a significant factor that affects online shopping and s-commerce behavior. Not surprisingly, studies on shopping have highlighted the significant role of education levels on shopping behavior. The higher educated people are found to shop online more frequently and have more positive shopping intentions (Sin and Tse 2002; Li, Kuo, and Rusell 2006). In addition, education was found the affect shopping channel/retail format choice (Carpenter and Moore 2006). On the other hand, as education level increases, consumers may become more literate in searching for and finding alternatives and thus may become dissatisfied with the available options (Pfaff and Blivice 1977). This may be a detriment of hedonic motives in carrying out shopping activities. Based on the previous discussions, the following hypotheses were proposed:

H$_{20}$: Higher educated users have higher s-commerce adoption intentions

H$_{21}$: Higher educated users have lower hedonic motives

Research methodology

Information on the methodology of the study that encompass the measurement tool development, sampling and data collection is provided in this section.

Measures and measurement tool

The survey methodology was chosen to carry out the present study. The data on relevant variables were collected via an online questionnaire. The items used to measure and assess the aforementioned constructs were adopted from the extant literature and are provided in detail in Appendix and in summary in Table 1. All the measures were reflective in nature and measured using a 5-point Likert scale (1: Strongly Disagree to 5: Strongly Agree).

A pretest was conducted before finalizing the measurement instrument. First, the draft questionnaire form was reviewed by three scholars to assess its comprehensibility, overall design and format. After implementing suggested revisions in wording and introductory explanations, the modified questionnaire was pretested by eight university students to refine the wording of each question. Feedback on the design, font-size, question formats and length of the questionnaire were also collected. Following minor changes, the measurement instrument was finalized and questions were grouped in four sections. The first section assessed the respondents' social

Table 1. Key variables.

Variable	Definition	Items	Source
Need for Uniqueness	An individual's need to be different from others to a certain extent.	4	(Lynn and Harris 1997)
Openness to Experience	An individual's willingness to consider alternative approaches, intellectual curiosity and enjoyment of artistic pursuits.	8	(Soto and John, 2009)
Buying Impulsiveness	A consumer's tendency to buy spontaneously, unreflectively, immediately, and kinetically.	9	(Rook and Fisher 1995)
Utilitarian Motivation	Reflects the task-oriented, rational, and cognitive motives of carrying out shopping.	5	(Mikalef, Giannakos, and Pateli 2013)
Hedonic Motivation	Reflects the experiential motives of shopping such as enjoyment, sensory stimulation, pleasure, curiosity, and escapism.	5	(Mikalef, Giannakos, and Pateli 2013)
Socialization Motivation	Reflects the social aspects of shopping such as interacting with friends and others of similar interests.	8	(Arnold and Reynolds 2003; Tauber 1972)
Social Commerce Adoption Intention	Reflects the use of social media in the entire buying decision journey of consumers (looking for information, evaluating alternatives, buying transaction etc.)	5	(Liang et al. 2011; Zhang et al. 2014)

media use behavior and whether they have utilized social media in their purchases or not. The second section incorporated items measuring personality traits while the third pondered distinct shopping motives and s-commerce adoption intentions of respondents. The final section questioned the basic demographics of the respondents.

Sampling and data collection

The target population was defined as SNS users who are benefiting from social media in their shopping decision journey. Convenience and snowball sampling were used in reaching the target population. Participation in the survey was voluntary. The respondents were asked to forward the questionnaire to a friend who might be interested in s-commerce activities. The questionnaire form was developed on Google Forms and seeded through the researchers' acquaintances and ex-students and their contacts in Turkey. The questionnaire was kept online for seven weeks during May and June 2017. Two filter questions, one for general social media use and the other for social media use for shopping purposes were used to confirm that the respondents belonged to the targeted population. No response rate could be calculated as it was not possible to approximate the number of people exposed to the online survey. Out of the 361 forms collected, 32 were left out of the study due to no social media use and a further 60 due to no social media use in their shopping decision journey. All the remaining 269 respondents had experienced s-commerce.

Sample characteristics

The demographic information on the respondents along with their social media use behavior is provided in Table 2. Almost half (47%) of the respondents were female whereas a similar percentage (49%) were between 18 and 21 years old. Over one-third (37%) of the sample consisted of university students and a similar percentage (38%) held university degrees or above. 42% of respondents indicated that they spend more than 3 hours on social media per day. This figure is parallel to social media use statistics in Turkey (Statista 2017b). Furthermore, 82% of social media users indicated that they are using social media in a variety of ways during shopping (reading reviews, giving advice etc.).

Data analysis and results

Following the elimination of non-conforming questionnaires, the remaining data from 269 forms were analyzed. Choice of the SEM analysis method

Table 2. Sample demographics.

