

Post-Adoption Consequences in Internet Banking: An Exploratory Study

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ABSTRACT

In contemporary competitive environment, mere 'consumer adoption' does not lead to the success of a technological innovation. It definitely serves as one of the success parameters for marketers, but may not create the desired sustainability in the lifecycle of the innovation. At this stage, it becomes necessary to observe the consequences of adoption leading towards the 'adoption over time'. The present paper discusses about the post-adoption consequences particularly in the case of internet banking and observes a relationship between adoption and its resultant consequences. Further, the study highlights the significance of 'adoption over time' in reflecting the overall success of an innovation and presents an estimate measure of 'adoption over time score' in light of the constituents of post-adoption consequences.

Key words: Post-Adoption Consequences, Adoption over time, Continuous Usage, Behavioural Intention, Internet Banking

Introduction

In spite of substantial studies on consumer adoption, little attention has been devoted to the post-adoption or continuous usage of IB service, whereas the continuous behaviour is more important than users' initial adoption (Tsai et al. 2014). Retaining an existing user requires fewer resources or efforts than developing a new one and can ultimately promote long-term viability and success (Bhattacharjee 2001; Eriksson and Nilsson 2007). Qahri-Saremi (2015) identified ten factors that affect users' pre-adoption and post adoption of online banking. Thus, customer's journey starts through adoption and goes through adoption-over time which leads to continuous usage and behavioural intention for further use. This gives the score of 'adoption over time'.

Adoption

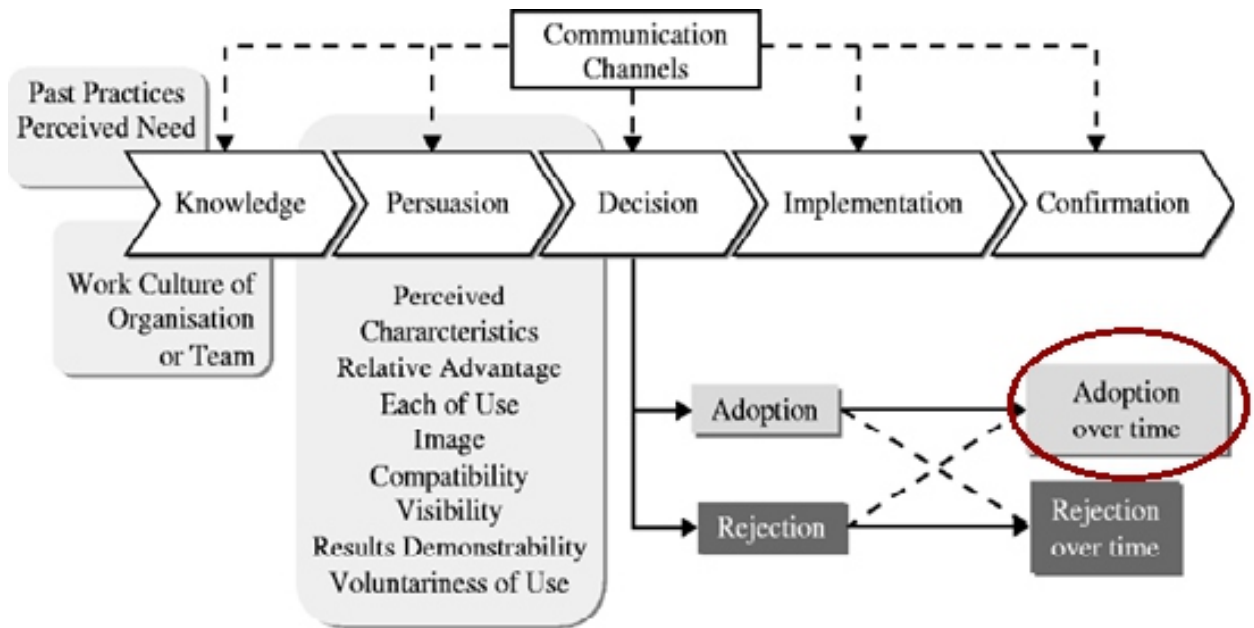
Kartiwi, Mira Rfieda, Ali Gunawan and Teddy (2013) elaborated that 'Adoption' takes place when 'behavioural intention to use' gets combined with 'usage' over a minimum period of time.

