Consumer Engagement with Social Media Platforms: A Study of the Influence of Attitudinal Components on Cutting Edge Technology Adaptation Behaviour

Abstract

Despite pervasive use of digital devices, the influence of simultaneous and combined attitudinal components on consumers' social media adaptation behaviours remains understudied. This research aims to address this gap in the literature by examining the influence of combined attitudinal components on consumers' continuous interaction with social media platforms. An online survey was conducted to obtain robust quantitative data on consumers' interaction and engagement with cutting edge technology such as social media. The findings indicate that consumers' combined cognitive (perceived opportunity, perceived social influence and perceived control) and affective (enjoyment, self-enhancement, trust and fear) attitudinal components are the antecedents to consumers' positive and negative adaptation behaviours of social media platforms. Consumers continuously engage with cutting edge social media platforms, either in positive adaptation behaviour (exploration to maximise or exploitation to satisfice social media led benefits) or negative adaptation behaviour (explore to revert from or avoid social media platforms) influenced by combined cognitive and affective attitudinal attributes. The study enriches and advances existing literature by identifying and analysing the influence of both cognitive and affective attitudinal attributes influencing consumers' positive and negative adaptation behaviours of cutting edge digital technology such as social media platforms. The study helps marketers and IS managers in profiling consumers and understanding consumption patterns while interacting with cutting edge social medial platforms.

Key Words: Cognitive and Affective Attitude**,** Adaptation Behaviour, Social Media Platforms

1. Introduction

The emergence of digitalisation has initiated a new era of innovation, use and adaptation of technology (Agarwal et al., 2017), as technological advancements such as artificial intelligence and social media have significantly transformed human lives (Marakhimov & Joo, 2017; Shadbolt & Hampson, 2018). It is increasingly challenging for users to avoid interacting with innovative technologies (Kuchler, 2017; Shadbolt & Hampson, 2018) due to the creation of innumerable cutting-edge technological touchpoints (Sharma, 2017; Roberts, 2018). These touchpoints enhance connectivity and flexibility, enabling users to adapt and subsequently integrate these cutting-edge platforms into their daily lives (Dey, Yen & Samuel, 2020). It is estimated that approximately 2.77 billion people have adopted social media worldwide and this number is expected to exceed three billion by 2021 (Clement, 2019). However, consumers vary in terms of their decision to use, adapt and abstain from new cutting-edge technologies, as suggested in existing literature (Hua, Chen, & Luo, 2018; Choi & Lim, 2016; Weisskirch & Delevi, 2011). As such, consumers' adaptation behaviour towards cutting-edge digital devices and applications can provide useful insights for market segmentation, improvement of product/service quality and new product development.

The use and adaptation of these cutting-edge platforms have gained significant currency in marketing (Gibreel et al., 2018; Akter & Nweke, 2016; Dey et al., 2013) and information systems (Kashefi et al., 2018; Roy, Datta, & Basu, 2017) scholarship. Akpan, Soopramanien, & Kwak, (2020) highlight cutting edge technologies as advanced technologies such as social media platforms, social business intelligence, machine learning etc. that has value creation capability. The study of technology use over the years has gone far beyond technology adoption (Gaudioso, Turel, & Galimberti, 2017; Tarafdar, Cooper, & Stich, 2019; Bala & Venkatesh, 2016). It is the subsequent interactions and adaptations of the cutting-edge technologies such as social media that have drawn more research interest in recent times (Muhammad, Dey, & Weerakkody, 2018; Dey et al., 2016). Whilst the adaptation literature mostly resorts to qualitative enquiries (Wanchai, Andrade & Techatassanasoontorn, 2019; Dey, Newman & Prendergast, 2011; Carroll et al., 2003; Orlikowski & Baroudi, 1991), recent work by Bala & Venkatesh (2016) makes a significant advancement for quantitative analysis by operationalising adaptation components. Drawing on the seminal article of Beaudry & Pinsonneault (2005), Bala & Venkatesh (2016) linked the attitudinal components with consumer coping strategies. The model was subsequently applied in Information Systems literature (Fugate, Kinicki, & Prussia, 2008; Sykes & Venkatesh, 2017; Sykes, Venkatesh, & Johnson, 2014). However, there is a lack of clarity in relation to consumers' adaptation and subsequent interactions with cutting edge social media platforms.

Similarly, individuals' attitude is more relevant in this dynamic world of digitalisation, mobile and social media applications (Agarwal et al., 2017). But prior technology adaptation models have paid scant attention to simultaneous and combined effects of attitudinal components (cognitive and affective). Consumers' attitude toward and engagement with technology leads to adoption and adaptation of its functions and utilities (Dey et al., 2013). Attitude is defined as overall judgements of an object (Fazio, 1986). Thurstone and Chave (1929) highlighted it as an evaluative or affective response to a particular phenomenon. As such the two components of attitude: cognition and affect became acceptable in subsequent scholarship (Zajonc & Markus, 1982). In more recent time, Chiu (2002) argued that attitude consists of affect, cognition and connation (behaviour): the three responses to an object (Chiu, 2002). Recognising connation (behaviour) as an attitudinal component, this paper seeks to analyse the simultaneous and combined effect of cognitive and affective components on adaptation behaviour. Whilst, analysis of combined attitudinal components (cognitive and affective) on behaviour is observed in existing literature (Alwi & Kitchen, 2014; Park & Kim, 2014; Diffley et al., 2011).), there is paucity of scholarly works on their impact on technology adaptation behaviour, which is important for studying consumers' continuous interaction with technology.

Prior models, by contrast, have focused solely on either cognition or affect. Furthermore, as the original model of Bala & Venkatesh (2016) encapsulates organisational dynamics, its application for consumers' use of technologies remains unexplored. The model puts much emphasis on cognitive appraisal which is relevant to the context of technology adaptation in organisations. However, for consumer adaptation of cutting edge technology, simultaneous influence of affective components would provide a more holistic and robust understanding. As such, this paper addresses this understudied area by juxtaposing both cognitive and affective components of attitude in predicting consumer adaptation behaviour.

This paper addresses the aforementioned research gap by achieving the following objectives: 1) to examine the influence of consumers' combined attitudinal components on adaptation behaviour on cutting edge social media platforms; 2) to examine adaptation behaviours that consumers undertake to engage with social media platforms; 3) to develop and validate a framework that explains consumers' combined attitudinal components adaptation behaviour on the cutting edge social media platforms. The following section presents a critical review of current literature and develops relevant hypotheses. Subsequently, the paper presents and analyses the findings and draws conclusions by delving into theoretical and practical implications.

2. Literature review

2.1 Theoretical background

In addition to the long-drawn technology adoption literature (Davies et al., 1989; Venkatesh et al., 2003; Venkatesh, Thong & Xu, 2012), a parallel stream of research has evolved analysing post-adoption use and adaptation. For instance, the Coping Model of User Adaptation (CMUA), developed by Beaudry & Pinsonneault (2005), highlighted the essence of user-end adaptation and inspired quantitative analysis to ascertain nomological interrelationships amongst constructions of adaptation (Bala & Venkatesh, 2016; Sun, 2012). They treated adaptation as post-adoption actions and/or processes. However, they fell short of capturing the integrative dimension to discover collective adaptation practice. Issues such as techno-stress (Tarafdar, Cooper, & Stich, 2019; Gaudioso, Turel, & Galimberti, 2017), consumer resilience (Hua, Chen, & Luo, 2018) and technology appropriation (Dey, et al. 2018) have received increased research attention in the last decade. Simultaneously, a fairly strong research stream within IS has developed in the last two decades that seeks to assess the impact of consumers' interaction and engagement with technology (Walsham, 2010; Carroll et al., 2003). Both technology adoption and adaptation models mostly focus on the changes in users' beliefs, attitude, knowledge and skills towards a technology. Attitudinal components have been identified as significant antecedents to adoption and adaptation decisions. However, there is a lack of scholarly works on the combined effects of cognitive and affective attitudinal components on technology adaptation, as suggested in relevant and contemporary scholarship (Dwivedi et al., 2019; Rana et al., 2017).

Nevertheless, semantic and conceptual debates surrounding technology use and adaptation are far from over (Du et al., 2019; Fadel, 2012; Kashefi et al., 2012). Two of the leading scholars championing various forms of technology adoption models, such as the UTAUT, UTAUT2 and the Multi-Level Framework (Venkatesh et al., 2003, Venkatesh, Thong & Xu, 2012, 2016) recently coined a new model of Adaptation to Information Technology (Bala & Venkatesh, 2016). In that particular model, performance expectancy and perceived usefulness have been classified as perceived opportunity. Other researchers make a similar argument that individuals develop their beliefs and understanding of different aspects of technology that are critical to functionality, which they perceive to be novel, to provide compatibility and task-technology fit and to improve their performance. Therefore, they would perceive technology

as an opportunity (Daowd et al. 2020; Venkatesh et al., 2003; Dishaw & Strong 1999; Agarwal & Prasad, 1999).

