

Social Commerce Adoption Predictors: A Review and Weight Analysis

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Abstract. Social commerce is a rapidly growing platform of e-commerce that utilises social media and online social interaction to build brand awareness and increase sales. Buying and selling through social media can create a reliable and sustainable platform for buyers and vendors, offering an alternative platform to traditional online approaches. Research on social commerce began to achieve traction in 2006 and has grown since with a significant focus from academics who have offered new insight to many of the key topics. This study seeks to offer an additional contribution to the literature by analysing the predictors of consumer adoption of social commerce from existing studies by employing a weight analysis technique. The analysis considered seven dependent variables (along with their best and worst predictors) that are most frequently examined and are relevant to consumer adoption. The review presented in this study suggests that the intention to purchase is the most frequently examined dependent variable and that *trust* in the social commerce context is a key factor.

Keywords: Social commerce · Weight analysis · Literature review

1 Introduction

Development and growth of social media platforms (such as Facebook, Twitter, LinkedIn and Instagram) have given rise to a new business model for e-commerce, frequently known as social commerce. Social commerce utilises web 2.0 technology and a specially designed infrastructure to support online communications and user contributions to assist in the acquisition of products and services [1]. Social commerce technologies are not only delivering a platform for communication between consumers to vendors as well as consumers to consumers but also creating significant challenges for scholars that have led to the development and validation of new models and theories. According to e-commerce marketing statistics, 74% of online consumers are relying on social media to guide their purchases, and 60% of businesses have gained new customers through social media within the US [2]. This highlights the importance of social media for facilitating information diffusion and augmenting towards further growth of e-commerce. Social commerce has proved to be an essential platform for online shoppers where consumers can view the product, read reviews, analyse key

information and browse special offers [3]. The use of social commerce drives an active engagement that regularly presents relevant product content within the consumer's news feed and social media interactions. In this way, consumers can interact with others using likes, comments and tagging posts within their friend network. Moreover, social commerce can help to generate loyal and sustainable customers via word of mouth and by supporting other customers to make timely buying decisions [4]. There are six dimensions of social commerce that create a sustainable social commerce platform: social shopping; rating and review; recommendation and referrals; forums and communities; social media optimisation; social ads and applications [5]. Due to emerging social commerce applications and increasing interest in this topic, researchers have conducted the number of studies to offer an additional contribution and facilitate wider adoption of social commerce platforms. However, in this study, we analyse the role of several different antecedents of social commerce intention and adoption that have been examined within the literature. The analysis revealed that the effect of such antecedents has been inconsistent across different studies in terms of significance and coefficient relationships between independent and dependent variables. No study has yet to conduct a consolidated view of the effect of various antecedents of social commerce intention, use behaviour and other related dependent variables. Also, no study has an attempt to understand the value of the relationships of social commerce adoption. The research model is one of the essential parts of the research. Therefore, it is also essential to understand various independent and dependent variables. However, this study based on social commerce, the research focuses on independent/dependent variables and relationship that influence social commerce adoption. The study is providing a robust view of the variables that will be supportive of creating a concrete research model. The objectives of this study are to summarise the relationships and analyse the weight of the relationship using the weight analysis technique. This study to gain new insight into the various predictors of social commerce related dependent variables including intention, trust, satisfaction, attitude and urge to buy impulsively.

To develop the objectives, this study undertook the following steps: (1) Identify empirical studies that utilised different models, and associated antecedents (predictors) for understanding consumer adoption of social commerce, (2) Conduct a weight analysis using results from exiting studies to determine the importance of various predictors. This paper is structured as follows. Section 2 of this paper briefly describes the research method employed to conduct this study. Section 3 then presents the results from the weight analysis, and the paper is concluded within Sect. 4.

2 Research Method

The literature has highlighted several types of review studies for a deeper understanding of this area. This review studies were attempt weight analysis method, investigated the theories and model and conducted adoption researches. This studies based on: specific journals e.g. [6–9]; methods e.g. [10]; theories and models e.g. [11–15] and topics e.g. [16–29]. Searches were undertaken using Scopus database the following set of keywords: "Social commerce" "S-Commerce" OR "F-Commerce" AND title ABS Key "Adoption" OR "Acceptance" OR "Usage" OR "Use Behaviour"

OR "Intention" OR "Purchase". We make sure the keywords are included in abstracts or title or keywords of the journal paper. This search returned 166 articles. Therefore, we eliminated the conference paper, internet and newspaper blogs and only considered journal articles. Then we separated qualitative and quantitative studies and used quantitative studies for applying weight analysis technique. However, 68 studies were not related to social commerce adoption. Finally, we focus on 73 journal articles which are related to social commerce adoption and published from 2006 to 2019.