In literature, most of the researchers have considered that, 'actual adoption' takes place over time. According to Rogers (1962) 'Consumer Adoption' is a decision to continue full-scale use of an innovation'. Klonglan and Coward (1970) stated that, 'Consumer Adoption' refers to the incorporation of the innovation into the behaviour pattern. These researchers have given importance to 'adoption over time' and have thus defined actual adoption in the light of adoption-over time.

Adoption over Time

Robertson (1991) stated that, 'not every innovation purchase results in adoption'. According to Schiffman and Kanuk (2008), Adoption in an actual sense takes place if consumers decide to use the product on a full, rather than a limited basis. Thus, 'Adoption over Time' holds significant value.

Rogers (1983) stated that, the individual (or other decision-making unit) seeks reinforcement for the 'innovation adoption decision' which he has already made. He may reverse this decision if he encounters conflicting messages from the innovation. Rogers (1983) expressed that over a time an 'adopter' of innovation should be satisfied to continue the adoption.



Source: Rogers (2003)

Figure 1: Rogers (2003)

Many theories in the literature have used the term 'Post Adoption' instead of 'Adoption over Time'. Rogers (1983) have used the term 'Adoption over Time' in his model of Consumer Adoption Process.

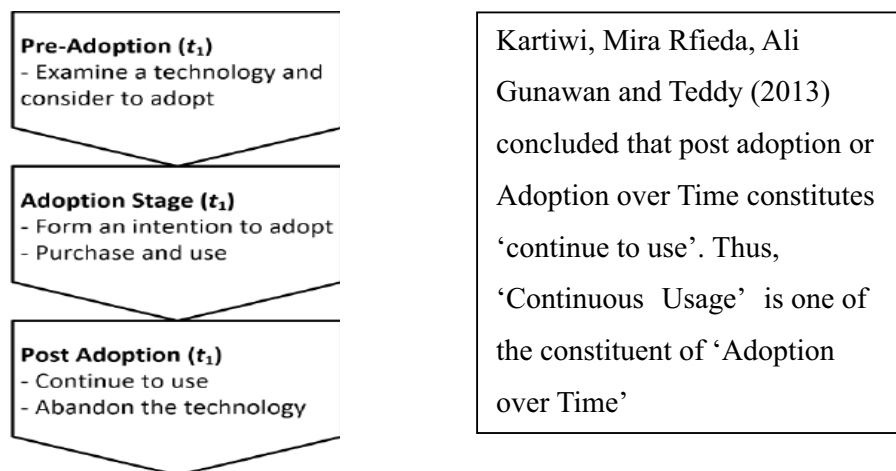


Figure 2: Kartiwi et al (2013)

Bhattacharjee (2001) in his expectation-confirmation theory (ECT) stated that, with 'Adoption over Time' or in the 'Post-Adoption Stage', 'Continuance Intention' takes place which is strengthened by 'Satisfaction'. Thus, 'Continuance Intention' is another constituent of Adoption over Time.

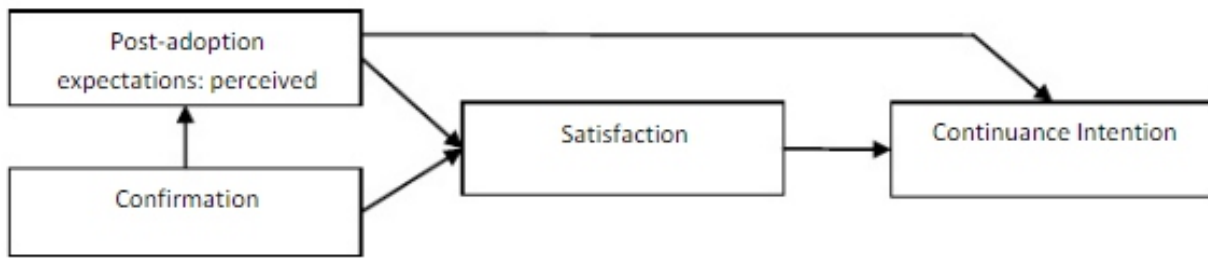


Figure IS continuance model (Bhattacharjee, 2001)

