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Abstract: Social commerce is a new concept in the field of information technology. This study aims to investigate the factors that influence the consumers' intention to buy through social commerce in Qatar. The current study is based on the extended unified theory of acceptance and the use of technology (UTAUT2). This study proposed three major extensions to the UTAUT2 with modification to the price value variable to be perceived value (PV). In addition, the model is extended with two new predictors, i.e., social commerce constructs (SCCs) and trust (TR). The results indicated that perceived value followed by trust were the most influential factors that affect the consumers' intention to buy through social commerce in Qatar, while performance expectancy, effort expectancy and social influence were not found to be significant at all. The coefficient of determination of the regression model yielded 72.5% explanation power, which exceeds the UTAUT and the UTAUT2 models. Managerial implications were presented, and study limitations were furnished with suggestions for future works.

Keywords: social commerce; social commerce constructs; SCCs; UTAUT2; Qatar; trust; perceived value.

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1   Introduction

The information and communication technology (ICT) revolution removed both the limitations of time and space (Harris and Rae, 2009). Terms like globalisation and internationalisation of business have been widely adopted all over the world. Firms are trying to maximise their benefits from the great market opportunities offered by using the internet and other communication tools in today's marketing strategies and in performing its daily operations (Bakeir et al., 2009). Using the internet and Web 2.0 platforms and applications enabled companies to reach new markets and new customers, and to increase their revenues and profits. Businesses are gaining larger market share, and expanded exposure as the number of newly acquired customers is growing fast (Harris and Rae, 2009). At the same time, the social media websites (SMWs) or social network sites (SNSs), emerged as an extra channel to the official websites for both entrepreneurial small and medium enterprises (SMEs) as well as large corporations.

Online interactivity is crucial to gaining better insights about customers, where engagement is significantly different in social media (SM) (Dulabh et al., 2018). Interactivity in this new environment (SMWs and SNSs) needs to be measured using different tools. Interactivity became a vital tool to conduct marketing activities and became a necessary strategy that firms exert to help in building its brand equity (Godey et al., 2016). It became in many cases a direct sales channel replacing the expensive, complicated and legacy websites. SMWs users are creating profiles containing information about themselves, views, and thoughts, where they can share it with other users within the network (Boyd and Ellison, 2010). As a popular sales tool, SMWs (like pages on Facebook, LinkedIn, Instagram and Twitter) helped in the inception of social commerce as an essential platform in e-commerce (Liang et al., 2011). The major challenge facing businesses is users' adoption of such websites and platforms.

In the last 40 years, researchers were trying to explore several models to help in understanding the factors that may affect the consumers' adoption and use of information technology. Among these models are the following: the technology acceptance model (TAM and TAM2), the theory of reasoned action (TRA), the theory of planned behaviour (TPB), innovation diffusion theory (IDT) and the model of PC utilisation (MPCU). In 2003, the unified theory of acceptance and use of technology (UTAUT), which was proposed by Venkatesh et al. (2003), integrated eight of the existing models and theories. In this study, we adopted the extended unified theory of acceptance and use of

technology (UTAUT2), which was proposed by Venkatesh et al. (2012) as an extension of the first model UTAUT. Both models (UTAUT and UTAUT2) have four main predictors of adoption: performance expectancy (PE), effort expectancy (EE), social influence (SI) and facilitating conditions (FCs) (Abu-Shanab and Pearson, 2007). In addition, the model utilised four moderators: gender, age, experience and voluntariness. As an extension, the UTAUT2 introduced three extra factors that can improve the theory: price value, hedonic motivation and habit (HT).

In an attempt to test the Qatari context, this study adapted the UTAUT2 to accommodate the contextual factors according to the recommendation of Venkatesh et al. (2016) and tried to contrast it against a similar study that has been done in Saudi Arabia by Sheikh et al. (2017). Venkatesh et al. (2016) proclaimed that individuals' adoption of technology might vary according to their context and it is crucial to test the UTAUT2 theory in different cultures and environments to increase the theory applicability. Among the many factors related to the context, trust has shown significant influence on individuals' adoption of technology in different studies and in different countries (Al-Gahtani, 2014; El-Masri and Tarhini, 2017; Wong et al., 2015).

Another extension to the UTAUT2 model is the social commerce constructs (SCCs) which are the components of the social commerce platforms like the recommendations, reviews, and ratings that the SMWs' users are giving to other users by either supporting or warning them from Hajli and Sims (2015). Research reported contradictory results in relation to SCC. For example, SCC showed a positive and significant influence on consumers' social commerce intentions according to Hajli and Sims (2015), while it did not in the context of social shopping context according to the work of Li (2017). The last extension to the UTAUT2 is price value, where we changed it to perceived value (PV). Qatari residents might be much more interested in the total PV rather than the price value only, where Qatar is one of the highest countries based on individual income in the world (Wikipedia, the Free Encyclopedia, 2019). This assumption has been previously tested by different studies and yielded positive effect of PV on consumers' intention to buy (Keystone, 2008).

Section 2 will review the literature related to SM, social commerce, the UTAUT2 and the proposed extensions. Section 3 will describe the research model including variables definitions, research instrument and sampling process. Section 4 will report data analysis and discussion, followed by conclusions and future work in Section 5.

2   Literature review

This study will focus on social commerce and technology adoption domains. The area is governed by more than one discipline like e-commerce, behavioural psychology and social psychology. Still, it is important to look at some concepts and results from a business perspective as it became (i.e., social commerce) a major channel for business transactions.

2.1   SM and social commerce

SM is a public communications platform, where users share their thoughts, views, and opinions using special interactivity tools based on internet technologies (Köse and Sert, 2015). These technologies and platforms facilitate the information creation and flow

between users or companies on a one to one instant communication interaction. They form the base of Web 2.0 and its applications. Ahlqvist and Tutkimuskeskus (2008) define SM as the communication among internet users who are using social platforms over the web for content creation, where they can express their thoughts and ideas through either text or any other visualised fashion. On the other hand, Kaplan and Haenlein (2010) define it as a group of internet-based applications built on the ideological foundations of Web 2.0, which allow users to create and exchange content. Other definitions added terms like "connect humans who have a common interest … or web-based communities" (Bandyopadhyay, 2016). It is characterised by being fast-growing communities reaching hundreds of millions and even billions of users from all over the world (Köse and Sert, 2015), and transforming their users from being content consumers to be content generators (Constantinides, 2014).