Age	Frequency	%	Social media use	Frequency	%
18–21y	175	48.5%	Yes	329	91.1%
22–25y	46	12.7%	No	32	8.9%
26–30y	28	7.8%	**Social media use duration**		
31–39y	50	13.9%	< 1 hour	41	11.4%
40y+	47	13.0%	1–2 hour	84	23.3%
Missing	15	4.2%	2–3 hour	66	18.3%
Education			3–4 hour	59	16.3%
Primary & High School	29	8.1%	4–5 hour	29	8.0%
College Degree	46	12.7%	5–6 hour	23	6.4%
University Student	134	37.1%	6+ hours	27	7.5%
University Degree	51	14.1%	*Missing (No SNS Use)*	32	8.9%
Master's + Degree	86	23.8%	*Total*	361	100.0%
Missing	15	4.2%	**Use social media for shopping**		
Income			Yes	269	74.5%
0–800	56	15.5%	No	60	16.6%
801–1200	74	20.5%	*Missing (No SNS Use)*	32	8.9%
1201–1600	62	17.2%	**Gender**		
1601–2400	72	19.9%	Male	162	44.9%
2401+	77	21.3%	Female	184	51.0%
Missing	20	5.5%	*Missing*	15	4.2%
Total	361	100.0%	*Total*	361	100.0%

and software was made by evaluating each methods' strengths and weaknesses and its fit to the research aims.

- Possible non-linear relationships between personality traits and motives were aimed to be tested.
- Data had deviations from normal distribution.
- The sample size was limited.
- According to Hair et al (2013) "partial least squares structural equation modelling" (PLS-SEM) is a good choice when the research aim is predicting or identifying key driver constructs whereas CB-SEM is appropriate for assessing different structural models.

The present study tries to predict s-commerce adoption intentions using relevant personality traits and shopping motives and no different structural models are aimed to be assessed or contrasted. As a result, a method and software that can handle complex models, have lenient assumptions regarding data distribution and sample size was chosen. PLS-SEM approach carried out using WarpPLS 6.0 software (http://www.scriptwarp.com/warppls/) was the final choice. WarpPLS 6.0 provides algorithms that can overcome the commonly criticized limitation of original PLS-SEM algorithm (Wold 1980) that do not deal with actual factors, but with composites (exact linear combinations of indicators). The "Factor-Based PLS" algorithms provided by Warp PLS 6.0 software addresses this limitation and calculates estimates of both composites and factors, explicitly accounting for measurement error (Kock 2015). Moreover, Warp PLS 6.0 software has the ability to solve for

Table 3. Model goodness of fit.

Criteria	Value	p Value/Threshold
Average path coefficient	0.218	$p < .001$
Average R–squared	0.234	$p < .001$
Std. chi-squared (d.o.f. = 513)	23.118	$p < .001$
Avg. block Variance Inflation Factor (VIF)	1.280	ideally $<= 3.3$
Average full collinearity VIF	1.627	ideally $<= 3.3$
Tenenhaus GoF	0.370	small$>= 0.1$, medium$>= 0.25$, large$>= 0.36$
Sympson's paradox ratio	0.999	ideally $= 1$
Std. root mean squared residual	0.088	Acceptable if $<= 0.1$

non-linear relationships (e.g. S and/or U type relations) which may lead to deeper insights on consumer behavior. Further details on algorithms and the software can be accessed through the software manual (Kock 2017).

After an initial run, items with low loadings (<0.70) were evaluated for removal from further analysis. Rather than automatically eliminating all indicators with lower outer loadings than 0.70 threshold, indicators that have outer loadings between 0.40 and 0.70 were considered for removal. We examined the effects of item removal on the composite reliability (CR), and the construct's content validity. If deleting the item did not lead to an increase in the CR or if the content validity is affected adversely, the item was kept in the study (Hair et al. 2013, 102). Consequently, one item each from HED and SIN, two items each from OXP and SOC and 3 items from IMP constructs were excluded from further analysis. The goodness of fit criteria provided in Table 3 indicate that the model fits the data adequately.

Validity and reliability analysis

The results of the validity and reliability analysis are provided in Table 4. To assess the discriminant validity of the model, each variable's correlation with other variables was compared with the square root of the average variance extracted (AVE) values (Fornell and Larcker 1981). All the AVE square root values were lower than the correlations with other constructs. Furthermore, the calculated inter-item correlations established that correlations between the items measuring different latent variables were below the 0.60 threshold. This supported the discriminant validity of the model, also implied that multicollinearity is not an issue in the present study (Hair et al. 2010).

The convergent validity of the model was assessed through evaluating the Cronbach's alpha (CA), composite reliability (CR) and AVE values. All CA and CR values were over the acceptable levels. Two AVE values were below the commonly accepted limit of 0.5, however, as Fornell and Larcker (1981) highlighted, if composite reliability is higher than 0.6 when AVE is

Table 4. Reliability and validity analysis results.

	CR	CA	AVE	Dijkstra's PLSc	NFU	IMP	OXP	HED	SOC	UTL	SIN
NFU	.895	.842	.681	.845	**.825**						
IMP	.844	.786	.477	.842	.296***	**.691**					
OXP	.843	.786	.474	.826	.182**	.069	**.688**				
HED	.919	.882	.740	.883	.212***	.286***	.209***	**.860**			
SOC	.879	.840	.510	.846	.272***	.214**	−.023	.435***	**.714**		
UTL	.890	.844	.618	.851	.090	.076	.303***	.691***	.335***	**.786**	
SIN	.860	.784	.610	.807	.189**	.137*	.226**	.557***	.370***	.581***	**.781**

Note: Square root of the AVE extracted for each construct is provided in bold text on the diagonal. *$p < .05$; **$p < .01$; ***$p < .001$.