Similarly, individuals' adaptation of technology is based on their evaluation of the level of control they have over that technology (Beaudry & Pinsonneault, 2005). Consumers engage more with technology when they are given control over it (Tucker, 2014). Bala & Venkatesh (2016) argue that perceived control has conceptual similarities with the technology adoption literature. It has similar dimensions to perceived behaviour control in TPB and facilitating conditions in UTAUT. Individuals' level of competence and ability to leverage resources determine their technology adaptation behaviour. Thus, they react positively when technological platforms give them control. Equally, social influence, in adaptation literature, is described to affect technology adaptation behaviour, as it has an impact on individuals' primary appraisal of a technological disruption (Beaudry & Pinsonneault, 2005). Venkatesh et al, (2003) describes that social factors, subjective norms and social image are related terms and combines them into social influence. This concept also constitutes social interaction, social ties and social support (Trivedi et al., 2018; Grace, Ross & Shao, 2015; Bharati, Zhang & Chaudhury, 2014). In addition, enjoyment is an intrinsic hedonic motivation that encourages individuals to engage with technology (Nov, Naaman & Ye, 2010; Lin, Gregor & Ewing, 2008): constituting fun and pleasure to enhance technology interaction (Hwang & Choi, 2020; Chiang, 2013), it constitutes pleasure and flow (Zolkepli & Kamarulzaman, 2015; Hsu & Wu, 2011). Similarly, self-enhancement affects adaptation behaviour, as it increases individuals' self-esteem, due to which they overwhelmingly update and present their self-focused status online, and share information regarding themselves that they feel would enhance their status and image to attract attention from others (Hennig-Thurau et al., 2004). It also accounts for self-fulfilling dimensions of self-esteem and self-status (Kim & Kim, 2019; Ali & Lee, 2010; Sas et al., 2009). Accordingly, individuals' fear has a huge impact on the post adoption (Jia, Guo & Barnes, 2017; Rezvani, Khosravi & Dong. 2017) and adaptation of technology (Bala & Venkatesh, 2016; Akar & Topçu, 2011). Individuals make emotional appraisals when coping with technological threats, as it comprises their feeling of threat, susceptibility to a malicious technology or the sense that technology harms their well-being (Liang & Xue, 2009). Similarly, trust is an important factor which reflects predictability in post-adoption use of technology. It constitutes behavioural beliefs about technological attributes determining predictability and is also conceptualised as a propensity to depend on technology, protection and confidence in technology (Cheung, Lee & Chan, 2015; Terres, dos Santos & Basso, 2015).

3. Research model and hypothesis development

3.1 Hypothesis development

In consumer studies and IS literature, attitude has been identified as a strong antecedent to behavioural intention in general, which also leads to specific behaviour such as technological adaptation. It is also understood that attitude is an outcome of belief. Nevertheless, psychologists widely argue that the emotional or affective parts of attitude also play significant roles in this process. As such, a number of affective components such as enjoyment, self-enhancement, fear and trust (Kim, 2020; Chen, Lu, Chau, & Gupta, 2014; Hau & Kim, 2011; Nov, Naaman & Ye, 2010) have been identified and discussed as constituents of affective components of attitude. Thereby, it is essential to consider these affective attitudinal components along with the cognitive components, which are identified as an evaluative response to the attitude object (positive or negative evaluation of the performing behaviour). In relation to the core conceptual underpinning of this study, the influence of affective attitudinal components cannot be underemphasised due to the myriad emotional attributes that have been discussed in consumer studies (Nov, Naaman & Ye, 2010; Park & Kim, 2014).

This study develops the following conceptual framework (Figure 1) and hypotheses with the cognitive and affective attitudinal components as antecedents to social media adaptation. The model is parsimonious towards the antecedents and posits that Perceived Opportunity (PO), Perceived Social Influence (PSI) and Perceived Control (PC) are the cognitive utilitarian attitudinal components and Enjoyment, Self-enhancement, Fear and Trust are the affective attitudinal components. This study suggests that consumers have positive adaptation behaviour towards social media features on cutting edge social media platforms to explore or exploit technological benefits or negative adaptation behaviour to revert from social media or avoid them altogether. Appendix A (Table 5) provides the details about consumers' adaptation behaviours, source and their contributions to hypotheses. This study, unlike CMUA, postulates that social media disruption bring about changes in consumers' adaptation behaviours based on the simultaneous and combined attitudinal attributes. They have not only cognitive appraisals but strong emotional attachments with these cutting edge platforms.

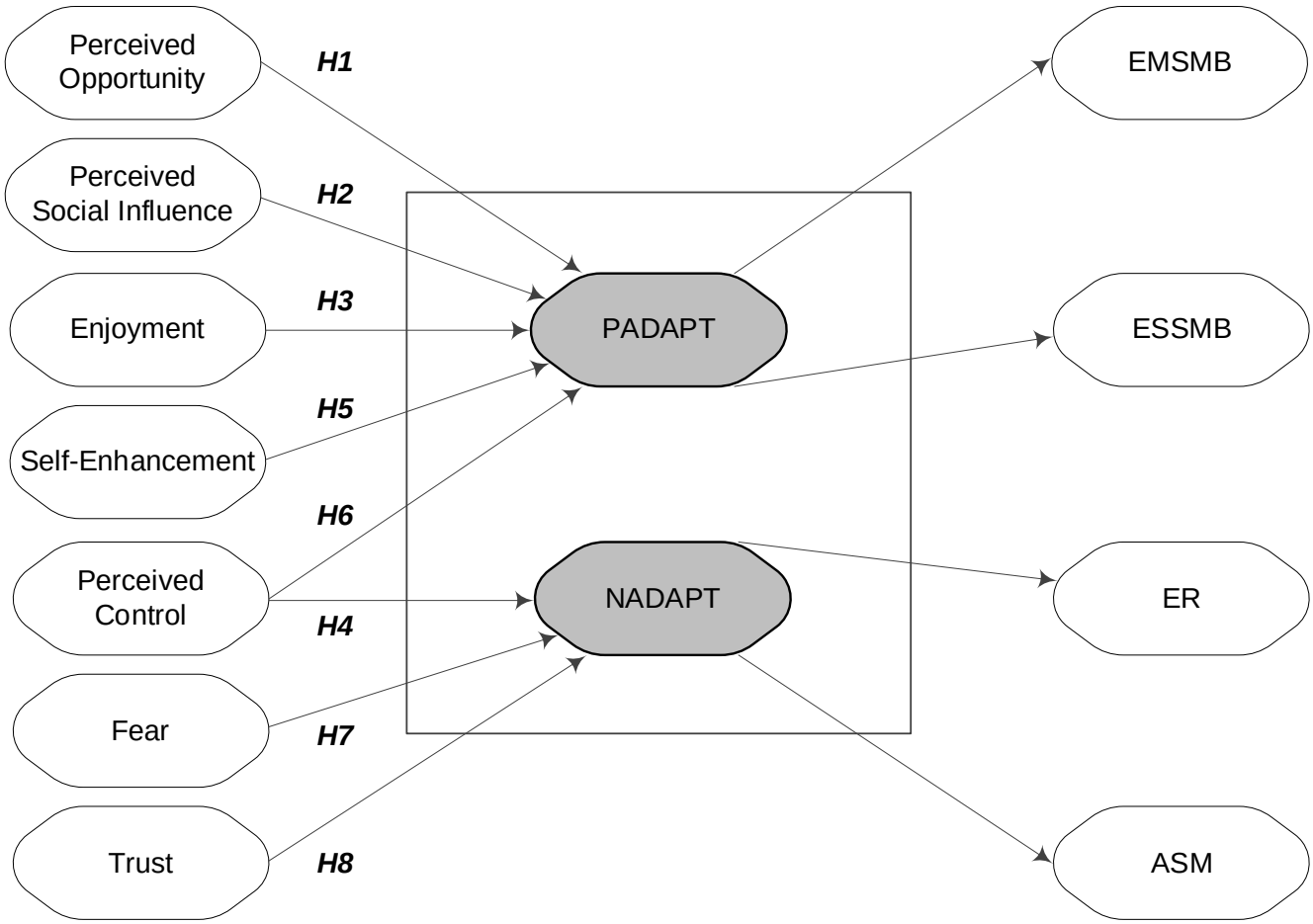

Figure 1. Conceptual Framework

3.1.1 Cognitive attitude

Eagly & Chaiken (1993) argue that attitudinal cognitive components exist when individuals process information about an object, which forms into beliefs. Similarly, this study postulates that PO, PSI and PC are the cognitive beliefs that determine consumers' cognitive utilitarian attitude towards social media adaptation. Appendix A (Table 6) provides details about the cognitive attitudinal components, their source and their contributions to hypotheses.

3.1.1.1 Perceived opportunity (PO)

Perceived opportunity is consumers' cognitive belief that technology offers them ease of use and usefulness, improves their performance and has a relative advantage (Bala & Venkatesh, 2016; Venkatesh et al., 2003; Zhang, Gupta & Zhao, 2014). Consumers develop a holistic assessment of the opportunities offered by social media which enhance their performance reduce the effort they need to make (Venkatesh et al., 2003). These are the cognitive functional elements of perceived usefulness, enhanced performance; perceived ease of use and freedom from effort; and having a relative advantage, such that social media is perceived to be better than its precursor (Zolkepli & Kamarulzaman, 2015; Chiang, 2013; Wang, Yu, & Wei, 2012; Zhang, Gupta & Zhao, 2014). This study postulates that PO embodies performance and effort expectancy along with the theme of utility for social media. Consumers with high personal innovativeness would tend to perceive social media as an opportunity to improve their effectiveness and a strong fit with what they want to accomplish. Consumers develop their assessment of social media features and functional characteristics that they perceive as useful and novel. Thus, the following hypothesis is formulated to suggest that consumers would perceive social media as an opportunity for its functional attributes of performance, relative advantage and ease of use (Table 2) and that they would tend to engage in positive adaptation behaviour (Exploration to Maximise Social Media Benefits 'EMSMB' and exploitation to Satisfice Social Media Benefits 'ESSMB').

H1– Perceived opportunity has a positive effect on positive adaptation behaviour.