As a result, SMWs enabled its users to interact and transact SMWs. This adds to its definition the aspect of social commerce (Hajli, 2015). Many researchers have introduced different definitions of social commerce during the past few years (Huang and Benyoucef, 2013; Parise and Guinan, 2008; Wigand et al., 2008). In this paper, social commerce will be defined as the process of exchanging products and services within the online marketplaces between the sellers and buyers using the SM platforms as a tool for this exchange. The benefits of this phenomenon is enabling users to interact and generate content to improve consumers' decision making for choosing and acquiring these products and services (Huang and Benyoucef, 2013).

Many new features were added to the e-commerce once it started using SMWs. First, the benefit of accessing many different markets with the power of social interactions among the users of the SMWs was utilised (Andrew and Beth, 2006). Moreover, the benefits of enabling consumers to actively generate content on popular SMWs (Liang and Turban, 2011). It introduced new business models (Leitner and Grechenig, 2007), where parties share information, experiences and views (Lai and Turban, 2008). Some researchers considered that the mission of SMWs is the sharing of information, experiences, and mutual activities and interests (Shin, 2010), where they improve the decision-making process and the problem solving for consumers. Through the collaborative online experience and the collective intelligence of the social media website users, consumers can achieve higher economic value (Huang and Benyoucef, 2015).

2.2   The UTAUT2

The UTAUT integrated eight models (Venkatesh et al., 2003), and later extended the model with three new constructs to predict the technology use behaviour (Venkatesh et al., 2012). The old model included four main predictors: PE, EE, FCs and SI (Abu-Shanab, 2021; Gera et al., 2021). The three new variables are *habit* (Limayem et al., 2007), *hedonic motivation* (van der Heijden, 2004) and the *price value* (Brown and Venkatesh, 2005; Coulter and Coulter, 2007). The extension of the UTAUT is based on leveraging a new consumer use context vs. an organisational use context, which was used before in the original model UTAUT (Venkatesh et al., 2012). Moreover, the new UTAUT2 introduced some new relationships and did some alteration to the original relationships in the basic model. These modifications are significant for any theory to satisfy generalisability in different contexts.

The new model improves firm's understanding of consumers' motivations to adopt new technologies, where businesses can improve their offerings in the different markets.

After conducting research in Hong Kong on a large sample using a two-stage survey method, Venkatesh et al. (2012) came up with a conclusion that the three newly added constructs are complex and are affecting the intention to use the technology either directly or moderated by age, gender and experience.

2.3 Social commerce constructs

Research on social commerce adopted a new perspective that focuses on two major stream: traditional views (represented by the UTAUT perspective) and a SM perspective (like new social commerce features like sensory and relational experiences). Such perspective asserts the highly interactive experiences. The second set of features was supported by previous research when included with SI factors (Pentina et al., 2011). The study concluded to an interactive relationship between users' involvements and reflections of friends and other shoppers. This study tried to focus more on SM characteristics when adapting the SCC.

The definition of SCC included the benefits that consumers gain because of using Web 2.0 technologies. In this research, we will use the forums and communities, sharing, recommendations, and ratings and reviews, as the major components of SCC (Hajli, 2015). Such dimensions help new consumers by making their purchase decision easier, and by getting the needed online social support from other old consumers. Utilising the posted ratings and reviews, consumers are sharing their own experiences and information about the products or services in a way that aid new potential consumers to decide and acquire these products or services (Han and Windsor, 2011). This kind of third-party review is becoming a common practice in today's online platforms, where it adds more trust in the published information, and thus reduces firms' spending on advertisement (Chen and Xie, 2005). In addition, the lack of physical interaction between the potential consumer and the firm's products, they are likely to rely on the former recommendations and referrals from previous users who already had the feel and touch advantage (Senecal and Nantel, 2004).

With the advantage of using the Web 2.0 technologies, consumers are able to exchange all the previous constructs like ratings, reviews, recommendations and referrals. This is enabled more through the various forums and communities that are available throughout the online marketplace. In these forums, similar to the traditional markets, consumers are using the e-word-of-mouth to communicate the required information that can help others to get proper knowledge about the products which they are about to buy. This e-word-of-mouth has a substantial influence on potential consumers' decision to buy a particular product. This kind of social support is one of the unique benefits of Web 2.0 applications and technologies (Hajli, 2015).

2.4 Perceived value

The concept of PV is widely discussed in the literature as a predictor of consumers' behavioural intention after its original proposition by Monroe and Krishnan (1985) (as mentioned by Chen et al., 2018; Civelek and Ertemel, 2019; Gan and Wang, 2017). The definition of PV included different components like price, effort or quality. One of the widely used definitions of PV is the one presented by Zeithaml (1988), where she identified it as the valuable overall benefits that the consumer gets in regards to what he/she gives or sacrifices. The term 'sacrifices' is related to various components like

money, effort and time. While the term 'acquired benefits' is related to different components like volume, quality and other satisfactory items. Therefore, it is a trade-off between the prominent offerings vs. consumers gain (Zeithaml, 1988). Gan and Wang (2017) stated that PV has two major components; first is the perceived benefits, with three sub-components: utilitarian value, hedonic value and social value.

While studying the effect of the PV, some researchers were interested in exploring its impact on using the technology or buying behaviour, where PV showed significant results in both cases (Liébana-Cabanillas and Alonso-Dos-Santos, 2017). In addition, ease of use and enjoyment were significant predictors of PV (Al Khasawneh and Haddad, 2020). Moreover, PV showed significant differences based on gender (Hall et al., 2019), while others reported insignificant results in different contexts (Wang and Wang, 2010). Finally, research investigated a sample of subjects in their value co-creation and realised that the connections between subjects ability to construct value is totally different in new the context of overwhelming technology environment (like smart cities), where they draw more consideration on community oriented ways (Polese et al., 2018).