Figure: 3 IS Continuance Model (Bhattacharjee 2001)

Observation

Constituent of Adoption Over Time

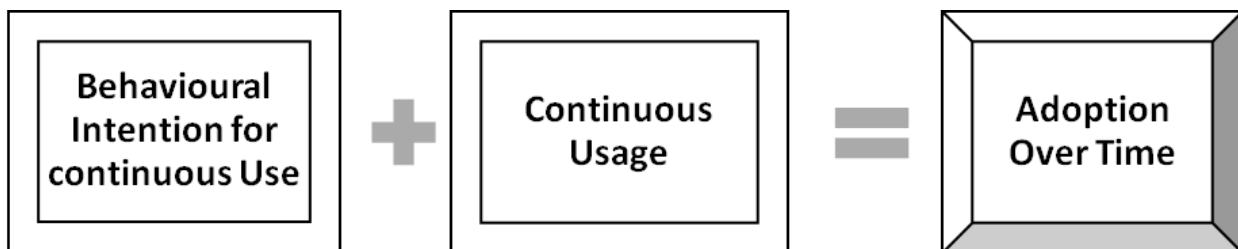


Figure 4: Constituent of 'Adoption over Time'

Behavioural intention for Continuous Use

In the online context, the psychological cognition (i.e., trust and commitment) plays an important role in predicting the use (Li et al. 2006) and continuous use of online services (Carlsson et al. 2006; Susanto et al. 2013). Yuan Yang et al. (2018) focussed on customers' trust in and their commitment towards Internet Banking Service and employed CTT (**Commitment-Trust Theory**) as a theoretical basis to explain customers' continuous usage intention of IB service. **Trust** is defined as the confidence in the reliability and integrity of the other party (Morgan and Hunt 1994), and **commitment** refers to a belief that a relationship is so important that it warrants maximum effort to maintain (Morgan and Hunt 1994).

$$\text{Behavioural Intention for continuous use} = \text{Trust} \times \text{Commitment}$$

Difference between Initial Usage and continuous Usage

Consumers' **initial usage** levels reflect their usage in the first period after adoption, at which point we assume they have no prior experience with the new service. Subsequently, consumers **continue to use** the new service and gradually adjust their usage levels as they learn over time about the (dis)advantages of the new service. Eventually, consumers either arrive at a stage of **sustained continuous use** at a certain level or decide to reject or dis-adopt the innovation altogether (Libai, Muller, and Peres 2006; Shih and Venkatesh 2004). Most prior studies, which use cross-sectional data, measure 'usage' at some moment in time after adoption, which does

not exactly reflect 'initial usage', because the user has had time to learn from his or her experience with the new product and might have adapted usage levels already which refers to the continuous usage of post adoption.

Consequences of Adoption- A review

Once adoption takes place, it leaves its consequences over a period of time which is termed as 'post adoption' consequences in the literature.

Boshkoska Meri and Satiroski (2018) focused on the assessment of electronic banking services' adoption and the valuation of satisfaction and loyalty with individual customers in the Republic of Macedonia. They concluded that, awareness, age, level of education, complexity, computer and internet knowledge have a different level of impact on customer adoption and satisfaction from the e-banking services in Macedonian banking sector. They further analysed that, out of 292 examinees who use e-banking services, 88.4% are satisfied with e-banking services and 82.5% holds the intention of recommendation and there is a mutual relationship between the perceived levels of satisfaction vis-à-vis-banking services and customers' loyalty.