3.1.1.2 Perceived social influence (PSI)

Social influence is consumers' perceived social pressure, which denotes their cognitive psychological goals to develop and maintain social relations with others on social media platforms. Such perceived social pressure drives social interaction (desire to connect, collaborate and communicate), and establishes social ties (with friends, colleagues, family etc.: Hau & Kim, 2010) and social support (social exchange to help and share information with others: Ali, 2011). PSI is the desire to communicate, interact with others and build relationships. Social media is perceived by consumers to enhance social interaction, connect them anywhere and complement their offline relationships. Consumers are led by psychological goals to develop social relations to gratify their socialisation needs that affect their technology adaptation behaviour (Talukder & Quazi, 2011; Venkatesh et al., 2003). Consumers' attitude is positively associated with social strengths determined by social influence. Hence, this study predicts the following hypothesis to suggest that PSI is consumers' perceived cognitive social pressure for social interaction, social ties and social support (Table 2), which gives them psychological pressure to engage in positive social media adaptation behaviour and explore to maximise or satisfice social media benefits.

H2– Perceived social influence has a positive effect on positive adaptation behaviour.

3.1.1.3 Perceived control (PC)

Perceived control builds consumers' cognitive belief of confidence and they tend to evaluate social media platforms positively if they have more control over these platforms (Cheung, Lee, & Chan, 2015; Krasnova et al., 2010). They evaluate social media and subsequently interact with these cutting edge platforms due to their personal relevance and importance. This study suggests the following hypothesis: that perceived control is consumers' cognitive attitude and enhances their positive attitude to engage in positive social media adaptation behaviour (exploration to maximise or exploit to satisfice social media benefits). They are likely to maximise or satisfice social media benefits if they perceive that social media gives them a

strong locus of control, which is their personal belief, autonomy and information control (Table 2). They would tend to engage in positive social media adaptation behaviour with exploration to maximise and exploitation to satisfice social media behaviours.

H3– Perceived control has a positive effect on positive adaptation behaviour.

In addition, perceived control has conceptual similarities with the technology adoption literature (Bala & Venkatesh, 2016). Technology users would explore to revert from a technology if they perceive that they have little control over it. They would tend to minimise the negative consequences of the technological disruption (Beaudry & Pinsonneault, 2005). Furthermore, individuals would tend to avoid technology altogether if they have no control over it (Beaudry & Pinsonneault, 2005). They would resort to self-preservation adaptation efforts to eliminate the psychological distress caused by the technological disruption and completely abandon technology (Liang & Xue, 2009). Thus, this study postulates the following hypothesis to suggest that consumers would engage in negative adaptation behaviour and would tend to either revert from social media or avoid social media altogether if they perceive a lack control on social media platforms.

H4– Perceived control has a negative effect on negative adaptation behaviour.

3.1.2 Affective attitude

Affective attitudinal components are emotional experiences or preferences, composed of affective components such as enjoyment, delight and fear (Kwon & Vogt, 2010). Positive emotions such as enjoyment, pleasure and self-enhancement arise from positive social media experiences, which make consumers' attitudes towards the social media more favourable. Negative emotions such as fear arise from negative social media experiences, which make consumers' attitudes towards the social media less favourable. Appendix A (Table 7) provides details about the affective attitudinal components, their sources and their contributions to the hypotheses.

3.1.2.1 Enjoyment

Consumers are driven by their hedonic intrinsic sensory elements of pleasure, enjoyment and flow, with emotional self-focused dimensions originating from self-interest driving their attitude (Hau & Kim, 2010). Enjoyment is pleasure or fun while interacting with social media (Zolkepli & Kamarulzaman, 2015). Consumers immerse themselves in social media platforms that give them enjoyment, with a significant impact on their behaviour (Huang, 2012). Thus, this study formulates the following hypothesis to suggest that enjoyment comprises consumers' intrinsic emotional factors driving their intrinsic emotional pleasure, which satisfies their hedonic needs for enjoyment, encouraging them to engage in positive adaptation behaviours on the cutting edge social media platforms.

H5– Enjoyment has a positive effect on positive adaptation behaviour.

3.1.2.2 Self-enhancement (SE)

Self-enhancement is consumers' positive feelings about themselves. Self-status, self-image and self-esteem are their self-fulfilling hedonic needs of self-enhancement to portray the desired impression on social media platforms (Hepper et al., 2011; Sedikides & Gregg, 2008). In order to attract attention, their self-fulfilling emotions would enhance their self-status and image, and they would overwhelmingly engage with social media platforms (Ali & Lee, 2010; Krasnova et al., 2010). Emotional attachments are good predictors of interaction with social

media. Positive words from users affect other users' emotional state (Chen, Hsieh, Mahmud, & Nichols, 2014; Schroeder, 2014). High self-enhancement of consumers would enhance their self-esteem and they would tend to overwhelmingly present their status on social media platforms and share information (Hennig-Thurau et al., 2004). Therefore, this study proposes the following hypothesis to suggest that consumers' self-enhancement goal of self-esteem to use social media is likely to lead to positive adaptation behaviour that includes exploration to maximise and exploitation to satisfice social media led benefits.

H6– Self-enhancement has a positive effect on positive adaptation behaviour.

3.1.2.3 Fear

Individuals would avoid technology altogether if they assess a technological disruption as a threat (Bala & Venkatesh, 2016). Social media providers accumulate and share consumers' information. Thus, fear and susceptibility to malicious social media disruptions (with harm to their well-being), abuse or unauthorised access to their personal information may cause fear and anxiety (Karyda et al., 2009) amongst consumers. Fear negatively affects people's online buying (Ghosh, Varshney & Venugopal, 2014; Lee, Park & Kim, 2013). Similarly, this study formulates the following hypothesis to suggest that fear of social media platforms tend to drive negative social media experiences, such that consumers would feel threatened and they would engage in negative adaptation behaviours and explore ways to revert from social media platforms or avoid them. Consumers reveal personal information on social media, which may lead to their fear of privacy and security risks (Cheung, Lee, & Chan, 2015; Tan et al., 2012). They would feel that their well-being is at risk and they would tend to avoid social media altogether. Therefore, it would be reasonable to hypothesise that such risks would cause emotional distress in consumers and consumers would tend to engage in negative behavioural efforts (ER or ASM). The following hypothesis is formulated.

H7– Fear has a positive effect on negative adaptation behaviour.

3.1.2.4 Trust

Trust is consumers' feelings of uncertainty and protection on social media platforms. Consumers' attitude towards social media platforms and sharing of information depends on the integrity and reliability of these platforms (Szmigin, 2018). This refers to how consumers feel about the reliability, credibility and integrity of social media platforms, lack of which may make them emotionally sensitive to their privacy and security (Cheung, Lee, & Chan, 2015; Krasnova et al., 2010). It is their feeling of trustworthiness in the reliability of social media providers. Similarly, this study suggests that trust is consumers' affective attitudinal attribute rather than a rational paradigm because they may not be aware of every aspect of social media platforms. Therefore, their trustworthiness in social media platforms does not undergo a careful and methodical thought process on these cutting edge platforms; rather, it is more affect-based, comprising their emotions, feelings and instincts. They rely on affective signals from other social media users, such that these emotional connections enhance their trust in social media platforms beyond beliefs and awareness of social media features. Thus, this study formulates the following hypotheses to suggest that consumers would not engage in negative adaptation behaviours (neither tend to avoid nor engage in exploration to revert from social media platforms) when they feel that social media platforms are trustworthy.

H8– Trust has a negative effect on negative adaptation behaviour.

4. Research methodology

To empirically validate the framework, following the guidelines provided by Krejcie & Morgan (1970) and Saunders, Lewis & Thornhill, (2015), a random survey questionnaire using quantitative data was chosen (as also illustrated in Figure 2). The survey questionnaire is considered to be an appropriate confirmatory means to measure consumers' attitude and adaptation behaviours (Brace, 2018). The survey was carried out in three steps: a pre-pilot test, a pilot test and a main survey. The target population was social media consumers, as social media platforms are a rich source of insight for practitioners and marketers (Henderson and Bowley, 2010). For a theoretically sound conceptualization, scale development and a valid measurement scale, the paper consulted Anderson and Gerbing (1988). Consistent with the scaling literature, multiple items were developed for each dimension. The domain of constructs were defined and items were generated for the instruments and scales were adapted from earlier studies so that items measuring the constructs are adapted appropriately for the reliability and validity purposes. Instruments and scales from previous studies are adapted to match the context of this research. Furthermore, hypotheses are developed based on cause and effect relationship in the model. Appendix B (Table 8) provides details of the literature used to scale each dimension. The experience survey was used to ask an expert panel (academics and PhD students having expertise in the area) how far each item represented the domain of the constructs using a three-point Likert scale (1 = clearly representative, 2 = somewhat representative, and 3 = not at all representative) (Zaichkowsky, 1985). Pre-tests followed to reach the final survey. Finally, to identify any remaining inconsistencies, a pilot study was conducted among 40 social media consumers. These respondents suggested no further improvements. As a result of the final survey, a total of 733 responses were achieved, which was sufficient for the purpose of this study. Finally, Confirmatory Factor Analysis (CFA) and a full structural model to assess nomological validity were carried out.