The link between the UTAUT2 and previous research related to the value of online activities can be established when we import the perspective of motivational theory (Deci and Ryan, 1985; O'Brien, 2010). The theory propose that two major determinant of technology adoption are intrinsic and extrinsic motivation. Research related to this theory emphasised that online shopping can be influenced by fashion and cognitive absorption (Shang et al., 2005) more than usefulness (PE). Such argument emphasise an important challenge when defining PV in the context of social commerce, where the three concepts (PV, PE and HM) and intertwined and need more exploration to better understand how businesses can utilise social commerce better.

In this study, we define PV as the final assessment of the value that the consumer will acquire and realise from the use of a service or a product. Components of PV are the following: quality, functionality, after-sales service, hedonic benefits and brand gains. From the previous definition, we realise the reason for not incorporating PV in the UTAUT2 (Venkatesh et al., 2012) or using the price saving orientation which is the construct offered by Sheikh et al. (2017). Studies related to social commerce and SM emphasised the importance of convenience and free service as determinants of SM usage (Palacios and Jun, 2020; Gera et al., 2021). The price saving orientation is based on the view that online sales are led by consumers' PV of low prices, which increases the online purchase intention (Han and Kim, 2009; Sethna et al., 2021; Gera et al., 2021). The price saving orientation is neglecting the other reasons to buy online such as the availability of the product or the service itself.

2.5   Trust

Many researchers explored the influence of trust on e-commerce and social commerce, where it is considered one of the main factors affecting the consumers' initial intention to buy through online websites (Hammouri and Abu-Shanab, 2017; Sethna et al., 2021). The concept of trust was discussed in social sciences and widely used in the literature of management, marketing, and economics. Different definitions and views about trust and trust antecedents were reported due to the ambiguity that has resulted from the absence of physical interaction between sellers and buyers (Yahia et al., 2018).

Trust refers to the consumers' expectations regarding the social commerce vendors' transactions. They expect vendors will behave ethically, with integrity, fulfilling

commitments and not opportunistically (Gefen et al., 2003). This definition integrated many previous efforts to reveal the exact meaning of trust, which incorporated, constructs such as confidence on the vendors' abilities and desires for keeping his promises according to the business traditions (Ozanne and Schurr, 1985). Another definition stated that trust is consumers' belief in social vendors' attitudes and the way they behave with goodwill and conventional manners (Suh and Han, 2003). Others concentrated on the exchange with confidence and according to the consumers' expectations (Ba and Pavlou, 2002; McKnight et al., 2002).

Antecedents of initial trust include word-of-mouth, positive reviews, effective influence, brand influence, perception of others, advertising value and social presence of web (Hammouri and Abu-Shanab, 2017). Other dimensions like reputation, size, information quality, transaction safety, communication, economic feasibility are also reported to be important for building trust (Kim and Park, 2013). Information asymmetry provided a significant evidence of supporting organisations in their aim for social responsibility (Caputo and Evangelista, 2019; Caputo, 2021; Naqvi et al., 2021), which in turn will improve the image and sustainability of the business. Al-Dwairi et al. (2018) tried to explore the different types of trust in the context of social commerce and added communication, word-of-mouth, perceived ability, after sales service, content quality, trust in social commerce company, trust in SM, and trust in social commerce as antecedents of trust in social commerce.

Many researchers investigated the effect of trust on the consumers' intention to buy and on social commerce. The results from different contexts were found positive with a significant impact of trust on consumers' intention to buy through social commerce websites (Chen and Shen, 2015; Hajli, 2014; Hajli et al., 2017; Yahia et al., 2018).

3 Research methodology

This study will follow an empirical approach, where a survey instrument will be used to probe social commerce users' perceptions regarding the previously mentioned constructs. The relationships assumed in this study follow the UTAUT2 path with three extended constructs. As mentioned previously, the study is trying to answer the following main question: *what are the factors influencing consumers' intention to buy through social commerce in Qatar?* Thus, we developed a model and stated nine hypotheses to answer the research question. Figure 1 is the research model followed by the set of hypotheses.

H1   PE positively influences online purchase intentions from social commerce websites.

H2   EE positively influences online purchase intentions from social commerce websites.

H3   SI positively influences online purchase intentions from social commerce websites.

H4   FCs positively influence online purchase intentions from social commerce websites.

H5   Hedonic motivation positively influences online purchase intentions from social commerce websites.

H6   Habit positively influences online purchase intentions from social commerce websites.

H7   PV positively influences online purchase intentions from social commerce websites.

H8   SCCs positively influence online purchase intentions from social commerce websites.

H9   Trust positively influences online purchase intentions from social commerce websites.

Figure 1   Proposed research model
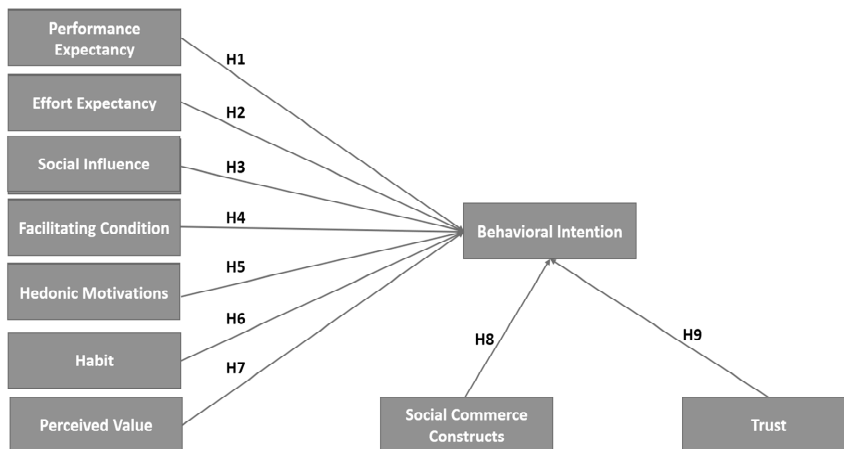
The research hypotheses from H1 to H6 are mainly adopted from Sheikh et al. (2017), where a study in Qatar is a trial to reveal if there will be any typical/different results if the same research conducted in a different context. On the other hand, Hypotheses H7, H8 and H9 are a new extended relationships added to the research model [UTAUT and Sheikh et al. (2017)] to relate the context of this study to Qatari culture and preferences of its consumers' behaviours. The research model is using the UTAUT2 as the base model for the study. At the same time, we changed the price value construct to be the PV. In addition, we added both the SCCs and trust as new additional variables that we think they have considerable effect on the consumers' intention to buy in Qatar.