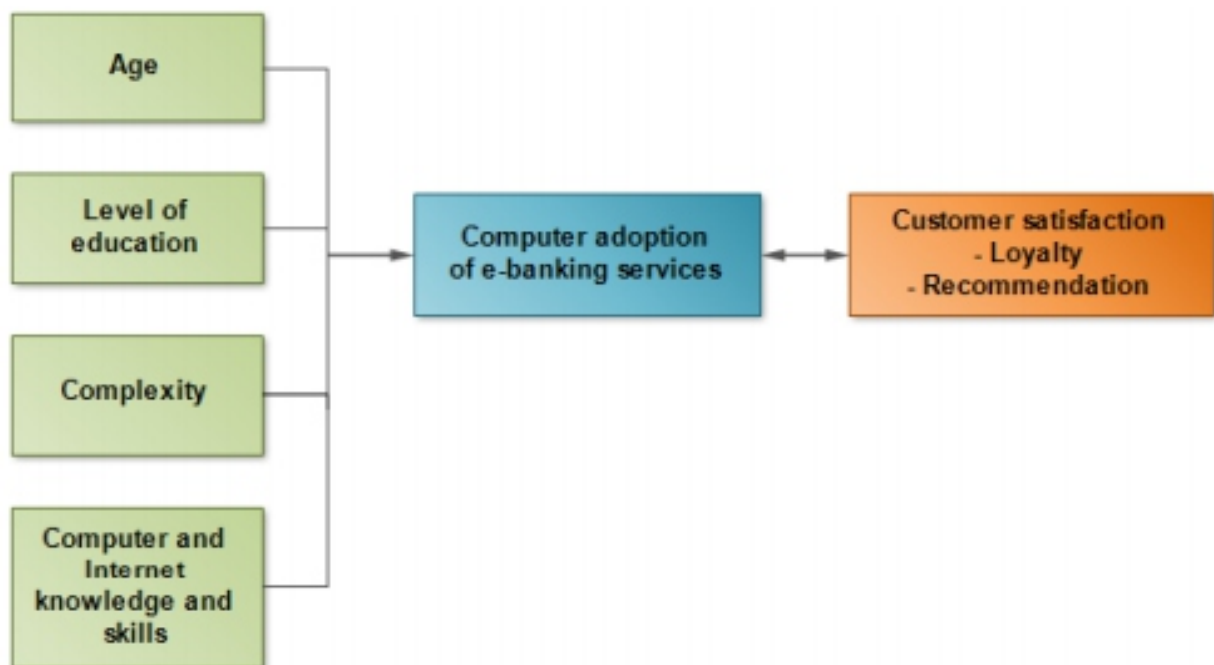


Figure 5: Boshkoska Meri and Satiroski (2018)

Mokhtar S A et. al (2017) in his study, confirmed the significance of relationship between adoption and satisfaction, satisfaction and loyalty as well as between adoption and loyalty. They developed a conceptual model establishing the aforesaid relationship of constructs. The factors affecting the constructs of adoption and satisfaction were Social Influence, Ubiquitous Finance Control (UFC), Social Influence and Perceived Trust. The resultant construct was customer Loyalty. Sample incorporated the individuals having M-Banking usage experience in Saudi Arabia.