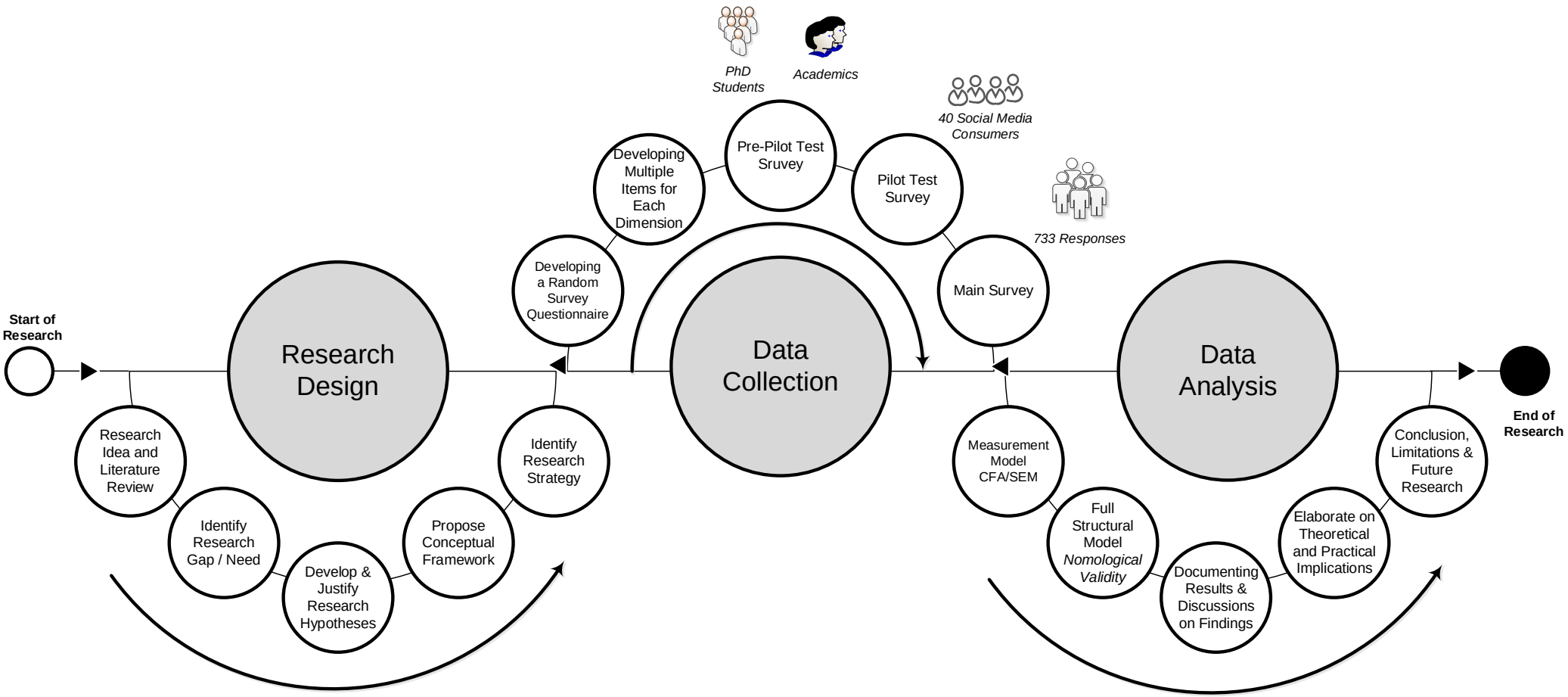

Figure 2: Research Design

5. Data analysis and results

The respondents' profiles revealed that around 99.05% of respondents were social media consumers. The main social media platforms used by consumers were Facebook, Instagram, WhatsApp, YouTube, Twitter, and LinkedIn, amongst others, and their main engagements with social media were shopping-related.

5.1 Step 1: Measurement model

Data analysis was carried out in two steps by using SEM as suggested by Anderson & Gerbing, (1988). In the first step, factor loading was carried out, followed by reliability and validity measurement through confirmatory factor analysis (CFA) of the latent constructs for the measurement model. In the second stage, a Structural Equation Modelling process was undertaken to test for hypothesised connections amongst the latent constructs of the model. In order to validate the scale, structural equation modelling (SEM) was implemented using AMOS 25 and the default method-maximum likelihood. A Two-Step approach tested the measurement model's validity and reliability, and nomological validity (the full structural model in Step 2). Upon validation confirmation, the study tested nomological validity.

The adaptation behaviours of positive adaptation behaviour and negative adaptation behaviour were determined using three cognitive (PO, PSI and PC) and four affective (enjoyment, self-enhancement, fear and trust) attitudinal attributes. In particular, the subsequent engagement was expected from the *a priori* theoretical structure. A thorough investigation of the construct validity was undertaken. This is important as it deals with validation of the scale (Bagozzi & Heatherton, 1994; Hair, Anderson & Babin, 2018). Table 1 shows the structural relationships (or factor loadings) covaried from one dimension to another when they were tested in first order CFA.

Table 1. CFA factor loadings

	Factor										
	1	2	3	4	5	6	7	8	9	10	11
EMSMB1	.865										
EMSMB2	.796										
EMSMB3	.904										
EMSMB4	.894										
ESSMB1		.874									
ESSMB2		.868									
ESSMB3		.854									
ESSMB4		.896									
ER1			.847								
ER2			.819								
ER3			.926								
ER4			.921								
ASM1				.847							
ASM2				.862							
ASM3				.906							
ASM4				.906							
PO1					.918						
PO2					.858						
PO3					.960						
PO4					.875						
PSI1						.908					
PSI2						.877					
PSI3						.870					
PSI4						.898					
PC1							.857				
PC2							.871				
PC3							.883				
PC4							.907				
Enj1								.901			

Eng2	.878			
Enj3	.880			
Enj4	.895			
SE1		.777		
SE2		.849		
SE3		.957		
SE4		.969		
Fear1			.785	
Fear2			.885	
Fear3			.868	
Fear4			.943	
Trust1				.766
Trust2				.749
Trust3				.872
Trust4				.893

The construct reliability tests using both composite reliability and Cronbach's alpha all scored above the recommended level. The correlation among the constructs was also acceptably low, ranging from .02 to .56 and AVE = > .50 (Fornell & Larcker, 1981: see Table 2).

Table 2. Validity measures

	CR	AVE	MSV	MaxR(H)	Fear	EMSMB	ESSMB	ER	ASM	PO	PSI	PC	Enj	SE	Trust
Fear	0.929	0.766	0.236	0.941	**0.875**										
EMSMB	0.917	0.736	0.153	0.928	-0.222	**0.858**									
ESSMB	0.916	0.734	0.153	0.937	-0.207	0.391	**0.857**								
ER	0.926	0.759	0.178	0.954	0.422	-0.070	-0.145	**0.871**							
ASM	0.933	0.776	0.236	0.935	0.486	-0.194	-0.195	0.408	**0.881**						
PO	0.946	0.816	0.022	0.958	-0.120	0.149	0.106	-0.104	-0.059	**0.903**					
PSI	0.932	0.774	0.061	0.937	-0.119	0.246	0.169	-0.030	-0.139	0.009	**0.880**				
PC	0.931	0.771	0.028	0.931	-0.085	0.168	0.116	0.043	0.010	0.011	0.023	**0.878**			
Enj	0.937	0.789	0.013	0.938	0.018	0.115	0.005	-0.004	-0.060	0.015	0.096	0.005	**0.888**		
SE	0.937	0.789	0.135	0.957	-0.280	0.367	0.316	-0.175	-0.161	0.082	0.074	0.099	-0.077	**0.888**	
Trust	0.893	0.678	0.074	0.911	-0.272	0.204	0.164	-0.160	-0.252	0.002	0.006	0.141	-0.003	0.151	**0.824**

Note: All parameters were significant at p < .000

Discriminant validity was performed by comparing all the AVE estimates with the square pairwise correlation between the factors and the examination of cross-loadings among the measured variables and error terms (Hair, Anderson & Babin, 2018). Additionally, discriminant validity was confirmed for all of the latent constructs, since the square root of each construct's AVE was greater than the bivariate correlation (see Table 2). Cross-loadings between both measured and error terms also did not suffer from substantial cross-loadings; standardized residuals were all < 2.58 (Byrne, 2016). Convergent validity was supported, with all parameter estimates > .5 (Kline, 1998). Table 2 shows details of each CFA individual item's convergent validity and all items were statistically significant at p < .000 (Anderson & Gerbing, 1988).

A second order approach was conducted (Byrne 2010) on both outcome variables in order to establish which dimensions represent both positive and negative adaptation behaviours. This was also guided by a priori theory for example both EMSMB and ESSMB were reflected of positive adaptation (Bala & Venkatesh, 2016; Kashefi et al., 2018) and both ASM and ER were explained through negative adaptation (Bala & Venkatesh, 2016). Misfits in the models

involving items that were cross-loaded on more than one dimension were relaxed one at a time as suggested by Long (1983). Besides relaxing parameters, removing or adding parameters from one dimension to another, where there was high cross-loading, was also performed based on theoretical, statistical and practical considerations (Bagozzi & Heatherton, 1994). The final results indicate two dimensions representing Positive Adaptation Behaviors: (1) Exploration to Maximise Social Media Benefits and (2) Exploitation to Satisfice Social Media Benefits. Negative Adaptation Behaviour, on the other hand, is also represented by two dimensions: (1) Exploration to Revert and (2) Avoidance of Social Media. Both models achieve good statistics, viz first order: (χ^2 = 137.108; p < .000; χ^2/df = 1.987; GFI = .97; IFI = .99; TLI = .98; CFI = .99; and RMSEA = .038). Goodness-of-fit statistics show that both first and second order model (χ^2 = 139.152; p < .000; χ^2/df = 1.988; GFI = .97; IFI = .99; TLI = .98; CFI = .99; and RMSEA = .038) respectively fit the data well.

The results of both first and second order models were compared, both performed similarly where the second-order model produced near identical results to the first-order model, hence both models are acceptable for further analysis (Alwi & Kitchen 2014; Wolfinbarger & Gilly, 2003). After all steps are taken to ensure validation process, decision for further analysis was taken on selecting second order over the first. This is based on: (1) the a priori status of both scales theoretically; (2) statistically construct validity, which is when models are acceptable, both could be used for further analysis and (3) second order would allow a stronger statement (Hair et al., 2010). Finally, all items that represent the nine constructs were then tested in step-one measurement model. The full measurement model fits the data well (χ^2 = 1564.779; p < .000; χ^2/df = 2.014; GFI = .90; IFI = .97; TLI = .97; CFI = .97; and RMSEA = .038).