3 Weight Analysis

Weight analysis is a practical approach to calculate the importance of predictors. Weight analysis determines the inductive and predictive power of an independent variable over the dependent variable. This technique helps to rank the variables to understand the most important and least important relationships. Also, this technique supports to calculate each relationship, significant level and the predictors' weight. In this study, the weight analysis technique finds out different relationships that influence social commerce adoption. Therefore, the independent and dependent variables, which are the most important aspects of developing a perfect adoption model. Using weight analysis, we summarised all the relationships and segregated based on significant and non-significant relationship. Therefore, the weight result indicated the value of the relationships. Therefore, all the relationships, variables and weight values will be helpful for the researcher to choose appropriate variables to develop a suitable research model for further studies. The weight analysis approach employed within this study was adopted from Jeyaraj et al. [30] and Tamilmani et al. [31] where the analysis of the weights of each relationship is developed from the dependent and independent variables. This study has selected the following most frequently examined dependent variables: Intention to purchase, Trust, Social commerce intention, Behavioural intention, Urge to buy impulsively, Attitude and Satisfaction. Each of the listed tables that present the weight analysis calculates the antecedents of a specific dependent variable, the total number of times a particular relationship has been examined and how many times each relationship is found to be significant and non-significant. The weight columns present the weight analysis of each of the relationships. The weight analysis provides four different values: (a) "+1" indicate the significant relationships between independent and dependent variables and hypothesised in positive direction, (b) "-1" indicate the non-significant relationships between independent and dependent variables and hypothesised in negative direction, (c) "0" suggest that the relationship of independent and dependent variable is insignificant, (d) "Blank" when the relationships were not examined [31]. Of the 73 articles examined, 251 are unique and can be described as exhibiting significant relationships and 32 were categorised as nonsignificant relationships. These relationships were aligned to the following seven dependent variables: intention to purchase (Table 1), trust (Table 2), behavioural intention (Table 3), social commerce intention (Table 4), satisfaction (Table 5), urge to buy impulsively (Table 6) and attitude (Table 7).

3.1 Intention to Purchase

Table 1 lists 32 out of 73 studies and highlights 108 individual relationships. The study found 63 independent variables which were aligned to the dependent variable - *Intention to purchase*. However, identical relationships that were examined in five or more studies are considered as strong utilised relationships and independent variables and were considered to be the best predictor of the dependent variable. Additionally, less than four of the relationships were considered as experimental variables with a weight of 0.80 or above., Independent variables could be considered as a promising predictor when used in less the five studies and have the perfect weight of 1 [31]. In this study, the best predictor found *trust* as an independent variable utilised maximum time with *purchase intention* (examined eight times) with all studies finding a significant

IV	Sig	Citation	Non-Sig	Citation	Total	Weight
Trust	8	Kim and park [32]; Hajli et al. [33]; Makmor et al. [34]; Adwan [35]; Hajli et al. [36]; Faratin and Rodríguez [37]; Lee and Choi [38]; Zhao et al. [39]	0		8	1
Familiarity	4	Adwan [35]; Hajli et al. [36]; Ng [40]; Gibreel et al. [41]	0		4	1
Recommendations and referrals	2	Makmor and alam [42]; Mikalef et al. [43]	1	Li et al. [51]	3	0.66
Trust toward member	2	Farivar et al. [44]; Chen and Shen [45]	0		2	1
Brand trust	2	Zhao et al. [39]; Erdoğmuş [46]	0		2	1
Social presence	2	Adwan [35]; Hajli et al. [36]	0		2	1
Swift guanxi	2	Lin et al. [47]; Yang [48]	0		2	1
Familiarity	2	Hajli et al. [36]; Gibreel et al. [41]	0		2	1
Informational support	1	Makmor and Alam [42]	1	Li et al. [51]	2	0.5
Perceived commerce risk	0		2	Farivar et al. [44] Gan et al. [50]	2	1
Social commerce constructs	1	Hajli et al. [49]	1	Li et al [51]	2	0.5
Usefulness	1	Lee and Choi [38]	1	Gibreel et al. [41]	2	.50