IMP: Impulsiveness, NFU: Need for Uniqueness, OXP: Openness to Experience, UTL: Utilitarian Motives, HED: Hedonic Motives, SOC: Socialization Motives, SIN: Social Commerce Adoption Intentions.

lower than 0.5, the convergent validity of the construct can be accepted as adequate.

In addition, Stone-Geisser Q coefficient (Q^2) was used to assess the predictive validity of the model (Geisser 1974; Stone 1974). The Q^2 value for SIN was calculated as 0.405, indicating good predictive validity of the model (Cohen 1988). The variance inflation factor values ranging between 1.182 and 2.388, which were all lower than 10 threshold further indicated the lack of multicollinearity in the model. Depending on the validity and reliability analyses carried out, the research model satisfied the acceptable standards put forward in relevant literature.

Common method variance

The concern for common method variance was addressed in the design and administration of the study. First of all, anonymity of respondents was assured, and we indicated to the respondents that there are no correct/ incorrect answers. A simple language without technical terms is used as feasible as possible in the questionnaire where no double-barreled questions were asked. The question order was randomized, which also helps in addressing potential problems regarding respondent fatigue. The severity of the common method variance is than tested using Harman's single-factor test. The Harman's single-factor test result of 34% denotes that variance explained by one-factor solution is lower than 50% threshold. Furthermore, full collinearity VIFs are used to test for common method variance. The calculated value of 1.628 is lower than the 3.3 threshold (Kock and Lynn 2012). These findings indicate that common method variance is not a significant issue in the present study.

Path analysis results

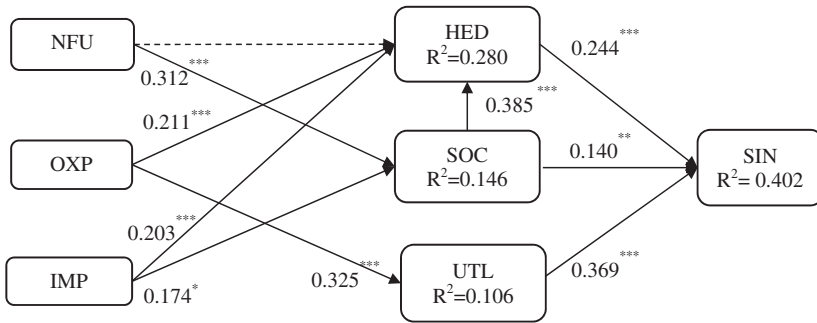The path analysis results are visualized in Figure 2 and provided in Table 5 along with the hypotheses test results.

Figure 2. Path analysis results around here.

Table 5. Path analysis & hypothesis testing.

Hypothesis/Relationships	Path Coef.	p-Value	Hypo. supported?	Effect sizes
H1: OXP -> HED	0.196***	<.001	Yes	0.054 (weak)
H2: OXP -> UTL	0.325***	<.001	Yes	0.106 (weak)
H3: NFU -> HED	0.002	.484	No	0.000 (not significant)
H4: NFU -> SOC	0.312***	<.001	Yes	0.106 (weak)
H5: IMP -> HED	0.203***	<.001	Yes	0.063 (weak)
H6: IMP -> SOC	0.174***	<.001	Yes	0.039 (weak)
H7: UTL -> SIN	0.369***	<.001	Yes	0.215 (medium)
H8: HED ->SIN	0.244***	<.001	Yes	0.136 (weak)
H9: SOC -> HED	0.385***	<.001	Yes	0.167 (medium)
H10: SOC -> SIN	0.140**	.007	Yes	0.051 (weak)

Note: $**p < .01$; $***p < .001$.
Effect size: 0.02–0.15: weak, 0.15–0.35: medium, >0.35 large.

Table 6. Total effects.

	NFU	IMP	OXP	HED	SOC	UTL
HED	0.115*	0.270***	0.193**		0.385***	
SOC	0.304***	0.174***	−0.046			
UTL			0.325***			
SIN	0.070	0.090	0.161**	0.244***	0.233***	0.369***

Note: $*p < .05$; $**p < .01$; $***p < .001$.

All hypotheses tested were supported excluding H_4 (NFU -> HED). In addition to the significance of paths, effect sizes were calculated to assess the degree of effects indicated by path coefficients. Values below 0.02 are considered non-significant, 0.02–0.15 weak, 0.15–0.35 medium and greater than 0.35 large (Cohen 1992). The largest effect on SIN originated from UTL followed by HED and SOC. These results along with the non-linear effects are elaborated in the "Discussion" section.

Indirect effects and total effects

Indirect effects through other constructs were calculated and used to arrive at total effects that are provided in Table 6. When the indirect effects were considered, OXP was found to have a significant effect ($\beta = 0.161$; $p = .002$) on SIN. Conversely, NFU and IMP had weak and insignificant effects on SIN ($\beta = 0.070$, $p = .110$ and $\beta = 0.090$, $p = .058$ respectively) as Table 6

illustrates. Another finding that should be noted is the emergence of NFU's positive significant effect on HED through SOC construct. NFU's direct effect on HED was tested as H_4 and was rejected, yet through indirect effects, NFU emerges as a significant factor affecting social commerce adoption intentions weakly.

