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ABSTRACT

The integration of social media technologies in online shopping has given rise to social commerce platforms, and has introduced the phenomenon of herd behaviour to this medium. This work-in-progress paper examines the role of herd behaviour, trust and homophily in influencing the purchasing behaviour of consumers. A research model is proposed along with a methodology for empirically validating it. Potential contributions to theory and practice are discussed.

Keywords

Herd behaviour, social commerce, trust, homophily, observational learning

INTRODUCTION & BACKGROUND

Online shopping is witnessing explosive growth and rapidly developing into a multi-trillion dollar industry. E-commerce sales are predicted to hit $4 trillion by 2020 when it will account for 14.6% of all consumer retail spending (eMarketer 2017). This growth is coupled with increasing closures of traditional brick and mortar stores. For example, it is forecasted that 8640 stores will close this year in the US (Wigglesworth 2017), and a quarter of all shopping malls will shut-down within the next five years (Peterson 2017). As more and more individuals flock towards the appeal of e-shopping, various social phenomena are beginning to emerge online, as users rely on each other, and the unique features of the web-based medium, in informing their purchasing decisions.

These unique features have risen in part through the introduction of social media technologies, which are applications that rely on the creation of user-generated content (Kaplan and Haenlein 2010). The integration of social media in online shopping has given rise to a new form of e-commerce, which has appropriately been termed social commerce. With the pervasiveness of social media permeating all aspects of the online experience, the boundaries of social commerce remain loose, as researchers struggle to come to a consensus on what it constitutes. To this end, numerous interpretations of the term have been put forth (Zhang and Benyoucef 2016; Wang and Zhang 2012; Marsden 2011), and inconsistencies in the definitions have been cited (Zhang and Benyoucef 2016). In this paper, we utilize a definition that builds on the view that social commerce platforms are e-commerce websites that add social tools to encourage social interactions and sharing (Zhang and Benyoucef 2016; Huang and Benyoucef 2013). To further refine this definition, we classify these tools as consisting of social media markers (SSM), which are online tools that indicate statistics gauging and assessing the activity of others, such as the number of likes, shares, purchases or star-rating of a product or service.

Because social commerce is still emerging, understanding the drivers behind consumer purchase intention in this setting has received little attention (Zhang and Benyoucef 2016). This is an area that may be of particular importance to both vendors and designers interested in learning how consumers use these platforms in informing their buying decisions.

When used in an online shopping setting, SSM allow users to observe the actions of others in regards to purchasing decisions. For example, the popular online social commerce platform Etsy (www.etsy.com) allows users to see how many people have purchased from a particular seller, along with the average star rating for products, the total feedback, and the total number of favorites (these are the equivalent of Facebook likes).

This ability to observe how others are shopping is a driver for a prevalent social phenomenon known as herd behaviour, which arises when a user makes a decision primarily based on his/her observations of others actions- a concept known as observational learning (Sun 2013). This occurs when a user feels he/she is less informed about a decision than the collective wisdom of the crowds (Banarjee 1992; Bikhchandani and Sharma 2000; Scharfstein and Stein 1990), resulting in his/her expression of imitative behaviour. The extent to which one imitates another's decision has been used as a proxy to measure herding (Sun 2013), and this approach will be adopted in this research.

While social commerce is gaining momentum in the information systems field (Zhang and Benyoucef 2016), an area that warrants further exploration is the role of homophily in perpetuating herd behaviour in the social commerce context. Homophily is the extent to which individuals associate with similar others (Laumann 1966). It has been shown to influence online behaviour such that

users rely more on information emanating from homophilious online sources than others (Steffes and Burgee 2008; Wang et al. 2008; Chu and Kim 2011)

Furthermore, trust may play a critical role in herding; it has been demonstrated that when an individual trusts another, he/she is more likely to follow their actions (Golbeck 2009; Deutsch 1962; Sztompka 1999).

Both herding (Chen 2008; Huang and Chen 2006) and trust (Chang and Chen 2008) have been shown to impact users online purchasing decisions, and as such, may be important factors to consider in the social commerce context. Furthermore, observational learning may be a useful element of the online interface design in influencing these behaviours, and homophily may play an important moderating role with respect to observational learning. This leads to the following research objectives: (1) to examine the role of herding (expressed through imitative behaviour) and trust, in influencing purchasing intention on social commerce platforms; (2) to examine the role of observational learning as a factor in the social commerce interface that serves to influence these antecedents; and (3) to examine whether homophily moderates the relationships between observational learning and these antecedents in this context.

