

Antecedents of consumers' adoption of electronic commerce in developing countries

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ABSTRACT

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The purpose of this study is to look into Jordanian customers' purchasing habits in regard to electronic commerce. The goal of this research is to investigate the impact of social media on electronic commerce trust and purchasing behavior. Trust's impact on social commerce was also investigated. Furthermore, the influence of social commerce on electronic commerce purchasing behavior has been studied in greater depth. This study proposed a conceptual model, which was empirically tested with a survey of 150 Jordanians. The study's findings stated that social media and social commerce had a significant impact on Jordanians' purchasing behavior toward e-commerce. Besides that, trust has a significant impact on social commerce. Furthermore, social commerce influences e-commerce purchasing behavior. Because the study was limited to Jordan, one of the primary limitations of this study is that the results cannot be generalized. Similar studies in other countries are needed to either support or refute our findings.

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1. Introduction

One of the most significant challenges in developing countries is technology acceptance (Almajali et al., 2021b). Furthermore, Capabilities in technology are the core IT structure of an organization, including software, hardware, external network systems and databases (Masa'deh et al., 2019). Social commerce, a new type of e-commerce, is a result of electronic commerce technological advancements. Social media has generated several social capabilities that have aided the evolution of social commerce. In today's competitive world, for businesses to successfully promote their products and services on a global scale, they must reform the information technology infrastructure used in their facilities (Almajali et al., 2016a). To speed up the transaction rate for goods and services, interactions between customers on social media is important (Hajli, 2015, 2019a). As products and services transactions are enabled, the created content by customers in the form of reviews, recommendations, and so on, through social commerce, helps to produce value for online vendors and customers (Hajli, 2019b; Lin et al., 2019). As a result, business owners should make an effort to incorporate social technologies into their operations (Hammouri & Altaher, 2020). Therefore, through social media, businesses look for ways to enable social participation and interactions. There are various types of social media, like Facebook, Instagram, YouTube, and Shopify. Besides that, social media is viewed as a collection of online platform-based tools that assist customers in marketing their products and services through content created and shared, as well as communicating with one another (Kaplan & Haenlein, 2010). Furthermore, it has been demonstrated that the use of these platforms is critical for entrepreneurial businesses growth (Abdus-Samad et al., 2020). Customers

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can now interact with one another online using social media (Hajli, 2014), share information (Uzunoglu & Kip, 2014) and create content (Heinonen, 2011). Several studies have examined the use of social commerce-related activities as well as social media practices (Lin et al., 2019). Customer reviews and ratings are examples of social shopping characteristics found on social commerce sites (Hajli & Sims, 2015; Hajli, 2015). Such characteristics create a dependable environment in which customers can present content via feedback (Lu et al., 2010).

For example, Lin et al. (2019) approved that trust is the foundation to connect social commerce antecedents. Customers' trust is a key factor in social commerce, influencing customer satisfaction (Beyari & Abareshi, 2018). Furthermore, the purchasing behavior of customers governs the decision-making process for acquiring products, services, or ideas (Du Plessis, 1990). Consumer behavior changes brought about by social media have a significant impact on modern marketing (Hampton et al., 2011). Marketers are now aware of the potentials of changing consumer behavior in conjunction with social media, as they use these tools in customer acquisition, management, and sales growth (Wang, 2017). As a result, business owners must be well-versed in social commerce platforms. Despite extensive social commerce research, the challenges that business owners face in social commerce have received less attention. Organizations have embraced social media at a rapid pace (Barnes & Mattson, 2008; Hammouri et al., 2021b), and as a result, it has evolved into a potent networking tool that connects people from all over the world. It contributes to the socialization process by being instant, inexpensive, and simple to use, as well as having a large reach (Miller et al., 2009). Interestingly, Alrousan and Jones (2016) stated that e-commerce adoption in Jordan is slow. According to a report issued by the Department of Commerce (2014), despite the fact that Internet and e-mail use is increasing among Jordanians, e-commerce is still in its early stages of use for the business community. Adoption of social commerce is not widely addressed by researchers and is not fully understood (Huang & Beneyocef, 2013). Furthermore, there is a lack of a theoretical model that analyzes the major factors influencing users' purchasing behavior toward e-commerce (Farivar & Yuan, 2014). Moreover, the adoption of this new trend was not thoroughly researched in Jordan, and as a result, much work remains to be done.