Table 1. Weight analysis summary for intention to purchase

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Trust toward website; Mutual understanding; Relationship Harmony; Reciprocal favour; Trust in social network community; Closeness; WOM Content; Observe Consumer Purchase; Positive Valence WOM; Negative valence WOM; Social Desire; Commercial Desire; Good Friend; Simple friend; Non-reportable stranger; Re-routable stranger; Community commitment; Trust towards community; Trust in product recommendation; Brand engagement; Form factor; Intention to search; Para social interaction; EWOM information; Intuitive evaluation; Social identity; Rating and Reviews; Socializing; Product selection; Trust in sellers; Usage behaviour; System trust towards social commerce apps; Utilitarian value; Social value; Hedonic value; Social commerce information seeking; Innovativeness; Guanxi elements; Perceived value; Customers' experience; Discount rate; Social media product browsing; Positive; Observing consumer purchasing; Heuristic factors; Systemic factors; Attitude; Trust in sellers; Forums and Communities; Attitude towards eWOM; EWOM engagement; Social commerce information seeking

The following constructs had been tested by only one study and their effect was nonsignificant with resulting weight of 0: Perceived ease of use; Income; Emotional support; Information availability; Customer loyalty; Particularized trust towards social commerce members; Electronic inventiveness; Scarcity of time; Scarcity of quality; Provisional coupon

effect. Familiarity has been utilised in four instances and all have found significant. Five independent variables occur in two instances with buying intention, and those are Recommendations and referrals, Trust toward member, brand trust, social presence and Swift Guanxi with weight "0". Additionally, 74 independent variables have occurred with a weight of "1". Recommendations and referrals have been utilised three times and found to be significant in two studies and non-significant in one study with a weight "0.66". Informational support, perceived commerce risk, social commerce construct and usefulness analysis with intention to buy found two non-significant relationships. The weight result found "0.50" in three of those relationships. Finally, ten relationships found non-significant with weight "0" (See Table 1).

3.2 Trust

Table 2 represents 24 studies and 52 relationships on the subject of *trust*. The study found six significant relationships among *information quality* and *trust*. Additionally, five studies found significant associations between *relationship quality* and *trust*. However, three independent variables: *emotional support*, *social presence*, *familiarity* have occurred four times with *trust* and found significant relationships. The weighted analysis of the above relationships results "1" and were found as best predictors. Four hypotheses (Reputation, communication, size and WOM referrals) appeared twice and found significant relationships with weight "1". The product price has found one significant and one non-significant relationship with the weight result "0.50". The 19 independent variables found highlighted a relationship towards *trust* and found a significant correlation with weight "1". Finally, two more relationships found to be non-significant with a weight result "0" which are the worst predictors in the study.

IV Sig Citation Non-Citation Total Weight Sig Information 6 Lu et al. [52]; Faratin 0 6 1 and Rodríguez [37]; Lin quality et al. [24]; Kim and Noh [34]; Shanmugam et al. [32]; Li et al. [51] Relationship 5 Liang and Turban [1]; 5 1 quality Zhang et al. [54]; Hajli [55]; Sheikh et al. [56]; Tajvidi et al. [57] 4 4 **Emotional** Makmor et al. [34]: Lin 0 1 et al. [47]; Shanmugam support et al. [53]; Li [51] 4 0 4 1 Social presence Adwan [35]; Li et al. [51]; Hajli [58]; Lu et al. [52]

Table 2. Weight analysis summary for trust

(continued)

IV	Sig	Citation	Non- Sig	Citation	Total	Weight
Familiarity	4	Gibreel et al. [41]; Hajli [32]; Adwan [35]; Li [51]	0		4	1
Reputation	2	Lu et al. [52]; Kim and Noh [59]	0		2	1
Communication	2	Lu et al. [52]; Kim and Noh [59]	0		2	1
Size	2	Lu et al. [52]; Kim and Noh [59].	0		2	1
Word-of-Mouth referrals	2	Lu et al. [52]; Gibreel et al. [41]	0		2	1
product price	1	Yahia et al. [60]	1	Gibreel et al.	2	.50

Table 2. (continued)

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Internal similarity, External similarity, Closeness, Social presence of interaction with sellers, Perception of others, Trust in sellers, Susceptibility reviews, General credibility, Perceived Security, E-WOM information, Perceived security, Perceived ease of use, Trust in product, Symbolic value, Feedback, Interactivity, Social Commerce Constructs, Transaction Safety

The following constructs had been tested by only one study and their effect was nonsignificant with resulting weight of 0: Persuasiveness. Economic Feasibility

3.3 Behavioural Intention

Table 3 presents 11 studies on *behavioural intention* as the dependent variable. The literature analysis found 26 significant relationships among various independent variables with *behavioural intention* and six non-significant relationships. The best predictor is perceived usefulness which was appeared in six studies with the weight "1". Perceived ease of use hypnosis in four studies with significant relationship and one study found non-significant relationship that weight ".080". Risk appeared in three studies and weight "0.66". Three studies quantified the factors - effort expectancy, facilitating conditions and social influence with *behavioural intention* as significant and defined one as non-significant with weight result "0.50". The worst relationship found among Perceived connective affordances and *behavioural intention* with weight result "0".