Non-linear effects

Non-linear effects were calculated and provided in Figure 3 and their implications are assessed in "Discussions" section. To calculate non-linear relationship coefficients, each relationship was divided into several segments and related coefficients were subsequently estimated. This approach resulted in the assessment of the available data in more detail and helped in arriving at superior insights. Characteristically, latent variable scores are standardized aggregations of the relevant indicators in PLS-SEM. Thus, standardized graphs were developed using non-linear relationships between variables and were provided in Figure 3. Among all the significant relationships, only the effects of HED and UTL on SIN and SOC's effect on HED were linear. Other effects exhibited non-linear relationships that are elaborated in the "Discussion" section.

Effect of demographics on motives and social commerce adoption intentions

The effects of demographics were tested using age, gender and education data, which was recoded to have two distinct groups in each category for ease of elaboration. 18–21 year-old group was considered as the younger generation (Generation-Z) and 22+ as older sample (Generation X and Y). University degree or higher degree holders were considered as a higher educated group.

T-tests were carried out to explore the potential effects of demographics on the constructs and results are provided in Table 7. No significant differences in the test of homogeneity of variances were detected.

According to the analysis results, H_{18} and H_{19} were accepted whereas all the other hypotheses regarding demographics (H_{12}–H_{17}, H_{20}–H_{21}) were rejected. Utilitarian motives were found to be higher for older respondents and for higher education groups. On the other hand, socialization motives were found to be significantly higher for younger respondents and lower among higher educated sample. No significant differences among constructs in terms of gender were detected in the study. Implications are presented in "Discussion" section in detail.
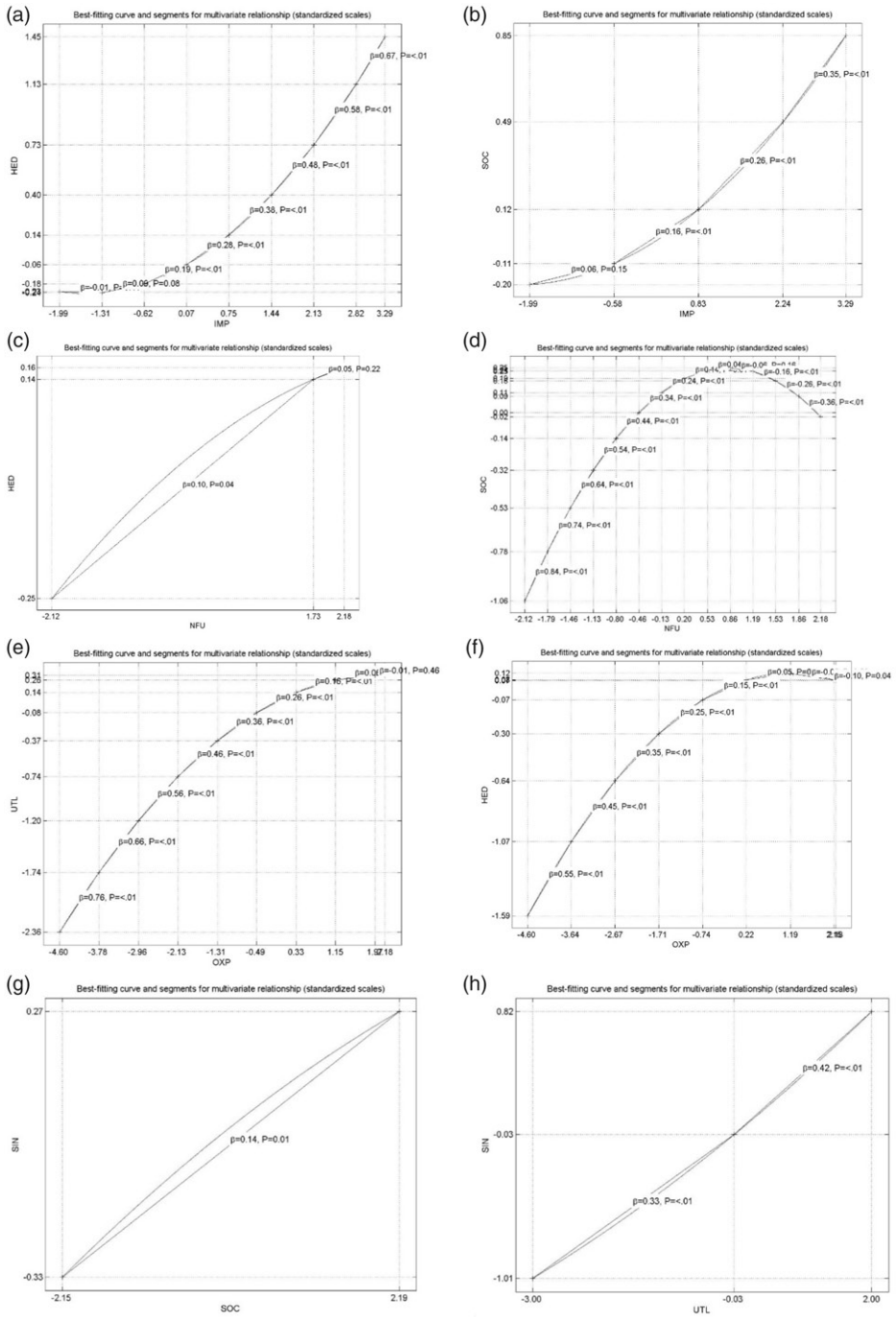
Figure 3. Non-linear effect illustrations (segmented, normalized).