The main goal of this study is to investigate the main factors that influence consumers' purchasing behavior toward e-commerce in Jordan, as well as to propose a model for this purpose. A sample of Jordanian respondents is used to test and implement this model. The implementation of the proposed model provided us with the opportunity to emphasize the significance of the constructs that influenced the adoption process and, as a result, increased our level of understanding of this phenomenon. According to the above information and our knowledge, there is no single study that has studied consumers' purchasing behavior toward e-commerce with antecedents of social media, trust, and social commerce in Jordan up to the present. This emphasizes the significance of this study in filling this void, and it is expected that the data gathered will be regarded as valuable feedback for businesses and government sectors.

The following section examines the relevant literature. The hypotheses are derived from this theoretical foundation. The next section will cover the research model, design, and data analysis. Finally, the findings are discussed and also, we make recommendations for future research.

2. Literature Review

2.1 Social Media

Development of social media has resulted in a shift from e-commerce to social commerce, where users are involved in the business processes in co-creating value for other users throughout the process of transaction (Wigand et al., 2008). Facebook, Instagram, and Shopify are examples of social media platforms; such platforms provide different interaction features like blogs and discussion groups. Social interactions have received a lot of attention lately, especially when it comes to customer engagement (Schultz, 2016). Social networking sites users build their own online communities (Mueller et al., 2011). Such communities raise awareness of brands, products, services, and vendors. Social media users exhibit more variety-seeking behavior (Teerakpibal & Melanthiou, 2019). Furthermore, social media allows businesses to develop positive relationships with their customers and increase customer engagement (Park & Kim, 2014).

2.2 Trust

Trust is the transaction partners' confidence, competence, and willingness to uphold their commitment to relationship norms and promises (Hammouri et al., 2021a; Nadeem et al., 2019). Product presentation and vendor information are extended naturally by user-generated content in social commerce (Jaradat et al., 2020; Yue et al., 2017). According to Doney and Cannon (1997), trust is described as a prerequisite for likelihood to interact with sellers online early on. A higher level of trust in an online environment drives customers' purchasing intentions and their intent to repurchase in the future (Jarvenpaa et al., 2000). Therefore, a trusting environment leads to increase in sales, productivity, and effectiveness (Hammouri & Abu-Shanab, 2020; Kim et al., 2004). According to Smith et al. (2017), meeting the needs of consumers is the primary source of trust building. Customers' trust, or their perception of trustworthiness their transaction partners have, has a significant impact on consumer purchase intentions, particularly in high risk and uncertainty situations, like social commerce (Kang & Johnson, 2013). Therefore, developing trust in social commerce leads to improved profitability for all parties involved.

2.3 Social Commerce

Social commerce allows customers to interact with one another as well as with brands. As a result, these parties can exchange information and initiate transactions in a highly efficient manner (Leitner & Grechenig, 2008). In essence, social commerce consists of social media functions that enable purchase and sales (Liang et al., 2011). Many social media users drive social commerce, where several activities are open to communities, generate a word-of-mouth effect and may impact others' behavior (Liang et al., 2011). Despite extensive social commerce research, it is clear that social commerce challenges for business owners have received little attention. Social commerce thus supports customer interactions via social media platforms from an entrepreneurial perspective in this study (Wang & Hajli, 2014).

2.4 Purchasing Behavior

Customers' purchasing behavior determines the decision process for the acquisition of need-satisfying products, ideas, or services (Du Plessis, 1990). As a result of the imbalance created by the unsatisfied needs and wishes, the buyer decides. Typically, a customer is in five stages of buying behavior: recognition of need, search for information, alternative evaluation, buying decision and post-sale behavior (Engel et al., 1968). This decision is influenced both by external factors, such as culture, demographics, social status etc. and by internal factors, including perception, learning, emotions (Hawkins et al., 2004). Changes in consumer behavior, because of social media, add a new dimension to modern marketing (Hampton et al., 2011).