IV	Sig	Citation	Non- Sig	Citation	Total	Weight
Perceived usefulness	6	Williams [61]; Biucky et al. [62]; Hajli et al. [58]; Featherman [63]; Shin et al. [66]; Tello et al. [64]	0		6	1
Perceived ease of use	4	Kim and Noh [59]; Hajli [58]; Biucky et al. [62]; Featherman and Hajli [63]	1	Williams [61]	5	.80
Risk	2	Biucky et al. [62]; Tello et al. [64]	1	Featherman and Hajli [63]	3	.66
Effort expectancy	1	Gatautis and Medziausiene [65]	1	Sheikh et al. [68]	2	.50
Facilitating conditions	1	Gatautis and Medziausiene [65]	1	Sheikh et al. [68]	2	.50
Social influence	1	Gatautis and Medziausiene [65]	1	Sheikh et al. [68]	2	.50
Perceived enjoyment	2	Shin [66]; Akman and Mishra [67]	0		2	1
Subjective norm	2	Featherman and Hajli [63]; Shin [66]	0		2	1

Table 3. Weight analysis summary for behavioural intention

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Learning and training, perceived hedonic affordances, perceived utilitarian affordance, Innovativeness, Convenience, Perceived Social pressure, Perceived satisfaction, Perceived awareness, perceived Ethics, Trust perception person, The website's reputation, Website visual and design, Attitude, Social commerce constructs, Price saving orientation, Hedonic motivations, Habit, Performance expectancy

The following constructs had been tested by only one study and their effect was nonsignificant with resulting weight of 0: Perceived connective affordances

3.4 Social Commerce Intention

Social commerce intention quantified as dependent variables appeared in 11 studies with 40 relationships. However, 35 relationships were found to be significant, and five relationships defined as non-significant. Table 4 lists various independent variables with the relationship between social commerce intentions. Social support with social commerce intention was found to be the best predictors. The relationships have appeared in five studies with weight "1". Therefore, Flow, relationship quality, website quality and social presence appeared three times with significant relationships. Informational support, trust towards community and emotional support found twice with significant relationships as well. However, all the relationships are weight "1" which is

found as best predictors. Finally, the worst predictors are Habit, forums and communities, recommendations and referrals, perceived interactivity and perceived personalization with *social commerce intention* found the negative relationship and weight "0."

IV	Sig	Citation	Non- Sig	Citation	Total	Weight
Social support	5	Liang and Turban [1]; Hajli [55]; Zhang et al. [54]; Sheikh et al. [28]; Hajli and Sims [74]; Hajli [55]; Liang et al. [69]; Zhang et al. [54] sheikh et al. [56]; Hajli and Sims [70]	0		5	1
Flow	3	Zhang et al. [71]; Molinillo et al. [72]; Bhat and Singh [73]	0		3	1
Relationship quality	3	Hajli [55]; Liang et al. [69]; sheikh et al. [56]	0		3	1
Web site quality	3	Liang and Turban. [1]; Molinillo et al. [72]; Bhat and Singh [43]	0		3	1
Social presence	3	Zhang et al. [71]; Molinillo et al. [72]; Bhat and Singh [43]	0		3	1
Informational support	2	Molinillo et al. [72]; Lal [74]	0		2	1
Trust towards community	2	Lal [74]; Goraya et al. [75]	0		2	1
Emotional support	2	Molinillo et al. [72]; Bhat and Singh [43]	0		2	1

Table 4. Weight analysis summary for social commerce intention

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Social commerce constructs, Rating and reviews, Community commitment, Trust towards Members, Service quality, Perceived Sociability, Trust in Platform, Ease of navigation, Hedonic motivation, Perceived ease of use, facilitating conditions, Trust in the s-vendor

The following constructs had been tested by only one study and their effect was nonsignificant with resulting weight of 0: Perceived personalization, Perceived interactivity, Recommendations and Referrals, Forums and Communities, Habit

3.5 Satisfaction

Nine studies used satisfaction as dependent variables and are presented in Table 5. In this study we found 19 significant relationships and one non-significant

relationship. The study found the best predictors are Social support, utilitarian, hedonic, relationship quality and confirmation that appeared twice. However, the relationships are found significant with weight "1". Information quality with satisfaction appeared once as a significant and once as a non-significant predictor and found the weight "0.50". Moreover, Perceived usefulness, trust, service quality, system quality, physical environment quality, outcome quality, interaction quality, perceived risk has relationship with satisfaction and result significant with weight "1". This study did not find any non-significant relationships within the literature.