Table 7. Demographic variables – *T*-tests.

Construct	Group Mean		Mean Diff.	*T*-value
	Young (*N* = 183)	Old (*N* = 86)		
SOC	2,7557	2,4169	0.3388	3.480***
UTL	3,2743	3,6070	−0.3327	3.248***
	Low Education (N = 172)	High Education (*N* = 96)		
SOC	2,7508	2,4658	0.285	2.984**
UTL	3,2756	3,5750	−0.2994	2.989**

UTL: Utilitarian Motives, SOC: Socialization Motives.
Note: Only the significant differences are provided; **$p < .01$; ***$p < .001$.

Discussion

Firstly, according to the findings, all three types of motives tested (i.e. utilitarian, hedonic and socialization) impacts s-commerce adoption intentions significantly. The effect size is strongest for utilitarian motives followed by hedonic and socialization motives. This finding is comparable to studies on e-commerce, mobile commerce and s-commerce carried out in emerging markets that highlight the significance of both utilitarian and hedonic aspects of online shopping motivations (Chiu et al. 2014; Gan and Wang 2017). Consumers are still predominantly motivated by utilitarian factors in emerging markets in online shopping which has been reflected to s-commerce context as well (To, Liao, and Lin 2007; Chiu et al. 2014; Sarkar 2011). It should be noted that hedonic motives are also significant and must not be overlooked in improving adoption intentions similar to studies carried out in emerging markets such as Saudi Arabia (e.g. Sheikh et al. 2017). Supplementing hedonic motives, socialization emerged as a significant motive in s-commerce adoption. Social aspects of online shopping that were missing in its early forms have emerged as noteworthy factors affecting adoption mainly attributable to tools offered by social media. This finding is similar to relevant studies focusing on social traits' effects on intentions carried out in developed economies e.g. Finland (Hongxiu Li, Liu, and Tukkinen 2014) and emerging markets e.g. China (Gan and Wang 2017). We can propose that consumers enjoy socializing and bonding with others (friends, colleagues, family and like-minded people) and socialize with each other while carrying out s-commerce in both developed and emerging markets.

In this study, we tested for possible non-linear relationships between personality traits and motives to arrive at deeper insights on the interactions. Figure 3 depicts that the relationships between personality traits and consumer motives all emerged as non-linear. Among the consumer traits analyzed, NFU emerged as a significant factor affecting SOC motivations. Conversely, its assumed impact on HED was found to be insignificant. NFU concept in itself is relevant in the presence of social groups, consequently its inherent impact on socialization motives was confirmed. Effect

of NFU on socialization and hedonic motives follow distinct patterns (Figure 3c and 3d). First of all, no direct effect of NFU was observed on HED. Yet there is an indirect significant effect on hedonic motives and it is practically linear. As an individual's NFU (i.e. need to be different than the other person) increases, their hedonic motives increase linearly as well. Considering that utilitarian products satisfy consumer' functional needs and hedonic products experiential needs, use of hedonic products and services to set themselves apart from the masses was an expected finding.

A parabolic relationship was observed between NFU and socialization motivation. The relationship is positive up to a certain threshold (0.8 std.dev over mean) where it changes sign. As the respondents' NFU increases over this threshold they become less motivated by socialization. This finding is in accordance with the NFU concept itself. The individuals want to be different from their peers/society but to a moderate extent. Individuals with low NFU are motivated by social aspects of s-commerce. However, individuals with high NFU want to distance themselves from society and may be reluctant to socialize with similar minded people to satisfy their NFU.

Another personality trait, OXP's effect on hedonic and utilitarian motives were also confirmed in the present study. IMP, the last consumer trait incorporated into the model, impacted both hedonic and socialization motives significantly. The strength of the effect between OXP and UTL decrease as the OXP increases, similar to a logarithmic scale (Figure 3e). This can be interpreted as follows: utilitarian motives are more significant for consumers with low openness and consumers who are more open to experiences get motivated possibly by other factors in a higher degree than utilitarian motives. Consequently, the strength of the relationship between OXP and utilitarian motives decrease with increasing OXP. A similar relationship was observed between OXP and HED. As consumers' OXP increases, its effect on hedonic motives become less significant (Figure 3f). A possible reason is that consumers with high OXP are naturally more accustomed to experiencing new and different things, therefore a diminishing marginal effect on hedonic motivation may be apparent for consumers with high OXP.