3. Hypotheses Development and Research Model

3.1 Social Media Effect on Trust

User interaction and participation are encouraged in the social media environment (Schultz, 2016). Previous findings revealed that social networking sites help to reduce the levels of uncertainty in the social commerce environment by increasing the level of trust among connected customers (Swamynathan et al., 2008). Interactions on social media, particularly exchanges of brand information, increase trust in these websites. The social commerce characteristics of this situation like social interaction with buyers/sellers contribute to building a mutual trust among all involved parties (e.g., Hajli, 2014b). Hence:

H₁: *Social media influences positively on trust with social commerce.*

3.2 Trust Effect on Social Commerce

Trust may contribute to a more positive social commerce sense in general (Hammouri & Abu-Shanab, 2017; Zalloum et al., 2019). This trusting attitude has a direct influence on customer satisfaction. Generally, consumers are satisfied when they notice a sense of trust, honesty, and competence in a website (Flavian et al., 2006; Hammouri et al., 2020). Therefore, trust is demonstrated to be an important part of customer satisfaction when they buy online (Kim & Park, 2013). Furthermore, trust is a prerequisite for the ongoing relationship of customers and vendors (Faraoni et al., 2019). Because social commerce transactions are fraught with uncertainty and risk (Hammouri et al., 2016), trust serves as the foundation for purchase decisions. As a result, trust facilitates and influences social commerce. Therefore:

H₂: *Trust affects positively social commerce.*

3.3 Effect of Social Commerce on Purchasing Behavior

Chen et al. (2018) conducted a study to determine which factors influence a consumer's behavioral intention in the context of social commerce websites, and to explore overall purchase intentions based on the consumers' cognitive evaluation. The investigation reveals that consumers' multidimensional perceptions influence both their value perceptions and purchase intentions. Customers' purchase intentions are also influenced by other related social awareness factors investigated by this study. In conclusion, the findings show that customer purchasing decisions and behavioral intentions are influenced by perceived value and social awareness factors for both men and women. Furthermore, Liu et al. (2019), found that social commerce has an impact on purchase intent, with the latter being triggered by the argument quality of consumer-generated content. Therefore, it can be hypothesized that:

H₃: *Social commerce positively affects purchasing behavior.*

3.4 Effect of Social Media on Purchasing Behavior

A new, more collaborative and networking approach to customer relationship management is emerging as social media and commercialism collide (Trainor et al., 2014). Social media has a high impact on the relationship between customers and has a positive effect on the customer shopping experience, which improves customer relations (Osterwalder & Pigneur, 2002). According to Singh et al., new technology such as social media has improved customer relations (2008). People rely on social

media to gather the information they need to make informed purchasing decisions (Eid et al., 2020; Salvatori & Marcantoni, 2015). The use of social media by both consumers and businesses has aided the development of a new business model in which consumers' final decisions are influenced by web content created by other consumers. Social shopping is the name given to this new model (Shen & Eder, 2011). As a result of this new technology, traditional e-commerce has evolved from a product-oriented environment to a social and consumer-centered one (Esmacili et al., 2015). Therefore:

H₄: *Social media influences positively on purchasing behavior.*

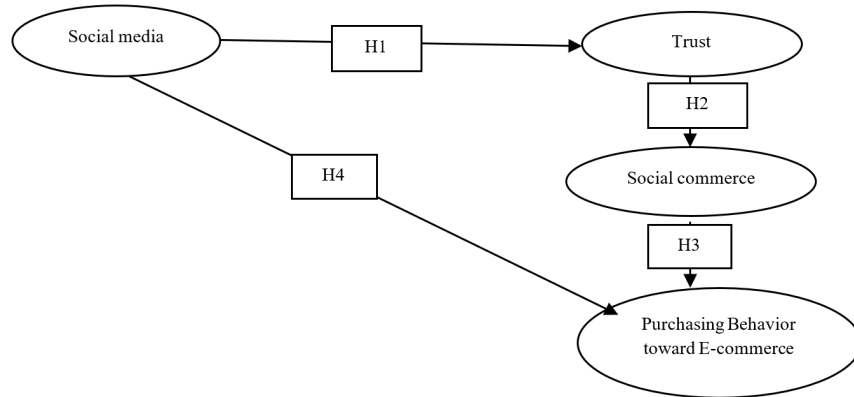


Fig. 1. Research Model

4. Methodology

4.1 Construct Measurement

To meet the objective of the study, an electronic survey was utilized to gather data and to find a sample of relevant users. From previous research, all online questionnaire measures were adapted. To evaluate the use of social media, 4 items adapted by Hajli et al. (2015) were used. For trust, a 5 items scale has been established (e.g., Gefen & Straub, 2004; Liang & Turban, 2011). Wenchen and Hsing Lee (2020) created a 4-item scale to assess social commerce. Furthermore, purchasing behavior is influenced by 7 factors adapted from (Duffett, 2017; Scholtz, 2020). The measurement items are modified to fit the research domain and are scored on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree).

4.2 Data Collection

Users of major social media platforms were polled for the primary data for the survey. Instagram, Facebook, and Spotify are examples of these platforms. The questionnaire was distributed to responses that had a social media account using a method known as purposeful sampling. A total of 400 questionnaires were sent out via Google Forms. The survey received 220 responses. After removing incomplete questionnaires from the sample, 150 usable data entries remained. Females accounted for 60% of the 150 respondents, while men accounted for 40%. In terms of the highest level of education, 66% have a bachelor's degree, 19% have a master's degree, and 4% have a doctorate. 11% had another level of education; most of these participants were in secondary school. In addition, 22% of 150 respondents said they use Instagram, 3% said they use Facebook, 2% said they use Shopify, and 73% said they use other social media platforms. Furthermore, 35% of respondents have had one year of online shopping experience, 5% have two years, 56% have three years, and the remaining 4% have none. The demographics of the sample are depicted in Table 1.

Table 1
Sample demographics

Gender	Male	40%
	Female	60%
Level of education	Bachelor	66%
	Master	19%
	Ph.D	4%
	Other	11%
Type of social Network	Instagram	22%
	Facebook	3%
	Shopify	2%
	Other	73%
Online shopping experience	1	35%
	2	5%
	3	56%
	Other	4%

5. Data Analysis and Result

5.1 Structure Reliability Assessment

To proceed with the structural equation model analysis, each measure of correlation reliability must be evaluated using Cronbach's alpha. Cronbach's alpha values of 0.60 to 0.70 are recommended by some researchers (such as Hair et al., 2006). While the reliability of the observed elements in the survey structures is presented in a range of 0.67 to 0.88, as depicted in Table 2, all research structures exceeded the recommended Cronbach Alpha value (i.e., between 0.60 and 0.70), indicating a satisfactory level of reliability, and composite reliability values ranged from 0.72 to 0.85. While in a measuring model the convergent validity test is important for ensuring that all the indicators on a single structure load are loaded together, the discriminating validity test is also required to ensure that different buildings are evaluated in real time.

Table 2

Reliability Test

Variable Name	Code	Cronbach's alpha Value
Social media	Sm1-Sm4	0.70
Trust	TR1-TR5	0.67
Social commerce	SC1-SC4	0.74
Purchasing behavior	Pb1-Pb7	0.88

5.2 Convergent Validity

When standard regression weights are important, some researchers have argued (for example, Schwab, 1980) that convergence is validated. Fornell and Larcker (1981) also stressed that the higher the load factor, the more likely the measured scales represent the combinations. According to Table 3, the researchers looked at the standard regression weights of the research indicators and discovered that some of them had a low load on the underlying variables (less than 0.50, which is the standard value recommended by Newkirk and Lederer (2006); Sm3 = 0.211, TR2 = 0.421, SC3 = 0.121, Pb3 = 0.302, Pb5 = 0.410, Pb7 = 0.332, to name a few. Furthermore, all these elements were removed and excluded from further analysis because they did not meet the recommended minimum value for factor 0.50 downloads (Newkirk & Lederer, 2006).