5.2 Step 2: The full structural model – nomological validity

The concern in the step-two approach was to test the study's theoretical models as well as the objectives and hypotheses. The step-two model indicates an acceptable fit (χ2= 1598.006, p < .000; χ2/df = 2.038; GFI = 0.89; IFI = 0.96; TLI = 0.96; CFI = 0.97; RMSEA = 0.03), with deletion of two items. Convergent validity was supported with all parameter estimates >.5, (Kline, 1998), and all items were statistically significant at p = .000 (Anderson & Gerbing, 1988). Constructs reliability was tested using both composite and Cronbach's alpha and they were all above the recommended level, as shown in Table 3. The correlation (covariance) among the constructs is also acceptably low ranging from .01 to .55, and AVE =>.5 (Fornell & Larcker, 1981) (see Table 3). A further test to ensure the adequacy of discriminant validity was performed by comparing all the AVE estimates with the square pairwise correlation between factors and cross-loadings examinations among the measured variables and error terms (Hair et al., 2010). The results show that discriminant validity is confirmed for all latent constructs since the square root of each construct's AVE's are all greater than the bivariate correlations. Cross loadings between both measured and error terms also do not suffer from a substantial cross loadings with standardised residuals all <.258 (Garver & Mentzer, 1999; Steenkamp & van Trijp, 1991). Thus, the assessment results support the adequacy of discriminant validity of the measurement model.

Table 3. Composite Reliability, Cronbach's alpha and AVE

Constructs	CR	Cronbach's alpha	AVE
PADAPT			
EMSMB	0.92	0.92	0.74
ESSMB	0.91	0.93	0.73
NADAPT			
ER	0.93	0.93	0.75
ASM	0.94	0.93	0.77
Cognitive			
PO	0.95	0.94	0.81
PSI	0.93	0.93	0.77
PC	0.93	0.93	0.77
Affective			
Enj	0.94	0.93	0.78
SE	0.94	0.93	0.78
Fear	0.92	0.92	0.76
Trust	0.90	0.90	0.68

All hypotheses were tested and they demonstrated significant positive effects (H1– H8). Both cognitive and affective attitudinal attributes were statistically significant explaining the positive adaptation and negative adaptation behaviours. Table 4 summarises the hypotheses results and parameter estimates. Thus, in step 2, the nomological validity of the scales was tested with the positive and negative adaptation behaviours and their determinants. Theoretically, a positive association was likely between social media adaptation behaviours and their determinants. The nomological validity results showed that PO ($p < .001$), PSI ($p < .000$), PC ($p < .002$ and $p < .013$), and SE ($p < .000$) had a significant positive effect on positive adaptation behaviour. Similarly, the results show that fear ($p < .000$) has a significant effect on negative adaptation behaviour. On the other hand, trust has a positive effect on negative adaptation behaviour ($p < .001$).

The results of this study indicate that attitude plays a central and significant role in consumers' engagement of social media adaptation behaviours. The framework was developed with 8 causal relationships (Figure 1), as shown in Table 4. The results show that consumers' cognitive beliefs of perceived opportunity, perceived social influence and perceived control are the constituents of cognitive utilitarian attitude. As shown in Table 4, H1, H2 and H3 are supported (perceived opportunity, perceived social influence and perceived control have a significant direct effect on positive adaptation behaviour). Likewise, Perceived control has a significant direct effect on negative adaptation behaviour. Therefore, H4 is supported as shown in Table 4. The results also indicate that consumers' attitude consists of the affective components of enjoyment, self-enhancement, trust and fear. The affective components have significant effects on consumers' subsequent interactions with social media platforms. As shown in Table 4, H5 and H6 are supported (enjoyment, self-enhancement have direct significant effect on positive adaptation behaviour). On the other hand, the empirical results indicate that affective components in the form of fear and trust have direct significant effect on negative adaptation behaviour. H7 and H8 are supported as shown in Table 4.

Table 4. Summary of Hypothesis Testing

No	Hypothesis			Estimate	P Value	Hypothesis Result
H1	PO	→	PADAPT	.078	.001	Supported
H2	PSI	→	PADAPT	.139	***	Supported
H3	PC	→	PADAPT	.070	.002	Supported
H4	PC	→	NADAPT	.073	.013	Supported
H5	Enj	→	PADAPT	.068	.005	Supported
H6	SE	→	PADAPT	.315	***	Supported
H7	Fear	→	NADAPT	.497	***	Supported
H8	Trust	→	NADAPT	-.149	.001	Supported

6. Discussion

From the proposed hypotheses, it can be seen that consumers' positive and negative adaptation behaviours with regard to social media use are driven by both cognitive and affective attitudinal components. Combining both attitudinal components provide a much deeper and comprehensive understanding of consumers' attitudes in a particular context as alluded in existing literature (Haddock & Maio, 2019; Alwi & Kitchen, 2014). Unlike CMUA and UTAUT, the results of this study show that cognitive (perceived opportunity, perceived social influence and perceived control) and affective (enjoyment, self-enhancement, fear and trust) attitudinal components are the antecedents of positive and negative adaptation behaviours. Cognitive and affective components (positive or negative) constitute beliefs and affect (Maio, Haddock & Verplanken, 2018; Chiu, 2002; Eagly & Chaiken, 1993; Lazarus, 1982). Thus, based on the empirical evidence from this study, social media consumers hold both cognitive and affective attributes such that positive attitudes that lead to positive adaptation behaviours and negative attitudes result in negative adaptation behaviours.

The results of this research support that PO has a significant and direct effect on positive adaptation. Consumers tend to regard social media as a perceived opportunity due to its performance, relative advantage, ease of use and convenience, which affect their cognitive utilitarian attitude. Consumers perceive that social media is compatible with their needs and provides them with convenience, success and improved performance (Dey, Yen & Samuel, 2020; Bala & Venkatesh, 2016; Venkatesh, Thong & Xu, 2012). As a result, consumers tend to explore various features on social media (exploration) and also make more intense use of the social media platforms or applications that they find much useful (exploitation). This may provide a plausible explanation for consumers' use of various features within the likes of Facebook and Instagram (e.g. check-in, games, photo editing). The findings also provide an explanation for why consumers try various social media platforms such as Facebook and LinkedIn. Having said that, it is often noticed that some consumers are less likely to try and/or explore all features and continue to use certain platforms and their features in a more frequent manner. This is why, it is noticed that Twitter is often preferred by special interest groups, while TikTok became popular during the COVID-19-induced stay home period when consumers made innovative video applications.

Furthermore, the findings indicate that PSI has a significant direct effect on positive adaptation. This means that consumers perceive cognitive social pressure for social interaction, social ties and social support. Thereby, they seek to maximise as well as satisfice social media led benefits. Peer pressure and normative practices encourage and also may enforce them to positive engagement behaviours. Social influence further enhances engagement with these cutting-edge platforms. Consumers tend to believe that they are socially supported on social media platforms and harness these platforms for continuous social engagement (Dey et al., 2018; Kreps, Kimppa & Aricat, 2016; Ali, 2011; Hsu & Wu, 2011; Wei et al., 2009). Hence, the result alludes to the influence of consumers' cognitive psychological pressure on their social relations, interaction and provide social support, as suggested in existing literature (Trivedi et

al., 2018; Grace, Ross & Shao, 2015). However, this paper advances existing body of knowledge that suggests social influence as an antecedent to adoption. This paper hypothesises and validates PSI's influence on positive adaptation.

Our findings also indicate that perceived control has a significant direct effect on positive adaptation, which means that consumers tend to explore to maximise and exploit to satisfice social media benefits when they have control over social media platforms. Their attitude in growing autonomy on social media platforms, aligned with prior post-technology-adoption literature, concurs with the empirical findings of this study. This is aligned with prior literature that consumers would have a positive attitude towards social media platforms if they were provided with more control (Cheung, Lee, & Chan, 2015; Tucker, 2014). Thus, PC is consumers' cognitive attitude, which enhances their positive attitude towards positive adaptation behaviour. On the other hand, it is also interesting to note that perceived control has a significant direct effect on negative adaptation. The more control an individual is likely to have, they are likely to enjoy the liberty to revert and/or avoid cutting edge social media platforms.

The findings in this research provide empirical support that consumers' attitude also constitutes the affective components of enjoyment, self-enhancement, trust and fear, which means that cognitive attitudinal attributes are not the sole determinants of the adaptation behaviours. Affective components play a significant role in consumers' subsequent interactions with social media platforms. Results of this research indicate that enjoyment has a direct effect on positive adaptation. Consumers are driven by enjoyment (hedonic and emotional), which drives their attitude to positive adaptation. Hence, when consumers enjoy social media platforms, they tend to explore ways to maximise and exploit to satisfice social media benefits. According to Bala & Venkatesh (2016), exploitation engagement behaviour refers to more routine use of technology, while exploration to maximise refers to optimum exploration of technological benefits. Thus, the findings of this study confirm that consumers tend to go beyond the regular features of social media platforms to positive adaptation behaviour when they enjoy these platforms. This also underpins consumers' desire for innovation and characterises their desire to explore new features, which has a bearing on the success of Web 2.0 and smart technologies. Hence, consistent with prior research, this paper asserts that consumers' affective needs lead to pleasant hedonic motivation, which drives their elements of enjoyment (Liang et al., 2019; Chiang, 2013; Kim, Gupta & Koh, 2011) and their engagement in sensations (Lin, Gregor & Ewing, 2008; Nov, Naaman & Ye, 2010).

Another important finding of this research is the important role of self-enhancement on positive adaptation, which means that consumers seek to maximise as well as exploit to satisfice social media benefits when their hedonic self-enhancement increases. Their self-fulfilment status and image on social media platforms enhance their self-esteem, due to which they present more of their self-focused status on these platforms. Self-status and self-esteem gratify social media consumers' self-fulfilling hedonic needs of self-esteem and enable them to portray the desired impression on social media platforms (Hepper et al., 2011; Ali & Lee, 2010). Thus, the empirical evidence from this study confirms that self-enhancement drives consumers' positive social media adaptation behaviour.