The effect of IMP on hedonic and socialization motives are similar in shape, which can be defined as exponentially increasing (Figure 3a and 3b). The strength of IMP's effect on hedonic and SOC increases as IMP increases. The individuals who have low buying impulsiveness are motivated less with hedonic or socialization aspects. As IMP increases, hedonic and socialization motives become more significant for individuals. This finding is in accordance with the impulsive buying concept, which has various hedonic aspects in its definition (Rook and Fisher 1995). A possible

interpretation is that these individuals perceive s-commerce activities more enjoyable than their peers with lower impulsiveness. Intriguingly, the effect of IMP on socialization is insignificant for consumers with low buying impulsiveness (0.58 st.dev below mean or less). The effect becomes significant after a certain threshold (-0.58 std.dev) and enlarges as the IMP increases (Figure 3b).

The effect of HED on SIN was linear and SOC's effect on SIN was also virtually linear as visualized in Figure 3g. The only non-linear relationship observed between motives and intentions is the utilitarian motives' impact on SIN (Figure 3h). As UTL increases, the magnitude of its effect on SIN gets stronger. This relationship can be approximated by two linear relations that has a cutoff point almost on the mean. As can be seen in Figure 3h, a stronger relationship between utilitarian motives and SIN is evident for respondents with above average utilitarian motives. This indicates that when the consumers have above average utilitarian motives in shopping online, they are more inclined to carry out s-commerce. Given that utilitarian motives emerge to satisfy functional needs and are considered as a task to be completed, they should be addresses rapidly as they become more and more pressing for the individuals. This phenomenon may be more pronounced in emerging markets where the relative disposable income is relatively low compared to developed markets. Thus, as utilitarian motives increase, SIN increases exponentially.

The relationships emerged in the extant literature between social aspects of social media, social commerce and impulsiveness was partly confirmed in this study. Users who have relatively high impulsiveness scores perceive higher value in social interactions and social aspects provided by s-commerce activities. This effect was even more pronounced for users with very high impulsiveness (>2.2 st.dev.).

OXP appeared as the only personality trait that influences SIN indirectly according to the total effects calculated and presented in Table 5. Respondents with higher openness to experience have more positive intentions to use social media in their purchase journeys. No significant effect of need for uniqueness or buying impulsiveness was detected on SIN. An individual's tendency to buy impulsively do not influence the way he/she uses social media in their shopping decision journey. A possible effect of personal impulsiveness on intentions through other constructs have not emerged significantly. This may be due to the operationalization of SIN construct covering a wide range of social media uses in online shopping that is not limited only to the purchase/transaction itself. Similarly, a possible indirect effect of NFU on SIN was not detected. This may be related to the weakness of the survey methodology or may be related to the sample size that was not large enough to correctly detect very low effect sizes. As

evidenced in the relevant literature, the relationships between personality traits on motives and intentions are statistically significant but not very strong. There is evidence from the European emerging markets such as Bosnia (Bosnjak, Galesic, and Tuten 2007), Iran in the Middle East (Gohary and Hanzaee 2014) also from the developed Norway (Svendsen et al. 2013) supporting this argument.

Regarding the effect of age, the older respondents were motivated more by utilitarian motives, whereas younger respondents more by socialization motives. This finding is in accordance with the industry reports and the extant literature on technology adoption (e.g. Lenhart et al. 2010). From a marketing practitioner's perspective, socialization aspect of s-commerce can be highlighted to a higher degree to improve younger consumers' adoption intentions. However, the utilitarian aspect of services and products and the online shopping should not be overlooked especially when targeting older population. Overall, utilitarian motives appeared as the factor with the largest effect size on SIN and its effect is even more pronounced for older respondents.

Education's proposed effect on intentions has not materialized in the analysis. Yet education level has emerged as a significant demographic influencing utilitarian and socialization motives. Social motives were lower among the higher educated sub-sample. This uncalled-for effect may be due to the busy daily life of users with higher education where their priorities in engaging in s-commerce differs than respondents with lower education. Considering that the lower educated group is younger on average and consist majorly of students compared to the higher education group, their priorities and motives can be significantly different. The respondents that have graduated and started working in Turkey with significantly longer working hours than Europe (Smith 2018) and may have different motives for adopting s-commerce.

No differences between genders in terms of the factors tested was detected. Despite our expectation of detecting differences in emerging markets between males and females in s-commerce intentions and antecedents, both males and females had similar motivations and intentions. Several contemporary studies on technology adoption and e-commerce examining the effect of gender obtained similar results in developed markets as well (Hernández, Jiménez, and José Martín 2011; Yoon and Occeña 2015). This may be an indication of diminishing gender differences in online consumer behavior in both developed and emerging markets.

Conclusion and limitations

The present study contributes to the current knowledge on social commerce, e-commerce and social media marketing in several ways. First of all,

the context of the study differs from the norm and focuses on an emerging economy-Turkey-at the cross roads of Europe and Asia with both Eastern and Western cultural aspects. Turkey ranks among the Top-8 markets in terms of social media use and with an increasing e-commerce adoption rate it has become highly relevant for stakeholders of s-commerce.

Among the theoretical implications, the findings highlight the significance of socialization motives that emerges in traditional shopping but not so commonly observed in e-commerce settings. E-commerce, which is traditionally carried out in solitude in front of a computer screen without any interaction between real people, has no notable social aspect. On the contrary, the tools offered by social media and relevant technologies incorporate social interaction into e-commerce and transform it into s-commerce, where socialization is a significant motive. Albeit its significance, socialization is not the primary factor leading people to s-commerce, utilitarian motives are still dominant. Utilitarian motives are followed by hedonic motives in effect size on s-commerce adoption intentions, which is a similar conclusion with relevant studies on online shopping in emerging markets such as China and Taiwan (Gan and Wang 2017; To, Liao, and Lin 2007).