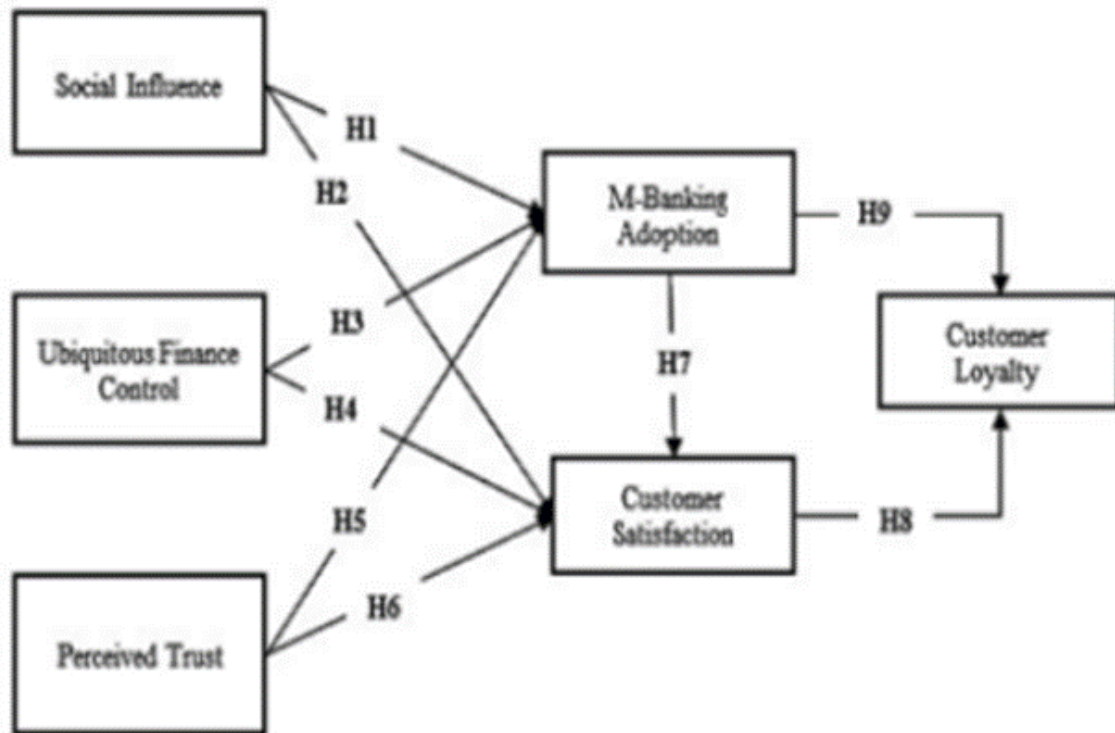


Figure 6: Mokhtar S A et. al (2017)

Andrew Musiime and Malinga Ramadhan (2011) examined the factors influencing Stanbic Bank's consumer adoption and satisfaction of Internet banking services. The sampling unit of the study was users of Internet banking services of Bank 'X' in Kampala. The study found that, factors such as access and control and usage of account were found significant in influencing consumer adoption of internet banking. Further, significantly positive relationship was found between 'internet banking' and 'consumer adoption' and 'customer satisfaction'. Andrew Musiime and Malinga Ramadhan (2011) analysed constructs like 'Commitment', 'Loyalty', 'Retention', and 'Referral or Recommendation of service' as a part of Customer Satisfaction.

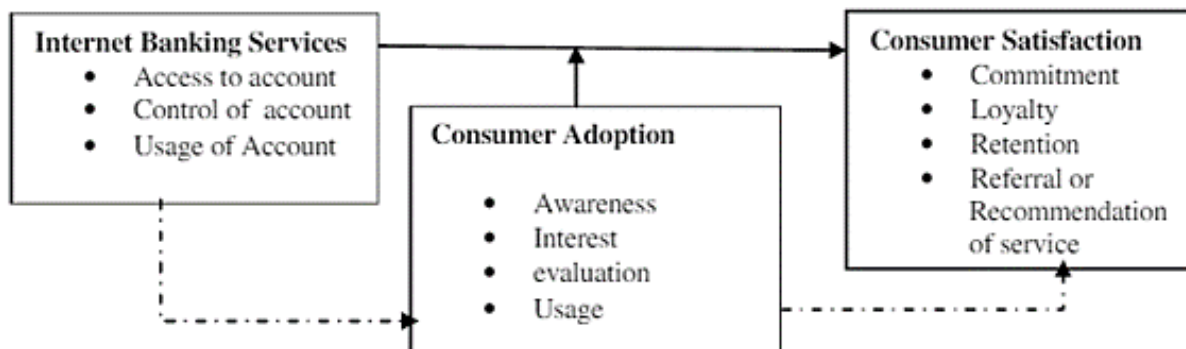


Figure Conceptual framework. Source: Qureshi et al. (2008), Mohamed and Pearson (2007), Ndubisi and Sinti (2006) and Raman et al. (2008).

Figure 7: Musiime and Malinga Ramadhan (2011)

Zeithaml et al (1996) observed that loyalty and commitment or retention is critical indices of customer satisfaction. Tomark and Ponsonnealt (2001) in their studies found that among the adopters of electronic banking, its 'usage' had a significant effect on consumer loyalty.

Abolfazl et al (2018) conducted their study on “Effects of 'Adoption' and 'Satisfaction' on 'Word of Mouth' in the Internet Banking of Iran”. Their findings indicated that Website content, Ease of use, Privacy, Accessibility, Security and Transmission speed have considerable effects on the Internet Banking Adoption. The study further found that, Internet Banking Adoption leads to increased Satisfaction and Word of Mouth. The sample incorporated 385 'internet banking service users' of Iran's private banks.