IV	Sig	Citation	Non- Sig	Citation	Total	Weight
Social	2	Gan et al. [50]; Osatuyi	0		2	1
support		et al. [76]				
Utilitarian	2	Gan et al. [50]; Osatuyi	0		2	1
		et al. [76]				
Hedonic	2	Gan et al. [50]; Osatuyi	0		2	1
		et al. [76]				
Relationship	2	Liang and Turban [1];	0		2	1
quality		Zhang et al. [54]				
Confirmation	2	Hew et al. [77, 78]	0		2	1
Information	1	Vongsraluang and	1	Cho and	2	0.5
quality		Bhatiasevi [79]		Son [80]		

Table 5. Weight analysis summary for satisfaction

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Perceived usefulness, trust, Service quality, system quality, physical environment quality, outcome quality, interaction quality, perceived risk

3.6 Urge to Buy Impulsively

Urge to buy impulsively was referenced in six different studies with 12 significant relationships and one non-significant relationship. Table 6 presents the urge to buy impulsively as dependent variables with Hedonic shopping value and impulsiveness as independent variables. Both of the relationships appeared twice and found significant predictors with weight "1". However, the independent variables such as consumer attitude, arousal, pleasure, affective trust in recommender, serendipity information, scarcity, para social interaction and perceived enjoyment relationship with the urge to buy impulsively found significant with weight "1". Therefore, the worst predictor is utilitarian shopping value with weight "0".

IV	Sig	Citation	Non- Sig	Citation	Total	Weight
Hedonic shopping value	2	Chung et al. [81]; Xiang et al. [82]			2	1
Impulsiveness	2	Chung et al. [81]; Xiang et al. [82]			2	1

Table 6. Weight analysis summary for urge to buy impulsively

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Consumer attitude, arousal, Pleasure, Affective trust in recommender, Serendipity information, Scarcity, Para social interaction, Perceived enjoyment

The following constructs had been tested by only one study and their effect was nonsignificant with resulting weight of 0: Utilitarian shopping value

3.7 Attitude

Table 7 has listed consumer *attitude* towards social commerce. Five studies used *attitude* as a dependent variable. In this study, the best predictor is perceived enjoyment with *attitude* that appeared in two studies and found significant relationships. However, *Usefulness, Ease of use, Social interaction, Vendor trust, Social networking site trust, Systemic factors, Heuristic factors, Perceived benefit, Trust in the initiator, Peer norm, Trustworthiness and Attractiveness with attitude weight "1".*

Table 7. Weight analysis summary for attitude

IV	Sig	Citation	Non-Sig	Citation	Total	Weight
Enjoyment	2	Shin [66]; Cho and Son [80]	0		2	1

The following constructs had been tested by only one study and their effect was significant with resulting weight of 1: Usefulness, Ease of use, Social interaction, Vendor trust, Social networking site trust, Systemic factors, Heuristic factors, Perceived benefit, Trust in the initiator, Peer norm, Trustworthiness, Attractiveness

4 Discussion and Conclusion

This study conducted a weight analysis technique to determine the importance of various predictors of consumer adoption of social commerce. However, it is essential that a robust research model needs reliable variables, and this study provided a summary of those variables. The results revealed the most important independent and dependent variables that influence social commerce adoption. Using weight analysis technique, the study finds out the different value of the predictors. The study found Trust, behavioural intention, social commerce intention, urge to buy impulsively, satisfaction and attitude that used in maximum studies that influence social commerce. The weight analysis has identified the best, moderate and worst predictors of consumer

adoption for social commerce. The analysis of this study found that Trust to purchase intention, information quality with Trust, social support with social commerce intention and satisfaction, informational quality with behavioural intention, perceived enjoyment with attitude and hedonic shopping value with the urge to buy are the best predictors. There is no study without limitation. However, this study points out some limitation and recommend future step for the scholar to take forward this study. Firstly, the study has considered journal papers. Therefore, future research could involve conference papers to minimise publication bias. Secondly, the study did not include any control variables. However, future research can separately analyse them and can showcase their impact on the independent/dependent variables. Thirdly, this study considers the essential variables and relationship that influence social commerce adoption. However, some other variables appeared in less study. A future study could involve those for a better view. Lastly, the study considered the weight analysis method. Therefore, Future research can extend this study further using a different method such as Meta-analysis with the combination of weight analysis.

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