The other major finding of this research is that fear of social media platforms enhances consumers' negative attitude. Our results indicate that fear has a significant direct effect on negative adaptation, which means if consumers feel that their well-being is threatened by social media platforms, they will tend to revert and avoid these platforms. Thus, the findings provide empirical support that as consumers' fear of social media platforms increases, they tend to revert or abandon social media platforms altogether. Consumers develop feelings of anxiety towards the social media platforms, and this anxiety may lead to incompatibility with these cutting-edge technologies (Bala & Venkatesh, 2016; Cheung et al. 2015). With the

growing concerns regarding big data digital footprints, consumer privacy and breaches of data security, consumers' fear is justifiably linked with their decision to revert or abandon social media. Fear may well be prevalent for all forms of cutting-edge technology and can be attributed as a reason behind consumers' decision to revert or abandon the use of such technology.

In addition to fear, the results show that trust has a direct negative effect on negative adaptation behaviours. This result signals that trust has a significant role in consumers' negative social media adaptation behaviour. Drawing on this finding, it can be argued that consumers would not tend to revert or avoid social media if they feel that these platforms are trustworthy. This finding is aligned with prior literature that consumers' trust is influenced by trustworthiness in service providers' reliability and credibility. Such feelings enhance their loyalty and influence their social media adaptation (Gamboa & Gonçalves, 2014; Terres, dos Santos & Basso, 2015). Thus, the findings provide empirical support that consumers' lack of emotional trust would engage them in negative engagement behaviour.

7. Theoretical contributions

This study builds on technology adaptation scholarship by developing and validating a unique model of consumers' positive and negative adaptation behaviours for social media use. The study empirically assesses the ways in which consumers undertake positive and negative adaptation behaviours on social media platforms. These behavioural patterns are examined in the context of cutting edge platforms while assessing the influence of both cognitive and affective attitudinal antecedents. This study makes a novel contribution to the existing literature of technology use (Dwivedi et al. 2019; Rana et al., 2017; Dey et al. 2011) and adaptation (Bala & Venkatesh, 2016; Venkatesh et al. 2012; Beaudry & Pinsonneault, 2005), as it pioneers scholarly works on consumers' positive and negative adaptation behaviours for cutting edge technologies such as social media platforms. The seminal adaptation model (Bala and Venkatesh, 2016), that has received significant research attention, does not classify adaptation behaviours in terms of positivity toward continued use of technology. The validated model, presented in this study, fills this literature gap by elucidating the influence of combined attitudinal attributes on positive and negative adaptation behaviours. This contribution to theory provides much nuanced insights into consumers' engagement with cutting edge social media platforms. In so doing, this paper provides a new perspective towards assessing and ascertaining consumers' use of technology. From information systems perspective, increased use of technology denotes positive contribution to business (Liang & Xue, 2009). On the contrary, any intent to revert and/or avoid to use technology is negative for IS related products and businesses. As such, the classification of positive and negative adaptation behaviours is important to conceptualise consumer adaptation from a commercial perspective.

This research contributes to the post-technology-adoption literature (Jia et al 2017; Rezvani et al. 2017; Terres et al. 2015) by examining consumers' subsequent interaction behaviours that they undertake to cope with cutting edge social media platforms. Hence, the paper explains how and why consumers' choice of certain adaptation behaviours is influenced by factors such as fear, trust, enjoyment and self-esteem. Similarly, this is the first study that focuses on consumers' both cognitive and affective attitudinal components towards social media adaptation behaviours. This is an important and significant contribution of this paper that also paves the way for future research to analyse comparative impact of different attitudinal components on adaptation behaviours. Thus, the combined attitudinal attributes offer new insights into understanding consumers' positive and negative adaptation behaviours with the cutting edge technological platforms.

Moreover, the study is novel in terms of its use of trust and fear as antecedents to negative adaptation behaviour on cutting edge technologies such as social media platforms. As

discussed, trust and fear have been identified as key antecedents to consumer adoption and continuance intention in the existing literature (Szmigin, 2018; Ghosh et al. 2014; Lee et al. 2013). However, the fact that the two factors could play crucial roles in consumer adaptation of technology, has received scant attention in existing scholarship. This paper contributes to the current body of knowledge by analysing the causal links, as showcased through the conceptual model.

7.1 Managerial implications

The paper offers useful managerial implications by drawing on the influence of users' attitude on the adaptation of cutting-edge technology. Based on this study, it can be suggested that IS designers and marketers ought to develop trust amongst their users. Higher level of trust will encourage user positive adaptation behaviour; exploration and exploitation of technological features. On the other hand, if consumers are apprehensive about the technology and fear that their privacy and security can be compromised, they are more likely to engage in negative adaptation behaviour (revert, abandon and/or disengage with the technology). While stricter measures on privacy and security on social media sites remains a key to encourage user engagement, it is also important to inform and update users about those measures so that they develop higher level of trust.

Consumers' active engagement on social media platforms (e.g. Facebook, Twitter, Instagram and LinkedIn etc.) is required by brands and businesses to generate more leads and influence their buying behaviour. Therefore, to enhance consumers' active social media engagement for achieving a range of marketing goals, brands and social media providers need to apply stricter measures on privacy and security such that consumers' engage in positive adaptation behaviours and generate more leads, optimise conversion, enhance brand engagement and advocacy. For instance, it has been noticed that a controversial security update by WhatsApp resulted to huge customer churn[1]. On the other hand, Facebook's privacy measures boosted customer trust. Recent public feud between Facebook and Apple on the privacy measures, applied in their product offerings, also indicates the importance of consumer trust in social media applications[2].

In addition, by strengthening higher level of trust and positive adaptation behaviour, consumers generate higher level of content (useful for profiling, personalisation and customisation) and positive eWOM on social media platforms. It would result in more content consumption created by brands and social media brand communities driving their purchase, repurchase and engagement with brands. This would also result in excessive referrals, co-creation and brand advocacy.

Finally, the research finds positive influence of perceived control on both types of adaptation behaviours. It is extremely important for IS designers and marketers to offer enhanced control over technology use so that consumers can have opportunity to choose appropriate adaptation behaviours. As such, marketers can choose to promote their brands in various platforms such as Facebook, LinkedIn etc based on their target consumers' predictable engagement and interaction. This research also offers useful insights for social media and app developers to assess their target customers' motivation for and the nature of interaction and engagement with certain platforms and applications. While this research focussed on social media-based interactions, it can also be applied to other technological applications, cloud computing and smart technologies (smartphones, smartwatches and virtual assistants/AI technologies: Siri, Alexa, Google Home etc.).

[1] https://www.bbc.co.uk/news/technology-55634139
[22] https://www.bbc.co.uk/news/technology-55339569

7.2 Limitations and future research

This study has some limitations that should be acknowledged. First, it was carried out using social media platforms in general. It was difficult to confine this research to a single social media platform. Therefore, identifying the impact of the cognitive and affective attitudinal components for a single social media platform is an avenue for future research. Second, this study tested the model on social media consumers, whereas future studies could focus on social media users in general. Third, this study tested both cognitive and affective attitudinal attributes on social media technologies: future research could extend the model to other technologies. The proposed model in this study has a broader scope and therefore future research could also extend it to different contexts, including cross-cultural settings. Finally, this study used cognitive and affective attitudinal components as the antecedents of the positive and negative adaptation behaviours. Future research could extend the model by giving consideration to the hierarchical and causal nature of cognitive attitude preceding affect or vice versa, thereby giving deeper insight into the causal nature of attitudinal attributes. Thus, future work could be extended to use different approaches to examine the attitudinal attributes and adaptation behaviours.

8. Conclusion

This study examines the combined impact of cognitive (perceived opportunity, perceived social influence, perceived control) and affective (enjoyment, self-enhancement, trust and fear) attitudinal attributes on positive and negative social media adaptive behaviours and how they influence consumers' engagement with social media platforms. The study confirms that cognitive and affective attitudinal components drive consumers' both positive and negative adaptation behaviours on cutting edge social media platforms. These findings provide rich understandings to marketers to make appropriate psychographic and behavioural segmentations for cutting-edge technology users. In addition, the positive and negative adaptation behaviours also extend our understanding to identify why consumers choose to engage in new technological applications and, notably, how factors such as fear and trust can influence their decision to continue and/or discontinue to use technology despite their perceived utilities and benefits.

References

Agarwal, N., Chauhan, S., Kar, A. K., & Goyal, S. (2017). Role of human behaviour attributes in mobile crowd sensing: a systematic literature review. *Digital Policy, Regulation and Governance*, 19(2), 168-185.

Agarwal, R., and Prasad, J. (1999). Are individual differences germane to the acceptance of new information technologies? *Decision sciences*, 30(2), 361-391.

Akar, E., and Topçu, B. (2011). An examination of the factors influencing consumers' attitudes toward social media marketing. *Journal of Internet Commerce*, 10(1), 35-67.

Akpan, I. J., Soopramanien, D., & Kwak, D. H. (2020). Cutting-edge technologies for small business and innovation in the era of COVID-19 global health pandemic. *Journal of Small Business & Entrepreneurship*, 1-11.

Akter, T., & Nweke, G. E. (2016). Social media users and their social adaptation process in virtual environment: Is it easier for Turkish Cypriots to be social but virtual beings?. *Computers in Human Behavior*, 61, 472-477.

Ali, H. (2011). Exchanging value within individuals' networks: Social support implications for health marketers. *Journal of marketing Management*, 27(3-4), 316-335.

Ali, M., & Lee, H. (2010). Culture or social interaction? A study of influential factors on weblog design.

Alwi, S. F. S., & Kitchen, P. J. (2014). Projecting corporate brand image and behavioral response in business schools: cognitive or affective brand attributes?. *Journal of Business Research*, 67(11), 2324-2336.

Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step approach. *Psychological bulletin*, 103(3), 411.

Bagozzi, R. P., & Heatherton, T. F. (1994). A general approach to representing multifaceted personality constructs: Application to state self-esteem. Structural Equation Modeling: A Multidisciplinary Journal, 1(1), 35-67.

Bala, H., & Venkatesh, V. (2016). Adaptation to information technology: A holistic nomological network from implementation to job outcomes. *Management Science*, 62(1), 156-179.

Beaudry, A., & Pinsonneault, A. (2005). Understanding user responses to information technology: A coping model of user adaptation. *MIS quarterly*, 29(3).

Bharati, P., Zhang, C., & Chaudhury, A. (2014). Social media assimilation in firms: Investigating the roles of absorptive capacity and institutional pressures. *Information Systems Frontiers*, *16*(2), 257-272.

Brace, I. (2018). *Questionnaire design: How to plan, structure and write survey material for effective market research*. Kogan Page Publishers.

Byrne, B. M. (2010). Structural equation modeling with AMOS: basic concepts, applications, and programming (multivariate applications series). *New York: Taylor & Francis Group*, *396*, 7384.

Byrne, B. (2016). *Structural Equation Modeling with Amos*, 3rd Edition. Abingdon: Routledge.

Carroll, J., Howard, S., Peck, J., & Murphy, J. (2003). From adoption to use: the process of appropriating a mobile phone. *Australasian Journal of Information Systems*, *10*(2).

Chen, A., Lu, Y., Chau, P. Y., & Gupta, S. (2014). Classifying, measuring, and predicting users' overall active behavior on social networking sites. *Journal of Management Information Systems*, 31(3), 213-253.

Chen, J., Hsieh, G., Mahmud, J.U. & Nichols, J., (2014). Understanding individuals' personal values from social media word use. *In Proceedings of the 17th ACM conference on Computer supported cooperative work and social computing*, (pp. 405-414). ACM.

Cheung, C., Lee, Z. W., & Chan, T. K. (2015). Self-disclosure in social networking sites: the role of perceived cost, perceived benefits and social influence. *Internet Research*, 25(2), 279-299.

Chiang, H. S. (2013). Continuous usage of social networking sites: The effect of innovation and gratification attributes. *Online Information Review*, 37(6), 851-871.

Chiu, H. -C. (2002). A study on the cognitive and affective components of service quality. *Total Quality Management*, 13(2), 265–274.

Choi, S. B., & Lim, M. S. (2016). Effects of social and technology overload on psychological well-being in young South Korean adults: The mediatory role of social network service addiction. *Computers in Human Behavior*, *61*, 245-254.

Clement, J. (2019). E-commerce worldwide-Statistics & Facts. *Statista. https://www. statista. com/topics/871/online-shopping/.*

Davies, G., Chun, R., Da Silva, R., & Roper, S. (2003).*Corporate reputation and competitiveness*. London, UK: Routledge.

Dey, B.L., Binsardi, B., Prendergast, R., & Saren, M. (2013). A qualitative enquiry into the appropriation of mobile telephony at the bottom of the pyramid. *International Marketing Review*, 30(4), 297-322.

Dey, B. L., Balmer, J. M., Pandit, A., & Saren, M. (2018). Selfie appropriation by young British South Asian adults. *Information Technology & People*. 31(2), 482-506.

Dey, B., Newman, D., & Prendergast, R. (2011). Analysing appropriation and usability in social and occupational lives: An investigation of Bangladeshi farmers' use of mobile telephony. *Information Technology and People*, 24(1), 46-63.

Dey, B. L., Pandit, A., Saren, M., Bhowmick, S., & Woodruffe-Burton, H. (2016). Co-creation of value at the bottom of the pyramid: Analysing Bangladeshi farmers' use of mobile telephony. *Journal of Retailing and Consumer Services*, *29*, 40-48.

Dey, B. L., Yen, D., & Samuel, L. (2020). Digital consumer culture and digital acculturation. *International Journal of Information Management*, *51*, 102057.

Diffley, S., Kearns, J., Bennett, W., & Kawalek, P. (2011). Consumer behaviour in social networking sites: implications for marketers. *Irish Journal of Management*, 47-66.

Dishaw, M. T., and Strong, D. M. (1999). Extending the technology acceptance model with task–technology fit constructs. *Information and management*, 36(1), 9-21.

Daowd, A., Kamal, M.M., Eldabi, T., Hasan, R., Missi, F. and Dey, B.L. (2020), "The impact of social media on the performance of microfinance institutions in developing countries: a quantitative approach", Information Technology & People, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/ITP-03-2018-0135.

Du, W., Pan, S.L., Leidner, D.E. & Wing, W. (2019). "Affordances, experimentation and actualisation of FinTech: A blockchain implementation study", *Journal of Strategic Information Systems,* 28, 50-65.

Dwivedi, Y. K., Rana, N. P., Jeyaraj, A., Clement, M., & Williams, M. D. (2019). Re-examining the unified theory of acceptance and use of technology (UTAUT): Towards a revised theoretical model. *Information Systems Frontiers*, *21*(3), 719-734.

Eagly, A. H., & S. Chaiken (1993). *The Psychology of Attitudes*. Fort Worth, TX: Harcourt Brace Jovanovich College Publishers.

Fadel, K. J. (2012). The role of appraisal in adapting to information systems. *Journal of Organizational and End User Computing*, 24(4), 18-40.

Fazio, R. H. (1986). How Do Attitudes Guide Behaviour? Handbook of motivation and cognition: foundations of social behavior RM Sorrentino and ET Higgins. New York.

Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error: Algebra and statistics. *J. Marketing Res.* 18(3), 382–388.

Fugate, M., Kinicki, A. J., & Prussia, G. E. (2008). Employee coping with organizational change: An examination of alternative theoretical perspectives and models. *Personnel Psychology*, 61(1), 1-36.

Gamboa, A.M. & Gonçalves, H.M. (2014). Consumer loyalty through social networks: lessons from Zara on Facebook, *Business Horizons*, 57(6), 709-717.

Garver, M. S., & Mentzer, J. T. (1999). Logistics research methods: employing structural equation modeling to test for construct validity. *Journal of business logistics*, *20*(1), 33.

Gaudioso, F., Turel, O., & Galimberti, C. (2017). The mediating roles of strain facets and coping strategies in translating techno-stressors into adverse job outcomes. *Computers in Human Behavior*, *69*, 189-196.

Ghosh, A., Varshney, S. & Venugopal, P. (2014). Social Media WOM: Definition, Consequences and Inter-relationships." *Management and Labour Studies*, 39(3), 293-308.

Gibreel, O., AlOtaibi, D. A., & Altmann, J. (2018). Social commerce development in emerging markets. *Electronic Commerce Research and Applications*, 27, 152-162.

Grace, D., Ross, M. & Shao, W. (2015). Examining the relationship between social media characteristics and psychological dispositions. *European Journal of Marketing*, 49(9/10), 1366-1390.

Haddock, G., & Maio, G. R. (2019). Inter-individual differences in attitude content: Cognition, affect, and attitudes. In *Advances in Experimental Social Psychology* (Vol. 59, pp. 53-102). Academic Press.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). *Multivariate data analysis.* Englewood Cliffs, NJ, USA: Prentice Hall

Hair, J., Anderson, R., & Babin, B. (2018). *Multivariate Data Analysis*, 8th edition, Hampshire: Cengage Learning.

Hau, Y. S., & Kim, Y. G. (2011). Why would online gamers share their innovation-conducive knowledge in the online game user community? Integrating individual motivations and social capital perspectives. *Computers in Human Behavior*, 27(2), 956-970.

Hepper, E.G., Hart, C.M., Gregg, A.P. & Sedikides, C. (2011). Motivated expectations of positive feedback in social interactions, *Journal of Social Psychology*, 151(4), 455-477.

Henderson, A. & Bowley, R. (2010). Authentic dialogue? The role of'friendship' in a social media recruitment campaign, *Journal of Communication Management*, 14(3), 237-257.

Hennig-Thurau, T., Gwinner, K.P., Walsh, G. & Gremler, D.D. (2004). Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the Internet?, *Journal of Interactive Marketing*, 18(1), 38-52.

Hsu, C. & Wu, C. (2011), Understanding users' continuance of Facebook: an integrated model with the unified theory of acceptance and use of technology, expectation disconfirmation model, and flow theory, *International Journal of Virtual Communities and Social Networking*, 3(2), 1-16.

Hua, J., Chen, Y., & Luo, X. R. (2018). Are we ready for cyberterrorist attacks?—Examining the role of individual resilience. *Information & Management*, *55*(7), 928-938.

Huang, E., (2012). Online experiences and virtual goods purchase intention. *Internet Research* 22 (3), 252–274.

Hwang, J. & Choi, L. (2020). Having fun while receiving rewards?: Exploration of gamification in loyalty programs for consumer loyalty. *Journal of Business Research*, 106, 365-376.

Jia, Q., Guo, Y., & Barnes, S. J. (2017). Enterprise 2.0 post-adoption: Extending the information system continuance model based on the technology-Organization-environment framework. *Computers in Human Behavior*, 67, 95-105.

Karyda, M., Gritzalis, S., Hyuk Park, J., & Kokolakis, S. (2009). Privacy and fair information practices in ubiquitous environments: Research challenges and future directions. *Internet Research*, 19(2), 194-208.

Kashefi, A., Abbott, P., & Bell, D. (2012). The influences of employees' emotions and cognition on IT adoption: some perspectives from Iran. *International Journal of Social and Organizational Dynamics in IT (IJSODIT)*, 2(3), 1-16.

Kashefi, A., Nuhu, K., Abbott, P., Ayoung, D., & Alwzinani, F. (2018). Investigating Users' IT Adaptation Behaviors: A Case of a Computerized Work System. *ICIS*.