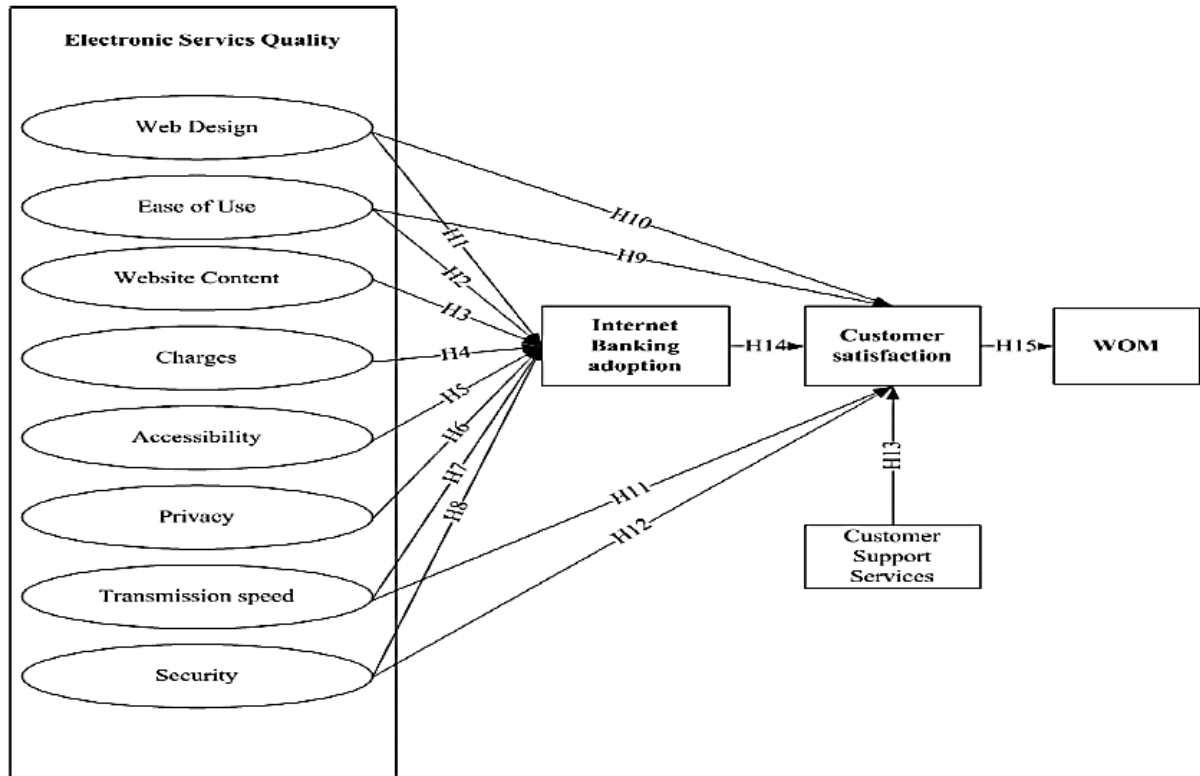


Figure 8: Abolfazl et al (2018)

Ahmed et. al (2011) examined the factors which contributes and assists the adoption of 'e-banking' in Jordan. Further, the study examined the impact of e-banking functionality on the satisfaction outcomes for Jordanian banks customers. Their research showed that the e-banking adoption (convenience, accessibility, privacy, security, design, content, fees, charges and speed) positively affect 'customer satisfaction', 'customer loyalty' and 'positive word of mouth'. The sampling unit of the study were customers of Commercial Banks of Jordan. Ahmed et. al (2011) concluded that, customer satisfaction has positive impact on customer loyalty and loyalty has positive impact on word of mouth. Several authors have proposed that loyalty favours higher intensity in positive WOM (Hallowell, 1996), lower price sensibility (Lynch and Ariely, 2000) and more stable and bigger incomes (Knox and Denison, 2000). Ahmed et al. (2011) stated that, loyalty has positive impact on Word of mouth.