RESEARCH MODEL & HYPOTHESES

Our research objectives will be addressed through the proposed model in Figure 1. Herd behaviour is conceptualized through expression of imitative behaviour (Sun 2013), which is the extent to which a consumer follows others' decisions (as indicated through the use of social media markers) when forming a purchasing intention.

Trust is a complex construct with a multifaceted nature (Gefen et al. 2003) and has been defined as the willingness of a party to be vulnerable to the actions of another, based on the expectation that the other party will perform actions important to him/her (Rousseau et al. 1998; Mayer et al. 1995). Although trust has been decomposed into various components, it is suggested that when trust is not the primary focus of a study, combining trusting beliefs into a single construct may provide for a more parsimonious approach (Schlosser et al. 2006; Hassanein & Head 2007). As such, this parsimonious view is adopted in this paper. Furthermore, trust can be studied from various angles, and here it is examined from the perspective of a user's trust in the herd.

Observational learning (OL) is the act of decision making based on the observation of others' actions, and has been recognized as a driving force for herd behaviour (Banarjee 1992; Bikhchandani et al. 1992; Sun 2013). The simple act of witnessing others' choices may result in an inclination to mimic them. Imitating others may be particularly attractive because it serves as a cognitive shortcut (Nickolevea 2014), reducing the need to engage in information searching and decision making (Rao et al. 2001; DiMaggio and Powell 1983). This is relevant in online shopping because of the information overload associated with it (Speier et al. 1999).

Furthermore, OL leads to the perception that others are present in the online space (Caspi and Blau 2008; Shen & Khalifa 2009). Perception of others' presence is a construct that has been attributed as a dimension of social presence (Lu et al, 2016), which is the extent to which users perceive others as being psychologically present in a medium (Gefen & Straub 2003). Social presence is grounded in communication theory that emphasizes the ability of a medium to relay social cues (Short et al., 1976). It has been linked to trust (Hassanein & Head 2007; Simon 2001; Gefen and Straub 2003; Wang and Emurian 2005), such that the greater the social presence, the higher one's trust. Because the observation of others is tied to social presence, it may be hypothesized that OL may result in higher levels of trust. The foregoing discussion leads to the following hypotheses:

H1: Observational learning is positively related to imitative behaviour

H2: Observational learning is positively related to Trust

Homophily is the tendency of "like to associate with like" (Kossinets 2009) and is the extent to which individuals are likely to establish contact with similar others (De Choudhary et al. 2010). It is associated with the phrase "birds of a feather flock together", and has been demonstrated in numerous settings (McPherson et al. 2001), including the online medium where users with similar characteristics are found to gravitate together (Singla and Richardson 2008; Matsuo and Yamamoto 2009). Furthermore, homophily has been linked to trust such that individuals who are similar to each other tend to trust each other more (Matsuo and Yamamoto 2009; Golbeck 2009). Homophily has also been found to be associated with imitative behaviour such that individuals are more likely to imitate those who are similar to them (Durrett and Levin 2003). These findings imply an important role of homophily in relation to observational learning. If people tend to associate more with similar others such that they are willing to follow their lead, then observing the actions of homophilious others may lead to stronger imitative behaviour; it may also amplify one's trust in the herd. This leads to the following hypotheses:

H3: Homophily will moderate the relationship between observational learning and imitative behaviour such that the effect is stronger at higher levels of homophily

H4: Homophily will moderate the relationship between observational learning and trust such that the effect is stronger at higher levels of homophily

The literature on herding suggests that imitating others may impact one's own decision outcomes (Sun 2013). Imitative behaviour occurs because it provides individuals with a convenient heuristic, especially when confronted with informational overload online (Bonabeau 2004).

This is more pronounced in purchasing decisions, because with the complexity and noise of the online medium, relying on imitation may aid the decision-making process. Furthermore, researchers have found a direct link between imitative behaviour and purchasing online. Chen (2008) demonstrates that herd behaviour positively influences purchasing intentions. Furthermore, research indicates a link between trust and purchase intention (Cheng and Chen 2008), and this relationship is re-examined here within a new context (social commerce). As such, the following hypotheses are posited:

H5: Imitative behaviour is positively related to purchase intention

H6: Trust is positively related to purchase intention

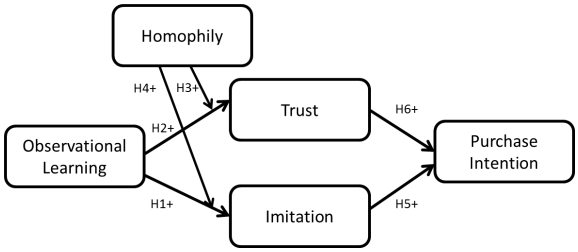

Figure 1. Research model

RESEARCH METHODOLOGY

The research model will be validated using an experimental design followed by a survey. The design involves development of a fictitious website to manipulate various treatments of OL and homophily cues. Use of experimental websites as a design approach has been demonstrated in other web-based studies (Hassenein and Head 2007; Wagner et al. 2014).