3.1   Variables' definitions

The used model in this research consists of nine constructs. Six constructs are adopted from the UTAUT2 (i.e., PE, EE, SI, FC, HM and HT) (Venkatesh et al., 2012), while two constructs (social commerce constructs – SCCs and trust – TR) were adopted from the work of Hajli (2015). Finally, PV was adopted from more than one paper (Gan and Wang, 2017; Zeithaml, 1988). We adopted the following definitions of variables:

* PE: The degree to which using technology will provide benefits to consumers in performing certain activities.

* EE: The degree of ease associated with consumers' use of technology.

* SI: Consumers perceptions that important others (e.g., family and friends) believe they should use a particular technology.

* FCs: Consumers' perceptions of the resources and support available to perform a behaviour.

- Hedonic motivation: The fun or pleasure derived from using technology.

- Habit: The extent to which people tend to perform behaviours automatically based on learning.

- Trust: Refers to consumers' expectations regarding social commerce vendors' transactions (they expect vendors will behave ethically, with integrity, fulfilling commitments and not opportunistically).

- PV: The final assessment of the value that the consumer will acquire and realise from the use of a service or a product.

- SCCs: Are benefits that consumers gain as a result of using Web 2.0 technologies (like forums and communities, sharing, recommendations, and ratings and reviews).

3.2 *Instrument design and development*

This study followed a quantitative empirical approach and utilised an online survey instrument to validate the conceptual model. Quantitative studies analyse the individual responses and examine the interrelations among the constructs (Newsted et al., 1998). The survey was developed based on the reported literature and the research model which integrated different variables and extended the original UTAUT2 model (Venkatesh et al., 2012). Moreover, the survey method was earlier used in examining the intention to buy behaviour in social commerce in more than one study (Hajli, 2013, 2015; Keystone, 2008; Liu et al., 2016; Sheikh et al., 2017; Hammouri and Abu-Shanab, 2017; Al-Dwairi et al., 2018).

Using an online survey has many advantages as it reaches a large number of subjects, and fits with the online purchasing behaviour (Liu et al., 2016). The instrument utilises a five-point Likert scale that measures the subjects' reactions to each item of the nine used variables. The answers start from 'strongly disagree' = 1 to 'strongly agree' = 5. The first page is an informative page where it asked for the consent of the respondents to participate and ensuring the anonymity of study, its voluntariness and the ethical issues related to human subjects.

As the current study is a replication for the study of Sheikh et al. (2017) which was performed in the Kingdom of Saudi Arabia, we adopted the same items for the following constructs: PE. EE, SI, FC, HM, HT and BI. For the SCC, we added new items related to likes and shares (SCC3). The reason is that this study focused more on the 'likes' and 'shares' as a sign for implicit recommendations to buy rather than the explicit recommendation which could be in the comments or reviews. In addition, for the same variable, we split the statement 'I am willing to share my own shopping experience with my friends on forums and communities or through ratings and reviews' to be item nos. SCC5 and SCC6. The reason to do that is the confusion of subjects, where the item includes two dimensions (place of sharing vs. the way of sharing the shopping experience). For the construct PV, three items were adopted from previous research (Chen et al., 2018), and two items were written by the researchers (PV1 and PV3). The last construct is trust, where we used five items from previous research. Items TR1, TR2 and TR3 were adopted from the work of Paul and David (2004) and Kim et al. (2008), while TR4 and TR5 were adopted from the work of Gefen et al. (2003).

3.3   Sampling process

The study population is all Qatari residents (Qatari or expatriates). Using a snowball sampling, the inclusion factors adopted went into three directions:

1   To be an active internet user who has at least one or more social media website accounts, whether they are using this account to do online purchases or not. Moreover, other internet users who do not have any SMWs' accounts were excluded.

2   To be over the age of 18 years old. Being more than 18 years old supports some level of rationality in the decision-making process.

3   To be Arabic or English readers to be able to fill the survey (in Arabic or English).

The online survey link was distributed (data collection process) from mid-March until mid-April 2019 between the researchers' e-mail and social list. They were asked to send the online survey link to their friends and ask for the same. The researchers had access to a web page for a group of women who showed a considerable number of responses during the data collection period. The snowball method collected as much data as possible in a concise limited time. The snowball sampling method was used before in similar studies to assess the influence of different factors on behavioural intention (Cho and Fiorito, 2009; Gan and Wang, 2017).

4   Data analysis and discussion

Finding out the main factors that are influencing the consumers' intention to buy through social commerce requires the use of multiple regression statistical technique and utilising SPSS 25 software. The overall sample size reached 463 responses. The following sections describe the analysis techniques used like descriptive analysis, Pearson's correlation and the multiple regression analysis.

4.1   Sample demographics

The study sample consisted of over 936 responses, where 672 respondents were able to complete the majority of the survey questions, and 264 did not exceed the fifth question (filled only the demographic data). The response rate is 72%. Inspecting the available surveys, we excluded the surveys completed from outside Qatar (based on the IP address of the location) or incomplete in major parts of survey. The resulting usable sample size became 463 surveys (excluded 209). Usable surveys are those surveys with 100% of the variables' questions answered. The final sample description is shown in Table 1, demographic information.