Another contribution of the present study to the extant literature is the significant non-linear relationships observed between personality traits and motives, which can shed light to complex user behavior in this context. This study highlights the notable effect of several relevant personality traits other than those considered in the popular Big-5 framework. According to the findings, it is evident that there are several situations where diminishing returns were observed (e.g. openness to experiences effect on hedonic and socialization motives) in addition to the exponentially strengthening relationships (e.g. the effect of buying impulsiveness on hedonic and socialization motives). Unfortunately, given the scarcity of studies that consider non-linear relationships between personality traits, motivations and intentions on online shopping and in s-commerce settings, further studies are required to arrive at more generalizable conclusions. Possible differences between emerging and developing markets and the effect of culture on aforementioned relations can be assessed through further similar studies.

Among the demographics, the effect of gender on constructs emerged as insignificant in the present study. It is evident that the effect of gender in new service and technology use for online shopping is diminishing with the increasing adoption rates throughout the developing markets. On the other hand, age and education emerged as significant demographics influencing motives that should be considered in s-commerce settings.

The present study and the conclusions drawn from the analyses are limited in several ways. First, the motives are measured via a self-reported

instrument, a questionnaire. Secondly, the factors and personality traits included in the research model are not exhaustive. Considering that the buying process is a complex phenomenon, there are numerous stimuli and personality related factors that impact decision making (content, interaction, network characteristics etc.). In addition, the sample was chosen using a nonrandom sampling method, which is unfortunately the case in most similar studies on social media and e-commerce where the overall user database is not publicly available.

One future research avenue is inclusion of other personality traits and/or considering the possible interactions between the personality traits that are incorporated into the model. Moreover, utilizing a larger sample may provide the opportunity to carry out several multi-group analyses that can reveal different consumer segments with differing traits and motivations. Furthermore, future research that is founded upon experimental methods will be of value to complement the findings of the present survey study. Given that experimental studies generally provide more accurate results on the relationships between independent and dependent variables, the weak relationships observed in the present study may be pondered in more detail.

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Appendix

Table A1. Scales & items.

Code	Item	Construct & Source
IMP1	I carefully plan most of my purchases. (R)	Buying Impulsiveness (Rook and Fisher 1995)
IMP2	Sometimes I feel like buying things on the spur of the moment.	
IMP3	I often buy things spontaneously.	
IMP4	"Just do it" describes the way I buy things.	
IMP5	I often buy things without thinking.	
IMP6	Sometimes I am a bit reckless about what I buy.	
IMP7	I buy things according to how I feel at the moment.	
IMP8	"I see it, I buy it" describes me.	
IMP9	"Buy now, think about it later" describes me.	
NFU1	I prefer being different from other people.	Self-Attributed Need for Uniqueness (Lynn and Harris 1997)
NFU2	I have a need for uniqueness.	
NFU3	Being distinctive is important to me.	
NFU4	I intentionally do things to make myself different from those around me.	
OXP1	I see myself as someone who … . … values artistic, esthetic experiences	Openness to Experience (Soto and John 2009)
OXP2	… has few artistic interests. (R)	
OXP3	… is sophisticated in art, music, or literature.	
OXP4	… is curious about many different things.	
OXP5	… is ingenious, a deep thinker.	
OXP6	… is inventive.	
OXP7	… prefers work that is routine. (R)	
OXP8	… likes to reflect, play with ideas.	
SIN1	I will consider the shopping experiences of my friends on social media when I want to shop.	Social Commerce Adoption Intention (Liang et al. 2011; Zhang et al. 2014)
SIN2	I will ask my friends on social media to provide me with their suggestions before I go shopping.	
SIN3	I am willing to buy the products recommended by my friends on social media.	

(*continued*)

Table A1. Continued.

Code	Item	Construct & Source
SIN4	I intend to recommend shopping using social media to my friends.	
SIN5	I intend to use social media for shopping purposes in the future.	
UTL1	(Browsing products through) Social Media websites is Effective.	Utilitarian Motivation (Mikalef et al. 2013)
UTL2	(Browsing products through) Social Media websites is Helpful.	
UTL3	(Browsing products through) Social Media websites is Functional.	
UTL4	(Browsing products through) Social Media websites is Practical.	
UTL5	(Browsing products through) Social Media websites is Necessary.	
HED1	(Browsing products through) Social Media websites is Fun.	Hedonic Motivation (Mikalef et al. 2013)
HED2	(Browsing products through) Social Media websites is Exciting.	
HED3	(Browsing products through) Social Media websites is Delightful.	
HED4	(Browsing products through) Social Media websites is Enjoyable.	
HED5	(Browsing products through) Social Media websites is Thrilling.	
SOC1	I engage in online shopping … to shop online with others as a way to socialize.	Socializing Motivation (Arnold and Reynolds 2003; Tauber 1972)
SOC2	… to enjoy socializing with others when I shop online.	
SOC3	… to shop online with others having a social occasion.	
SOC4	… to shop online with others as a way to have a bonding experience. to shop online with others who have similar tastes/interests.	
SOC5	… to shop online with my peer group or reference group.	
SOC6	… to communicate with other people who share similar shopping experiences.	
SOC7	… to achieve a sense of belonging by shopping for the same products and brands that others purchase.	
SOC8	… to observe what others are buying and using.	
SOC9	… to purchase those products or brands that I think others will approve of	

Table A2. Descriptive, loadings and cross-loadings.