5.3 Discriminant Validity

Several tests were used to validate the distinction. The validity of the discrimination in the measurement model, according to Fornell and Larcker (1981), can be tested by looking at the extracted mean co-contrast (AVE) using latent combinations. In addition, the connections between search structures can be used to assess the validity of the distinction by looking for any extremely high correlations.

Table 3

Prosperities of the Measurement Model

Construct	Factor loading	Composite reliability
Social media (Sm)		0.85
Sm1	0.622	
Sm2	0.626	
Sm4	0.533	
Trust(TR)		0.72
TR1	0.617	
TR3	0.701	
TR4	0.655	
TR5	0.533	
Social commerce (Sc)		0.74
Sc1	0.713	
Sc2	0.511	
Sc4	0.677	
Purchasing behavior (Pb)		0.77
Pb1	0.644	
Pb2	0.511	
Pb4	0.698	
Pb6	0.544	

The presence of such massive correlations suggests that the models have a discriminant validity issue. Additionally, discriminatory validity occurs when the AVE for each construct exceeds the square link between that construct and any other structures (Fornell & Larcker, 1981). As shown in Table 4, using Fornell and Larcker's (1981) formula to calculate the mean variance extracted from a latent structure, this study found that all combinations explained 50% or more of the variance, with values ranging from 0.69 to 0.81, meeting the recommendation that the AVE value must be at least 0.50 per build. Furthermore, as

shown in Table 4, the distinction was validated because AVE values for each set of structures were more than square associations. As a result, the measurements distinguished the structures significantly.

5.4 Assessment of Measurement Model

For several reasons, the maximum probability (ML) estimate is appropriate in SEM for obtaining a statistical effect on the model's suitability for the dataset. First and foremost, ML is a widely used estimation method, particularly with small sample sizes ranging from 100 to 200. It is also used to estimate all model parameters at the same time (Fronnel & Larker, 1981). The χ^2 / df ratio is another indicator that requires three or fewer values for an acceptable model (James et al., 1982). The lower the percentage value, the better the fit in this case. However, some researchers (for example, James et al., 1982) advocated for a ratio of 2 to 5. Furthermore, if the values of AGFI, NFI, IFI, TLI, and CFI range between 0.80 and 0.90, they are considered acceptable (Fornell & Larcker, 1981). The RMSEA value considers the model's goodness-of-fit. Acceptable values should be between 0.05 and 0.08 (Newkirk & Lederer, 2006). As a result, the results confirmed that the measurement model corresponds to the data collected (see Table 5).

Table 4

AVE and square of correlations between constructs.

	Sm	TR	SC	Pb
Sm	0.78			
TR	0.133	0.74		
SC	0.137	0.139	0.69	
Pb	0.145	0.163	0.147	0.81

Table 5

Fit Indices for Measurement and Structural Model.

Quality of fit measure	Measurement model	Structural model
χ^2/df	1.22	2.44
AGFI	0.71	0.82
CFI	0.81	0.90
TLI	0.63	0.87
IFI	0.74	0.84
NFI	0.77	0.93
RMSEA	0.021	0.075

5.5 Hypotheses Testing and Result of the Study

The empirical study's findings, as shown in this study, presented interesting results for discussion, which extended previous research in the areas of e-commerce. As shown in Table 6, four propositions related to the study's objectives were developed and tested. The four proposed relationships were supported. The C.R. estimate for each parameter is shown in Table 6. According to the findings, social media has a significant positive and direct impact on trust ($P = ***$). As a result, H1 is supported. Trust has a significant positive effect on social commerce ($P = 0.012$). For H3, social commerce has a significant positive impact on purchasing behavior ($P = ***$), indicating support. H4 is also supported by social media, which has a positive significant impact on purchasing behavior ($P = 0.026$).

Table 6

Hypothesis Testing.