Table 1 indicates that 69.8% of the respondents used the Arabic version to fill up the survey. The majority of the respondents are in the age group 31–40 years with 48.2% followed by the age group of 21–30 years with 37.4%. 68.9% of sample is females as a reason of the Facebook closed females' group (Strong Women in Qatar Ladies). The Qatari society does not match such distribution, where 74.3% are males (Ministry of Development Planning and Statistics, 2019). The majority of the sample have a high level of education with the highest percentage to the bachelor degree (56.6%) followed by 24.2% for the postgraduate education level, which may raise a concern about the sample

representation to the society, which has many blue-collar workers. The Qatari nationals in the sample were 14.7%, which is very near to the actual population statistics (World Population Review, 2019).

Table 1 Sample demographic description

Language	Freq.	%
AR	323	69.8
EN	140	30.2
Total	463	100
Education	Freq.	%
High school or less	36	7.8
High diploma	52	11.2
Bachelor	262	56.6
Postgraduate	112	24.2
Total	462	99.8
Missing	1	0.2
Total	463	100
Age	Freq.	%
18–20	18	3.9
21–30	173	37.4
31–40	223	48.2
41–50	44	9.5
51 or more	3	0.6
Total	461	99.6
Missing	2	0.4
Total	463	100
Gender	Freq.	%
Male	144	31.1
Female	319	68.9
Total	463	100

According to the survey, the respondents were able to choose more than one SMWs, which they are using. The most used one was Facebook. Table 2 shows the distribution, where the sum of numbers does not represent the total sample size. In addition, 60 surveys indicated that they are using SM application not listed in Table 2. The majority indicated that they are using WhatsApp (39) and LinkedIn (11).

Table 2 SM use distribution

Social media →	Facebook	Instagram	Twitter	Snapchat
Frequency	413	262	87	127

4.2   Validity and reliability

To assess the internal consistency (reliability) of the model, we executed a reliability analysis using Cronbach's alpha as the measure used commonly in research. Cronbach's alpha is measuring the within-item correlations of the variable's set of items. According to the results, most of the values are exceeding 0.8 (shown in Table 3), which is the recommended value based on Fornell and Larcker (1981) and Sheikh et al. (2017). In addition, few variables yielded higher values than 0.9 like HM, HT and BI. PE and FC were above 0.7, but below the 0.8 threshold, which is acceptable in social sciences research (Hair et al., 1998). The validity of the survey is considered to be reliable based on the fact that it has been adopted from previous studies (Sheikh et al., 2017).

Table 3   Cronbach's alpha value of main variables

Constructs	N	Number of items	Cronbach's alpha
Performance expectancy (PE)	463	4	0.757
Effort expectancy (EE)	463	4	0.851
Social influence (SI)	463	3	0.884
Facilitating condition (FC)	463	3	0.74
Hedonic motivations (HM)	463	3	0.913
Habit (HT)	463	4	0.909
Perceived value (PV)	463	5	0.838
Social commerce constructs (SCC)	463	6	0.87
Trust (TR)	463	5	0.894
Behavioural intention	463	3	0.916

4.3   Descriptive analysis

The initial analysis needed to understand the level of sample perceptions related to the items used in survey or the overall variables. The descriptive analysis is important as it indicates how the overall sample perceived the measures of each variable. It is known that when building a survey for a variable, we collect all meanings included within such variable. Based on that, it is interesting to see how the sample perceived each meaning (dimension statement). The best test for such measure is to calculate the means and standard deviations for each item as a first step. Appendix shows such calculations.

Based on the reported ranges in the literature, when explaining the results of a five-point Likert scale, researchers are considering the following classification as a base of grouping the results: 1–2.33 is considered as low agreement, 2.33–3.66 is considered as moderate agreement, and 3.66–5 is considered as high agreement (Hammouri and Abu-Shanab, 2018). Most of the items (almost two-thirds) means are between 2.333–3.666, which is considered moderate while almost one third has high means more than 3.66. The highest value among the variables' means is for the EE (3.91) followed by the PE (3.89) and social commerce constructs (SCCs, 3.88) where the habit variable yielded the lowest mean value (HT, 2.87). Most of the items standard deviations are similar within the variable construct itself and even if compared with the other variables which shows analogous dispersion of data around the mean.

The second set of test focused on demographic factors, where a concern can be raised because of the unbalanced sample distribution (specifically gender and nationality). We estimated the means and standard deviations based on gender and nationality. We also compared the means to see if such differences are statistically significant. According to the data shown in Table 4, the mean value for both males and females are very similar with a higher value for most of the variables for males except for one variable, which is SCC. This result indicates that females are more interested in sharing their purchasing experience about social commerce in the platforms of SM using different ways such as likes, shares and reviews. In addition, it is noticeable that the PV construct witnessed the highest difference in the mean values between males and females.

Table 4   Descriptive analysis by gender

Gender	Male		Female	
Construct	Mean	Std. dev.	Mean	Std. dev.
Performance expectancy (PE)	3.917	0.779	3.886	0.739
Effort expectancy (EE)	4.014	0.726	3.864	0.743
Social influence (SI)	3.438	0.798	3.106	0.964
Facilitating condition (FC)	3.963	0.732	3.680	0.798
Hedonic motivations (HM)	3.565	0.876	3.498	0.969
Habit (HT)	2.913	1.061	2.857	1.033
Perceived value (PV)	3.607	0.765	3.195	0.786
Social commerce constructs (SCC)	3.839	0.767	3.905	0.727
Trust (TR)	3.213	0.817	3.023	0.799
Behavioural intention	3.542	0.847	3.272	0.931

Table 5   Descriptive analysis by nationality

Nationality	Qatari		Non-Qatari	
Construct	Mean	Std. dev.	Mean	Std. dev.
Performance expectancy (PE)	4.048	0.831	3.872	0.726
Effort expectancy (EE)	4.092	0.770	3.881	0.728
Social influence (SI)	3.559	0.924	3.149	0.915
Facilitating condition (FC)	4.049	0.796	3.715	0.776
Hedonic motivations (HM)	3.868	0.837	3.467	0.939
Habit (HT)	3.515	0.964	2.768	1.013
Perceived value (PV)	3.685	0.788	3.258	0.785
Social commerce constructs (SCC)	3.980	0.691	3.869	0.743
Trust (TR)	3.347	0.856	3.041	0.788
Behavioural intention	3.765	0.738	3.284	0.924