Item	Mean	Std. Dev.	NFU	IMP	OXP	HED	SOC	UTL	SIN
NFU1	3.380	1.141	**0.840**	−0.090	−0.027	0.057	−0.068	0.091	−0.134
NFU2	2.510	1.115	**0.675**	0.167	−0.078	−0.118	−0.047	0.001	0.143
NFU3	3.260	1.066	**0.883**	−0.088	−0.026	−0.026	0.030	0.020	−0.069
NFU4	2.650	1.192	**0.635**	0.087	−0.181	−0.042	−0.113	0.078	0.103
IMP2	2.850	1.166	−0.102	**0.578**	0.123	−0.098	0.162	0.022	0.083
IMP3	2.750	1.110	−0.056	**0.493**	0.082	0.210	−0.238	−0.010	−0.093
IMP4	1.810	0.932	0.053	**0.576**	−0.198	−0.380	−0.126	0.268	0.162
IMP5	3.250	1.109	0.019	**0.611**	0.175	0.215	−0.051	−0.131	−0.151
IMP6	2.220	1.063	−0.050	**0.693**	−0.050	−0.044	0.009	0.020	−0.042
IMP7	1.920	0.962	−0.049	**0.671**	−0.179	−0.244	−0.051	0.250	−0.059
OXP1	3.880	0.867	−0.045	−0.049	**0.681**	0.031	0.077	−0.175	−0.054
OXP2	2.970	1.041	0.018	0.081	**0.574**	−0.250	0.009	0.075	0.085
OXP3	3.480	0.858	−0.083	0.143	**0.657**	−0.049	0.039	−0.099	0.069
OXP4	3.950	0.827	−0.214	−0.082	**0.578**	−0.007	0.115	−0.091	0.062
OXP5	3.580	0.875	0.029	−0.050	**0.626**	0.027	−0.050	0.329	−0.283
OXP7	4.100	0.713	0.176	−0.210	**0.523**	0.370	−0.028	−0.172	−0.188
HED1	3.220	1.018	0.035	0.018	−0.011	**0.791**	−0.019	−0.054	0.072
HED2	2.690	1.040	−0.032	−0.002	0.189	**0.733**	0.244	−0.227	−0.263
HED3	3.370	0.971	0.012	−0.166	−0.005	**0.887**	−0.107	−0.336	−0.049
HED4	3.430	0.946	−0.113	0.053	0.035	**0.836**	−0.095	−0.132	0.044
SOC1	2.670	1.116	0.029	−0.025	0.003	0.307	**0.693**	−0.268	0.013
SOC2	2.290	1.047	−0.112	0.094	0.075	0.293	**0.684**	−0.115	−0.231
SOC4	2.690	1.067	−0.106	−0.022	0.020	0.210	**0.704**	−0.416	0.047
SOC5	3.090	1.170	0.051	−0.124	0.085	−0.287	**0.713**	0.220	−0.022
SOC6	2.140	0.929	−0.078	0.122	−0.160	−0.166	**0.644**	0.075	−0.148
SOC7	3.160	1.070	0.020	−0.033	−0.119	−0.170	**0.566**	−0.026	0.273
SOC8	2.480	1.042	−0.046	−0.016	−0.202	−0.224	**0.593**	0.059	0.243
UTL1	3.300	1.001	0.041	0.091	−0.121	−0.185	0.080	**0.790**	−0.195
UTL2	3.350	1.043	−0.008	0.017	−0.003	−0.219	0.052	**0.757**	−0.146
UTL3	3.570	1.000	−0.008	0.147	−0.100	−0.477	−0.002	**0.798**	0.027
UTL4	3.900	0.943	−0.015	−0.062	−0.078	0.404	−0.191	**0.689**	−0.149
UTL5	2.780	1.096	0.079	0.092	0.021	−0.205	0.080	**0.602**	−0.169
SIN2	3.030	1.070	−0.035	0.052	0.025	0.098	−0.058	0.012	**0.864**
SIN3	2.960	1.140	0.052	−0.095	−0.095	−0.022	0.146	−0.146	**0.615**
SIN4	3.120	0.970	0.059	−0.071	−0.048	−0.174	0.043	0.041	**0.787**
SIN5	3.380	0.970	−0.046	0.066	0.075	0.057	−0.070	0.048	**0.833**

IMP: Impulsiveness, NFU: Need for Uniqueness, OXP: Openness to Experience, UTL: Utilitarian Motives, HED: Hedonic Motives, SOC: Socialization Motives, SIN: Social Commerce Adoption Intentions.

Significant values at $p < .001$ level are in bold.