Path	t-value	Coefficient value	P-value	Results
Sm → TR	2.01	2.22	***	Supported
TR → SC	3.143	2.87	0.012	Supported
SC → Pb	2.652	2.51	***	Supported
Sm → Pb	6.111	6.113	0.026	Supported

6. Discussion

From product specifications to promotions and to transactions, social media has become a vital aspect of e-commerce (Ngai et al., 2015). As a result, it is critical for business owners to understand the challenges of this scope when planning for digitization. As a result, we conduct empirical research to investigate the relationship between social media, trust, social commerce, and purchasing behavior to provide better insights to business owners about digitalization. Our study yielded some significant findings and contributions to this study objective. Firstly, this is one of the first studies to focus on the challenges that business owners face when it comes to social commerce. The findings support the notion that social media has an impact on trust.

When consumers are unsure about something, they can use social media to ask questions and get answers. As a result, previous research has discovered that social media is a major influence of trust (Kim & Ko, 2010; Woodcock et al., 2011). Furthermore, our findings support Hossain and Kim's (2020) study, which found that customers perceive social commerce as trustworthy. Secondly, trust has a significant impact on social commerce in this context. The findings back up Bansal and Chen's (2011) argument that trust is important for establishing social commerce. Furthermore, the findings of this study revealed that social media is a significant predictor of consumers' intention to engage in e-commerce purchasing behavior. Farivar and Yuan (2014), Liang and Turban (2011), Hajli (2014), and Khan and Sadiq (2014) all came to similar conclusions. Jordanians are more likely to trust a social commerce company if they believe it is trustworthy and will keep its promises, according to this study. These findings are like those of Farivar and Yuan (2014), Hajli (2014), and Hajli and Lin (2015). In addition, our findings revealed that social media has a positive impact on purchasing behavior. These findings are consistent with Mangold and Faulds' research (2009). Furthermore, our findings show that social commerce has a significant impact on electronic commerce purchasing behavior. These findings are consistent with the findings of (Bai, 2015), which found that social support, seller uncertainty, and product uncertainty all influence user behavior. The findings also show that social commerce can significantly boost consumers' social shopping purchase intentions. Finally, from a theoretical standpoint, the findings of this study provide new information about consumers' intentions to adopt e-commerce in general, and specifically in Jordan, and they broaden our knowledge and understanding of key factors that influence this phenomenon.

7. Limitations, Future research, and Conclusion

Even though the current study was designed and carried out, there are some limitations to the results. Social media, trust, social commerce, and purchasing behavior are the four constructs that make up the research model. This method is an abstraction of reality, like every other model. This study, for instance, focuses on the impact of social media on trust. Ratings, for example, could be considered in future research to help people better understand the situation. Further research could look into the role of a consumer's individual purchase history. As a result, breaking down social media into more refined states may help our approach's explanatory power even more. Most of the participants in this study came from popular social networking sites. The respondents were screened to see if they had accounts on popular social media platforms like Instagram, Facebook, and Shopify. Future research could expand the approach discussed here to other popular platforms like AliExpress (online retail service). Other social media applications that appeal to millennials, such as TikTok, naturally come to mind if such applications also provide opportunities for social commerce.

To the best of the researchers' knowledge, this is the first study to investigate Jordanians' intentions to switch their purchasing habits to electronic commerce. Customers' reactions to this new trend are largely unknown. As a result, this research significantly adds to the body of knowledge and understanding in Jordan about consumer intentions. The research model was validated and empirically tested, and the results revealed several predictors that had a significant impact on customers' final purchasing decisions. From a theoretical standpoint, the findings of this study provide new information about consumers' intentions toward e-commerce adoption in general and in Jordan in particular. As a result, this research broadens our knowledge and understanding of important factors that influence this phenomenon, and as a result, all related industries should benefit from the findings. Governments should also invest in IT infrastructure and provide logistical support to encourage and facilitate the efficient implementation of e-commerce. This is the first study in Jordan that we are aware of that looked at users' intentions toward purchasing behavior. The findings and data gathered are valuable information for businesses and government sectors looking to invest more in this field.

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