Table 6 One-way ANOVA test for gender and nationality

Demographic factor	Gender		Nationality	
Construct	F	Sig.	F	Sig.
Performance expectancy (PE)	0.170	0.681	3.270	0.071
Effort expectancy (EE)	4.111	0.043	4.783	0.029
Social influence (SI)	13.050	0.000	11.582	0.001
Facilitating condition (FC)	13.104	0.000	10.655	0.001
Hedonic motivations (HM)	0.494	0.483	10.909	0.001
Habit (HT)	0.285	0.594	31.881	0.000
Perceived value (PV)	27.688	0.000	17.177	0.000
Social commerce constructs (SCC)	0.798	0.372	1.322	0.251
Trust (TR)	5.523	0.019	8.508	0.004
Behavioural intention	8.820	0.003	16.551	0.000

Furthermore, we conducted a one-way ANOVA test to check if such differences are significant (between males and females). According to results shown in Table 6, which shows significant differences between six variables' means. The same test was conducted on nationality, where results show higher means for non-Qatari sample (Table 5). Similarly, we did a one-way ANOVA test to see if such differences are statistically significant (check the same in Table 6). Results indicated that the highest difference in mean values was between the values of the habit construct, which yielded the lowest mean value for the non-Qatari sample. As a surprise, such results are nearly similar to the results reported by the study conducted in Saudi Arabia, where habit showed similar mean value (Sheikh et al., 2017). Finally, the ANOVA test showed that all mean differences are significant except for the case of PE and SCC.

4.4 Hypotheses testing

An initial test of the bivariate correlations between all model variables serves two purposes: first, it shows if the model suffers from multicollinearity issues, where extremely high correlations [above 0.85 (Hair et al., 1998)] is an indicator of such case. The highest correlation value among all independent variables is 0.657, which is much lower than the recommended threshold. The second benefit from the correlation matrix is to see an initial test of each independent variable if it significantly predicts BI (alone). The last row shows that all predictors of BI are significant. The most influential factor is PV (beta = 0.766) and the lowest is PE (beta = 0.417). Table 7 shows Pearson's correlation matrix.

Table 7 Pearson's correlation matrix

Construct	PE	EE	SI	FC	HM	HT	PV	SC	TR
Performance expectancy (PE)	1								
Effort expectancy (EE)	.457**	1							
Social influence (SI)	.492**	.558**	1						
Facilitating condition (FC)	.367**	.657**	.521**	1					
Hedonic motivations (HM)	.425**	.526**	.457**	.497**	1				
Habit (HT)	.437**	.543**	.564**	.546**	.627**	1			
Perceived value (PV)	.412**	.567**	.565**	.543**	.580**	.618**	1		
Social commerce constructs (SCC)	.370**	.425**	.355**	.384**	.501**	.472**	.502**	1	
Trust (TR)	.395**	.480**	.482**	.462**	.532**	.587**	.657**	.485**	1
Behavioural intention	.417**	.562**	.548**	.583**	.627**	.679**	.766**	.536**	.731**

Note: **Correlation is significant at the 0.01 level (2-tailed).

Finally, we performed a multiple regression to test the hypotheses and as shown in Table 8. The coefficient of determination $R^2 = 0.730$ and the adjusted $R^2 = 0.725$. The model was found to be significant in predicting BI, with an F test significant with $p < 0.001$. The results of the regression test indicated that six variables have a significant influence on the dependent variable BI. The strongest predictor of BI is PV with beta = 0.33, $p < 0.001$, followed by trust with a beta = 0.289, $p < 0.00$, and habit with beta = 0.147, $p < 0.001$. Finally, three variables (PE, EE and SI) failed to compete on the variance and were insignificant predictors of BI.

Table 8   Multiple regression coefficient table

Constructs	Unstand. coeff.		Stand. coeff.	t	Sig.	Collinearity statistics	
	B	Std. error	Beta			Tol.	VIF
(Constant)	–0.404	0.161		–2.516	0.012		
Performance expectancy (PE)	–0.016	0.036	–0.013	–0.438	0.661	0.669	1.494
Effort expectancy (EE)	–0.003	0.045	–0.003	–0.075	0.94	0.450	2.223
Social influence (SI)	0.019	0.033	0.02	0.576	0.565	0.517	1.934
Facilitating condition (FC)	0.129	0.04	0.112	3.215	0.001	0.493	2.029
Hedonic motivations (HM)	0.096	0.034	0.098	2.831	0.005	0.493	2.028
Habit (HT)	0.129	0.033	0.147	3.967	0.000	0.433	2.309
Perceived value (PV)	0.375	0.043	0.33	8.638	0.000	0.408	2.448
Social commerce constructs (SCC)	0.084	0.038	0.068	2.24	0.026	0.641	1.559
Trust (TR)	0.326	0.039	0.289	8.277	0.000	0.489	2.044

Table 9   Hypotheses testing results summary

H #	Hypotheses	Beta	Sig.	Hypotheses status
H1	Performance expectancy → BI	–0.013	0.661	Not supported
H2	Effort expectancy → BI	–0.003	0.940	Not supported
H3	Social influence → BI	0.020	0.565	Not supported
H4	Facilitating conditions → BI	0.112	0.001	Supported
H5	Hedonic motivation → BI	0.098	0.005	Supported
H6	Habit → BI	0.147	0.000	Supported
H7	Perceived value → BI	0.330	0.000	Supported
H8	Social commerce → BI	0.068	0.026	Supported
H9	Trust → BI	0.289	0.000	Supported

The coefficient table indicates that the VIF values all are above 1 and under 10. In addition, the tolerance estimates are all between 0.408 and 0.669, which indicates that the model does not exhibit a multicollinearity issue. To sum up, and according to the above-mentioned analysis, three hypotheses were not supported and the rest of hypotheses were supported. H1, H2 and H3 are not supported which contradict with the base model of the UTAUT2 of Venkatesh et al. (2012) and even the model of UTAUT of Venkatesh et al. (2003). At the same time, the result is partially similar to many

other studies, where EE and SI were insignificant also in more than one study (Escobar-Rodríguez and Carvajal-Trujillo, 2013; Sheikh et al., 2017; Zhou et al., 2010). Such result might be because of the high technological environment which Qatar witnesses where using the technology in online shopping became a routine activity. Table 9 illustrates a summary of the different hypotheses testing results.