Bhattacharjee (2001) introduced expectation-confirmation theory (ECT) to explain IS continuance. The model establishes concrete difference between 'initial adoption' and 'continued usage'. Bhattacharjee (2001) developed 'information systems continuance model' by taking into consideration the 'expectation-confirmation theory'. According to the 'Information Systems continuance model', after the 'initial adoption', users make judgement about which of their 'pre-adoption expectations' are fulfilled, which is termed as 'confirmation' in the stated model. Based on the 'confirmation', the users form an opinion about

the 'benefits' (i.e. their perceived usefulness). As per (Bhattacharjee, 2001), this can re-viewed as post-adoption expectation. 'Confirmation', i.e. the perceived beliefs about the 'benefits' become the basis to determine 'satisfaction' in the long run. Further, 'perceived benefit' or 'perceived usefulness' and 'satisfaction' collectively impact the willingness of users for continuous usage of an innovation leading towards the creation of 'behavioural intention to continue the use of an innovation' or 'retention'.

Chea Sophea (2007) studied post adoption stage and proposed a framework which showed that confirmation leads to perceived usefulness, positive or negative impact which leads to satisfaction which in turn leads to Continuance Intention, Recommendation and complaint.

Many researches have studied the continued use of IS in post-adoption stage. Besides, user's loyalty to the system tends to be generated IS (Bhattacharjee, 2001; Hong et al., 2006; Thong et al., 2006; Vatanasombut et al., 2008). Once loyalty is arising, users will not only continue to use the system (Chiu and Wang, 2008) but also refer it to others (Bowen and Shoemaker, 1998).

Gwebu, K. L., Wang, J., & Guo, L. (2014) constructed an integral framework on post-adoption outcomes. In his framework, he has shown that, in the post adoption stage, consumers analyse their post adoption beliefs which leads to satisfaction and loyalty which together leads to continued use (retention) and usage comprehensiveness.

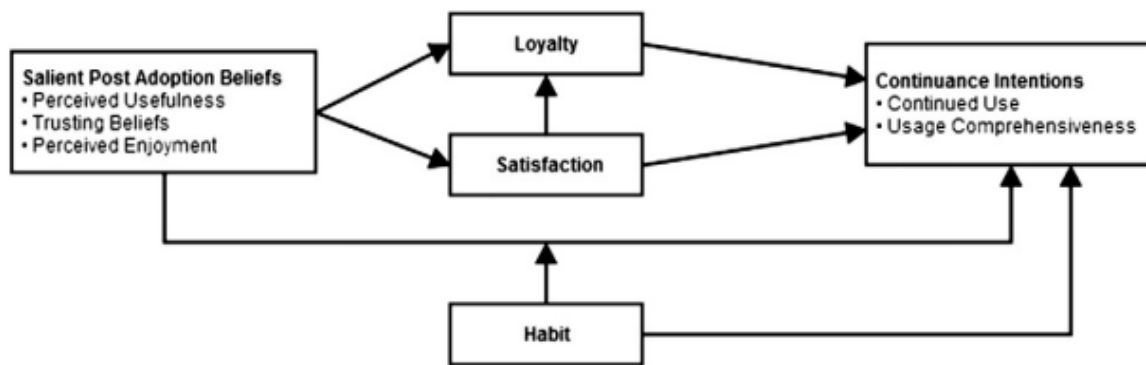


Figure 9: Gwebu, K. L., Wang, J., & Guo, L. (2014)

Observation

From the review of literature, it is observed that, 'Satisfaction' and 'Loyalty' has emerged as two important consequences of 'consumer adoption' where loyalty has its different constituents.