The website will be designed to resemble the social commerce platform Etsy.com, but with an emphasis on highlighting OL and homophily cues. The website will display a clothing item and subjects will be asked if they would purchase the item as a gift for a friend if given the chance. The product and design of the site will remain constant across treatments; however, the levels of the cues will vary for different participants, as per the experimental design. Clothing is selected as the product of choice because recent studies (Bain, 2016) have identified it as a best-selling online item, implying its potential for mass appeal.

The OL cues used will be the number of purchases the product has received, and the homophily cues will be in the form of a homophily index indicating the degree of similarity between an individual and those who have made prior purchases. Two levels of each cue will be used: high and low. A control treatment will also be included where no cue is administered. Thirty participants will be randomly assigned to each treatment, for a total sample size of 270. After viewing the experimental site, subjects will answer a survey regarding the constructs. Manipulation check questions will be utilized to assess whether or not the subjects perceive the treatments as intended. Table 1 models this set-up.

Homophily Index	Observational Learning Cues		
	None	Low	High
None	30	30	30
Low	30	30	30
High	30	30	30

Table 1. Research design

Subjects will be undergraduate/MBA university students recruited through the use of postings on two university websites, and posters at two campuses.

The experimental task will begin by instructing subjects to view a website that will ask for their consent. They will then be presented with a demographic questionnaire to identify their gender, age, education, and general interests. Subjects will be informed that this will be used to form the basis of the homophily index. They will then be asked to complete the experimental shopping task described above. Prior to data collection, a pilot study will be employed using the website, followed by administration of a survey with the model's measures and demographic data. 30 students will be recruited from the authors' university for this pilot study. The ethics board at the authors' university will be consulted prior to any data collection.

Measurement scales for all constructs will be adapted from the literature, to ensure content validity. OL will be measured using a 4-item scale adapted from Cumming et al. (2005); imitative behaviour will be measured with a 3-item scale from Sun (2013); purchase intention will use a 2-item scale adapted from Azjen (1991); and trust will be adapted using a 4 item scale from Gefen et al. (2003). All factors will use a seven-point Likert scale.

Model Validation, Post-hoc Analysis, & Sample Size

The proposed model will be assessed using structural equation modeling (SEM) The Partial Least Squares method will be applied based on its capabilities that allow the modeling of latent constructs under conditions of non-normality and small-medium sample sizes (Chin et al., 2003). The measurement models in PLS will be assessed for item loading, internal consistency and convergent and discriminant validities, and the structural model quality will be tested for variance explained and goodness of fit. The SmartPLS (version 2.0M3) software package (Ringle 2005) will be used to run the analyses. To triangulate results, a qualitative component will be included in the instrument through use of open ended questions to allow for more in depth explanations and clarifications of the participants' experience. Content analysis techniques will be applied to identify underlying patterns. To further explore data, a saturated model analysis (Chin et al. 2003) will be used to identify additional non-hypothesized relations.

The minimum sample size for PLS can be derived through a rule of thumb where the overall sample size is 10 times the items for the most complex construct in the model (Gefen et al. 2000). The highest number of items in our model is four, which results in a minimum sample size of 4 * 10 = 40. However, to account for our design requirement of 30 participants per cell, 300 subjects will be recruited (to allow for incomplete responses).

POTENTIAL CONTRIBUTIONS

This research promises potential contributions to theory by explicating the relationships between herd behaviour, homophily and trust, and its overall impact in influencing one's intent to form purchasing decisions within a social commerce context. As social commerce platforms become more prevalent, herd behaviour is becoming a much more common phenomenon, and understanding how it can influence purchasing decisions is critical. Findings from this research can contribute to practice by providing vendors and designers with insights into how elements in the social commerce interface can influence consumer purchasing behaviour. In highlighting the role of homophily and observational learning cues, vendors and designers may find a tool at their disposal in enhancing the overall experience their social commerce site affords their consumers.

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