5 Conclusions and future works

This study investigated the factors that influence the intention to buy through social commerce in Qatar. The study tried to extend the UTAUT2 so it accommodates the context of Qatar. It followed the recommendations of Venkatesh et al. (2016) to test the UTAUT2 and focus on different contextual factors. These higher-level contextual factors include environmental attributes, organisational attributes and location attributes. Moreover, the study tested the model with a focus on new business concept (social commerce) to check the model ability to anticipate the adoption of this concept.

Trying to predict BI of social commerce in Qatar, FC, hedonic motivation, habit, PV, SCCs, and trust, had significant and positive influence on BI. This supported H4, H5, H6, H7, H8 and H9 hypotheses. While, PE, EE, and SI were not significant predictors of BI (Hypotheses H1, H2 and H3 were rejected). The coefficient of determination of the research model $R^2 = 0.730$, where it is analogous or slightly higher than the UTAUT and UTAUT2. Based on that, the main factors that influence the intention to buy through social commerce in Qatar are ordered as follows: PV, trust, habit, FC, hedonic motivation and SCCs. This result supports the previous results of the previous literature studies (Baptista and Oliveira, 2015; Escobar-Rodríguez and Carvajal-Trujillo, 2013, 2014; Gan and Wang, 2017; Hajli, 2015; Sheikh et al., 2017; Venkatesh et al., 2012). In the case of EE and SI, similar studies reported similar results (Escobar-Rodríguez and Carvajal-Trujillo, 2013; Sheikh et al., 2017; Zhou et al., 2010). Finally, the result related to PE in the Qatari context contradicts with previous research (Abed, 2018; Sheikh et al., 2017; Venkatesh et al., 2012).

5.1 Recommendations and implications

This study has important implications on practice, where managers should work actively to spur the consumers' intention to buy through social commerce using SMWs. To do that, Qatari companies' should intensively study the main predictors and influencers on the consumers' intention to buy according to their importance and significance. Our results require appropriate strategies to reinforce the PV for consumers to realise the values generated from the offered products and services. Managers should pursue building effectively the value proposition, which they offer to their consumers. Moreover, they have to look carefully to the antecedents of both the PV and trust as they are the most influential factor on the behavioural intention to buy in Qatar through social commerce. These results support the previous studies about the importance of the PV and the items that build that construct either the benefits which the consumers get or the sacrifices and risks that they face (Chen et al., 2018; Gan and Wang, 2017).

Trust is the second important construct that affects BI. Managers should look up in the literature on how they can build the required level of trust and its antecedents in Qatar. For instance, being a social commerce vendor requires to build an excellent

reputation profile and to give a price advantage to the consumers as factors that influence trust (Yahia et al., 2018). Also, managers should check out the requirements of building trust with both the social factors and the structural factors (Lu et al., 2016). Finally, this study concluded that habit is the third most influential factor on BI through social commerce in Qatar, thus managers should design their SMWs in a way that makes them more familiar to customers. They also need to offer technical support to customers when implementing major changes to the website, and focus on old users of the website as they might exhibit stronger habitual behaviour.

This study extended the UTAUT2 with SCC, where results supported the significant positive relationship between SCC variable and BI (Guo et al., 2011; Hajli, 2015; Hajli and Sims, 2015). Managers should take SMWs as a new dominating marketing and communication tool. The reason behind that is the distinctive characteristic of Web 2.0. Mutual interaction and content creation by consumers are represented by the reviews, recommendations, likes and sharing content, which is the SCCs on the SMWs. These constructs could be considered as the electronic or social word-of-mouth (e-word-of-mouth), where its role was supported in previous research (Hajli, 2014, 2015; Hajli et al., 2014; Naveen and Tung, 2011). From a user perspective, social commerce customers are encouraged to recognise the importance of information provided by SMWs during, and pre/post purchase stages (Alhakimi and Alwadhan, 2021).

Business managers can better utilise FCs and hedonic motivation to increase customers' adoption within social commerce context. They have to prepare their SMWs to achieve the targets of being comfortable, enjoyable and entertaining to the users. Recent research emphasised the role of convenience in attracting customers to social commerce (Palacios and Jun, 2020; Gera et al., 2021). Also, for those who are not familiar with purchasing online or with the tools that the website is using, managers should provide an effective way to give them the essential knowledge that helps them throughout the purchase process either by publishing tutorial videos or step by step manuals. These efforts will increase the consumers' attrition/acquisition to the SMWs of the companies who are doing social commerce (Sheikh et al., 2017).

5.2   Study limitations

According to the current sample and situation of the data collection, there are some limitations to the study, which we need to mention to be avoided in future research. First, the study was performed in Qatar, which has its distinctive cultural characteristics that need to be tested. To be able to generalise the results, sample categories need to be balanced. However, due to the data collecting method which we chose (the snowball method), Qatari respondents concluded a small part of the sample, which makes data analysis not generalisable (this study included 68 responses from Qatari nationals 14.7% only). In addition, a larger sample would have benefited the validity of the research model and conclusions. This is based on a statistical conclusion, where independent variables compete on the variance of the dependent variable and thus they are redundant (yield insignificant results).