Kim, B. & Kim, Y. (2019). Growing as social beings: How social media use for college sports is associated with college students' group identity and collective self-esteem. *Computers in Human Behavior,* 97, 241-249.

Kim, H.W., Gupta, S. and Koh, J. (2011). Investigating the intention to purchase digital items in social networking communities: A consumer value perspective. *Information and Management*, 48(6), 228-234.

Kim, M. (2020). A systematic literature review of the personal value orientation construct in hospitality and tourism literature. *International Journal of Hospitality Management*, *89*, 102572.

Kline, R. B. (1998). *Principles and practice of structural equation modeling*. The Guilford Press New York.

Krasnova, H., Spiekermann, S., Koroleva, K. & Hildebrand, T. (2010), Online social networks: why we disclose, *Journal of Information Technology*, 25(2), 109-125.

Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and psychological measurement*, 30(3), 607-610.

Kreps, D., Kimppa, K., & Aricat, R. G. (2015). Is (the study of) mobile phones old wine in a new bottle? A polemic on communication-based acculturation research. *Information Technology & People*.

Kuchler, H. (2017, April 4). The Internet of things: Home is where the hackers are. *Financial Times*. Retrieved from https://www.ft.com/content/cb880bc2-057c-11e7-ace0-1ce02ef0def9

Kwon, J., & Vogt, C. A. (2010). Identifying the role of cognitive, affective, and behavioral components in understanding residents' attitudes toward place marketing. *Journal of Travel Research*, 49, 423–434.

Lazarus, R.S. (1982), Thoughts on the relation between emotion and cognition, *American Psychology*, 37(9), 1019-24.

Lee, H., Park, H., & Kim, J. (2013). Why do people share their context information on Social Network Services? A qualitative study and an experimental study on users' behavior of balancing perceived benefit and risk. *International Journal of Human-Computer Studies*, 71(9), 862-877.

Liang H, & Xue, Y. (2009) Avoidance of information technology threats: A theoretical perspective. *MIS Quart*. 33(1), 71–90.

Liang, H., Xue, Y., Pinsonneault, A., & Wu, Y. (2019). What users do besides problem-focused coping when facing it security threats: An emotion-focused coping perspective. *MIS Quarterly*, *43*(2), 373-394.

Lin, C., Gregor, S., & Ewing, M. (2008). Developing a scale to measure the enjoyment of web experiences. *Journal of Interactive Marketing,* 22(4), 40–57.

Long, S. J. (1983). *Confirmatory factor analysis: A preface to LISREL*. Newbury Park, CA: Sage.

Maio, G. R., Haddock, G., & Verplanken, B. (2018). *The psychology of attitudes and attitude change* (3rd edition). London: Sage.

Marakhimov, A., & Joo, J. (2017). Consumer adaptation and infusion of wearable devices for healthcare. *Computers in Human Behavior*, 76, 135-148.

Muhammad, S. S., Dey, B. L., & Weerakkody, V. (2018). Analysis of factors that influence customers' willingness to leave big data digital footprints on social media: A systematic review of literature. *Information Systems Frontiers*, 20(3), 559-576.

Nov, O., Naaman, M., & Ye, C. (2010). Analysis of participation in an online photo sharing community: A multidimensional perspective. *Journal of American Society for Information Science and Technology*, 61(3), 555–566.

Orlikowski, W. J., & Baroudi, J. J. (1991) Studying information technology in organizations: Research approaches and assumptions*, Information systems research,* 2(1), pp.1-28.

Park, H. & Kim, Y.-K., (2014). The role of social network websites in the consumer–brand relationship. *Journal of Retailing and Consumer Services*, 21(4), 460–467.

Rana NP, Dwivedi YK, Lal B, Williams MD & Clement M (2017). Citizens' adoption of an electronic government system: towards a unified view. *Information Systems Frontiers*, 19(3), 549-568.

Rezvani, A., Khosravi, P. & Dong, L., 2017. Motivating users toward continued usage of information systems: Self-determination theory perspective. *Computers in Human Behavior*, 76, pp.263-275.

Roberts, B. (2018). *Mapping your consumer journeys across touchpoints: Examples and techniques,* Available at: https://www.myconsumer.com/experience/engagement/mapping-your-consumer-journeys-across-touchpoints-examples-and-techniques. (Accessed April 05, 2019).

Roy, G., Datta, B., & Basu, R. (2017). Trends and future directions in online marketing research. *Journal of Internet Commerce*, 16(1), 1-31.

Sas, C., Dix, J.A., Hart, J. and Su, R. (2009). Dramaturgical capitalization of positive emotions: the answer for Facebook success?, *Proceedings of the 23rd British HCI Group Annual Conference on People and Computers: Celebrating People and Technology*, ACM Digital Library, 120-129.

Saunders, M., Lewis, P., & Thornhill, T. (2015). *Research Methods for Business Students*, 7th edition, Harlow: Pearson

Schroeder, R.(2014). Big Data and the brave new world of social media research. *Big Data and Society*, 1(2), 2053951714563194.

Sedikides, C. & Gregg, A.P. (2008). Self-enhancement: food for thought, *Perspectives on Psychological Science*, 3(2), 102-116.

Shadbolt, N. & Hampson, R. (2018) *The Digital Ape: how to live (in peace) with smart machines*, London: Scribe

Sharma, S. K. (2017). Integrating cognitive antecedents into TAM to explain mobile banking behavioral intention: A SEM-neural network modeling. *Information Systems Frontiers*, 1-13.

Steenkamp, J. B. E., & Van Trijp, H. C. (1991). The use of LISREL in validating marketing constructs. *International Journal of Research in marketing*, *8*(4), 283-299.

Sun, H. (2012). Understanding user revisions when using information system features: Adaptive system use and triggers. *MIS quarterly*, 453-478.

Sykes, T. A., & Venkatesh, V. (2017). Explaining post-implementation employee system use and job performance: impacts of the content and source of social network ties. *MIS quarterly*, 41(3), 917-936.

Sykes, T. A., Venkatesh, V., & Johnson, J. L. (2014). Enterprise system implementation and employee job performance: Understanding the role of advice networks. *MIS quarterly*, 38(1), 51-72.

Szmigin, I. (2018). *Consumer Behaviour*. Oxford: Oxford University Press.

Talukder, M., & Quazi, A. (2011). The impact of social influence on individuals' adoption of innovation. *Journal of Organizational Computing and Electronic Commerce*, 21(2), 111–135.

Tan, X., Qin, L., Kim, Y., & Hsu, J. (2012). Impact of privacy concern in social networking web sites. *Internet Research*, 22(2), 211-233.

Tarafdar, M., Cooper, C. L., & Stich, J. F. (2019). The technostress trifecta-techno eustress, techno distress and design: Theoretical directions and an agenda for research. *Information Systems Journal*, *29*(1), 6-42.

Terres, M. D. S., dos Santos, C. P., & Basso, K. (2015). Antecedents of the client's trust in low-versus high-consequence decisions. *Journal of Services Marketing*, 29(1), 26-37.

Thurstone, L.L. and Chave, E.J. (1929). *The Measurement of Attitude.* Chicago, University of Chicago Press.

Trivedi, N., Asamoah, D. A., & Doran, D. (2018). Keep the conversations going: engagement-based consumer segmentation on online social service platforms. *Information Systems Frontiers,* 20(2), 239-257.

Tucker, C.E. (2014). Social networks, personalized advertising, and privacy controls. *Journal of Marketing Research*, 51(5), 546-562.

Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: toward a unified view*. Management Information Systems Quarterly*, 27(3), 425–478.

Venkatesh, V., Thong, J. Y., & Xu, X. (2012). Consumer acceptance and use of information technology: extending the unified theory of acceptance and use of technology. *MIS quarterly*, 36(1), 157-178.

Venkatesh, V., Thong, J. Y., & Xu, X. (2016). Unified theory of acceptance and use of technology: A synthesis and the road ahead. *Journal of The Association for Management Information Systems*, 17(5), 328–376.

Walsham, G. (2010). ICTs for the broader development of India: An analysis of the literature. *The Electronic Journal of Information Systems in Developing Countries*, *41*(1), 1-20.

Wanchai, P., Díaz Andrade, A., & Techatassanasoontorn, A. (2019). IT Adaptation Patterns to Enterprise-wide Systems. *Communications of the Association for Information Systems*, *45*(1), 15.

Wang, X., Yu, C. & Wei, Y. (2012). Social media peer communication and impacts on purchase intentions: a consumer socialization framework. *Journal of Interactive Marketing*, 26(4), 198-208.

Wei, T. T., Marthandan, G., Chong, A. Y. L., & Ooi, K. B. (2009). What drives Malaysian m-commerce adoption? An empirical analysis. *Industrial Management and Data Systems*, 109(3), 370–388.

Weisskirch, R. S., & Delevi, R. (2011). "Sexting" and adult romantic attachment. *Computers in Human Behavior*, *27*(5), 1697-1701.

Wolfinbarger, M., & Gilly, M. C. (2003). eTailQ: dimensionalizing, measuring and predicting etail quality. *Journal of retailing*, *79*(3), 183-198.

Zaichkowsky, J. L. (1985). Measuring the involvement construct. *Journal of consumer research*, 12(3), 341-352.

Zajonc, R. B., and Markus, H. (1982). Affective and cognitive factors in preferences. *Journal of consumer research*, 9(2), 123-131.

Zhang, H., Lu, Y., Gupta, S. & Zhao, L. (2014). What motivates consumers to participate in social commerce? The impact of technological environments and virtual consumer experiences. *Information and Management*, 51(8), 1017-1030.

Zolkepli, I. A., & Kamarulzaman, Y. (2015). Social media adoption: The role of media needs and innovation characteristics. *Computers in Human Behavior*, 43, 189-209.