Second, the study sample was unbalanced in term of gender where females were 68.9% and males were 31.1%. Similar to nationality, our results related to gender comparisons cannot be generalised, but can be used for future research. The differences

influenced one of the important factors (PV) as it was the only factor with differences related to gender. Third, as we focused and amended the structure of UTAUT (especially PV), it would be appropriate if we collected data related to subjects' income level. The PV construct and income level might be important to be included in the study. Fourth, the number of variables included in the study made the instrument items' list overwhelming, which might has influence the response rate. This was evident from the massive number of subjects who did not complete the survey after finishing the demographic questions (28% quit the survey once they moved to the questionnaire's main page). Finally, although most of the survey items were adopted from previous studies, we would like to increase some items while decreasing the number of variables. We think this strategy may give more reliability to the study constructs and could give more accurate results. The reason would be the concentration that respondents will gain when answering less items.

5.3   Future research work

According to the research conclusions, discussion, and research limitations, which were mentioned formerly, we suggest a list of future directions to be followed either inside Qatar to check the context influence or outside Qatar. First, inside Qatar, more research is needed that includes a larger percentage of Qatari nationals to be able to generalise the results. Also, research, is needed with a balanced sample between males and females, which maps the distribution of Qatari society.

Moreover, future research is required with more attention to the antecedents of the two significant variables in our study (the PV and trust). PV and trust are constructed from different items which need to be tested. This test will give more insights into the most influential items that affect the consumers' perceptions of these two variables. This study replicated another study in Saudi Arabia (with few differences), Future research on comparing the two contexts based on cultural differences or focus on multiple countries from the region to confirm the results of this study. Another future research could be to test the model proposed in this study and focus on the adoption process of different technologies in Qatar. The reason behind that is the distinctive characteristic of social commerce based on its monetary interactions, which may affect consumers' propensity to adopt such technology. Other technologies may include the consumers' behavioural intention to buy through mobile applications.

This study could be extended to add the use behaviour to the model, where BI might be an antecedent of use behaviour and to check the transformation degree from intention only to actual use behaviour. In this way, the full original model of Venkatesh et al. (2012) could be compared in term of results with Qatari context result. In addition, previous studies supported the role of demographic factors as determinants of social commerce usage, where such perspective provides useful insights to businesses in the field (Juntongjin, 2021; Abu-Shanab, 2021). Finally, we recommend using a qualitative research method to examine the factors that have an effect on consumers' intention to buy through social commerce. This will give more insights of the determinants of consumers' decision-making process and the prioritisation of their interests.

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Appendix

Table A1   Descriptive analysis (overall sample, N = 463)

Item short description		Mean	Std. dev.
PE_1	I find social media websites very useful	3.960	0.921
PE_2	Using SMWS increase chances of achieving things	3.880	0.902
PE_3	Using SMWS help me accomplish things	4.090	0.891
PE_4	I can save time when I use SMWS	3.650	1.203
Performance expectancy		*3.895*	*0.751*
EE_1	Learning to use SMWS is easy	4.020	0.856
EE_2	interaction with SMWS is understandable	3.780	0.952
EE_3	I find SMWS for purchase are easy	3.890	0.897
EE_4	I can be skill fill in using SMWS for purchases	3.950	0.855
Effort expectancy		*3.910*	*0.741*
SI_1	People important to me think that I should use SMWS for purchasing	3.230	1.045
SI_2	People influence my behaviour think, I should us SMWS for purchasing	3.130	1.034
SI_3	People I value their opinion think I should us SMWS for purchasing	3.270	1.009
Social influence		*3.209*	*0.927*
FC_1	I have the resources to use SMWS for purchasing	3.930	0.925
FC_2	I have the knowledge to use SMWS for purchasing	3.960	0.894
FC_3	I feel comfortable using SMWS for purchasing	3.420	1.084
Facilitating conditions		*3.768*	*0.788*
HM_1	Using SMWS for purchasing is fun	3.480	1.029
HM_2	Using SMWS for purchasing is enjoyable	3.560	1.004
HM_3	Using SMWS for purchasing is entertaining	3.520	1.023
Hedonic motivation		*3.519*	*0.940*

Table A1   Descriptive analysis (overall sample, N = 463) (continued)

Item short description		Mean	Std. dev.
HT_1	Purchasing through SMWS is habit for me	2.970	1.157
HT_2	I am dedicated to use SMWS for purchasing	2.560	1.170
HT_3	I must use SMWS for purchasing	2.900	1.181
HT_4	It is natural for me to purchase through SMWS	3.070	1.191
Habit		*2.875*	*1.041*
PV_1	SMWS offer better value for money for purchasing	3.180	1.077
PV_2	Shopping on SMWS take reasonable time	3.560	0.976
PV_3	Shopping on SMWS improve the way I am perceived	2.910	1.117
PV_4	Prices on SMWS are reasonable	3.350	1.046
PV_5	Overall, shopping on SMWS is worthwhile	3.610	0.924
Perceived value		*3.323*	*0.802*
SC_1	I will ask for suggestions online before I do shopping on SMWS	3.830	0.920
SC_2	I am using others recommendations to buy a product	3.990	0.906
SC_3	I am willing to buy products that have more like and shares	3.870	1.017
SC_4	I am recommending products to others on SMWS	3.930	0.908
SC_5	I am sharing my shopping experience to others on SMWS	3.810	0.977
SC_6	I am using ratings and reviews to share my shopping experience	3.880	0.962
Social commerce constructs		*3.885*	*0.739*
TR_1	Providers on SMWS are trustworthy	2.950	0.972
TR_2	Providers on SMWS keep promises and commitments	3.280	0.959
TR_3	I trust providers on SMWS as they keep my interest in mind	3.000	0.955
TR_4	Providers on SMWS are honest	2.960	0.955
TR_5	Providers on SMWS care about consumers	3.220	0.988
Trust		*3.082*	*0.809*
BI_1	I will continue using SMWS for future purchases	3.470	0.946
BI_2	I will always try SMWS for purchasing	3.290	1.003
BI_3	I will frequently use SMWS for purchasing	3.310	1.011
Behavioural intention		*3.356*	*0.913*