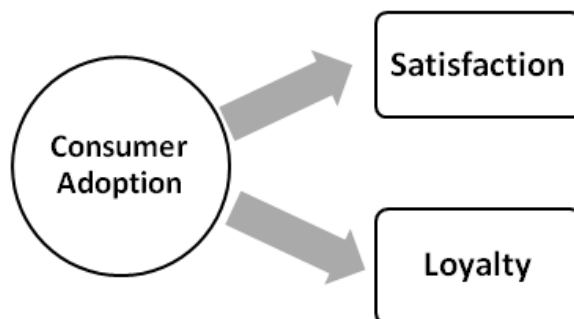


Figure 10: Consequences of Consumer Adoption

Satisfaction - Oliver (1997) defined 'satisfaction' as “the consumer's fulfilment response, the degree to which the level of fulfilment is pleasant or unpleasant.” Saha and Zhao (2005) defined 'customer satisfaction' as a consequence of 'perception', 'evaluation' and 'psychological reactions' formed collectively as a result of 'consumption experience' related to a particular product/service. (Saha and Zhao 2005; Yau 2007) stated that, if the 'perceived performance' of a product/service is less than its expected value, customers will be dissatisfied. On the other hand, if the 'perceived performance' exceeds 'customer expectations', customers will be satisfied which would lead to 'retention'.

Loyalty – Oliver (1999) stated that, 'customer loyalty' is a deeply held commitment in order to rebuy or repatronize a preferred product or service consistently in the future. Oliver (1999) further added that, the 'commitment to rebuy' will be not be affected by any 'situational influences' and 'promotional cues' formed by marketers to cause switching behaviour.” Keni et al. (2013) found that, 'readiness to act' or 'repurchase' and 'resistance over existing alternatives' are constituents of loyalty. Wangenheim and Bayòn (2004) concluded that, 'Customer Loyalty' is multidimensional in nature, which is constituted by 'repurchasing' and 'resistance towards price increase'.

Relationship between satisfaction and loyalty

Customer satisfaction is stated to be one of the most important keystones when creating customer loyalty, especially in the bank sector as discussed by Ribbink, Van Riel, Liljander and Streukens (2004), Leverin and Liljander (2006) and Methlie and Nysveen (1999). Estelle van and Beer Leon (2018), proposed a structural model in which a relationship was shown between customer satisfaction and Advocacy. Customer satisfaction causes customer loyalty and the more customer satisfaction will result in more level of loyalty to the firm (P. J. Kirs. 2010). Dick and Basu (1994) investigated about dimensions of loyalty and suggested satisfaction as an antecedent to loyalty. Fornell et al. (1996) also established loyalty as consequence of satisfaction. Loyalty measured in terms of relationship duration was also found to also be positively related to satisfaction (Alonso, 2000; Garcia del los Salmones et al., 2009; Bolton, 1998; Rundle-Thiele, 2005; Pollack, 2009). The study of consumer loyalty appears to be a product of the study of customer satisfaction (Oliver, 1999). Methlie and Nysveen (1999) studied the effects of satisfaction (and other exogenous constructs) on affective and conative loyalty. Relationships between customer satisfaction and action loyalty, and action loyalty and profitability were explored by Helgesen (2006). Studies of cognitive, affective, conative, and action loyalty have been conducted by Sivadas and Baker-Prewitt (2000), McMullan and Gilmore (2003), Harris and Goode (2004), Samong and Omar (2004), and Evanschitzky and Wunderlich (2006). Satisfaction was found to affect short-term loyalty more than long-term loyalty (Dube and Maute, 1998). Bodet (2008) observed positive relationship between overall satisfaction and attitudinal loyalty. A positive relationship was also found between online customer satisfaction and affective and conative loyalty (Methlie and Nysveen, 1999).

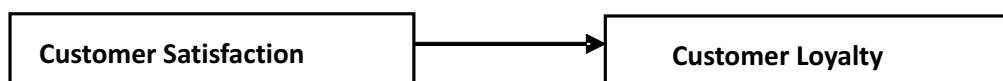


Figure 11: Relationship between Customer Satisfaction and Customer Loyalty

Mediating role of Satisfaction between 'Consumer Adoption' and 'Customer Loyalty'

From review of literature, we observed that, consumer adoption leads to customer loyalty, thus indicating that, consumer adoption could be a predictor of customer loyalty and without adoption there would no loyalty.

Secondly, literature suggests that, consumer adoption leads to customer satisfaction, thus reflecting the significance of adoption as a predictor of customer satisfaction. Both conditions have been observed and presented through figure 10. Thirdly, it has been found that, customer satisfaction leads to loyalty. Literature shows strong evidences regarding customer satisfaction as a significant predictor of customer loyalty. Based on these observations, the relationship between consumer adoption, customer satisfaction and customer loyalty have been represented through figure 11

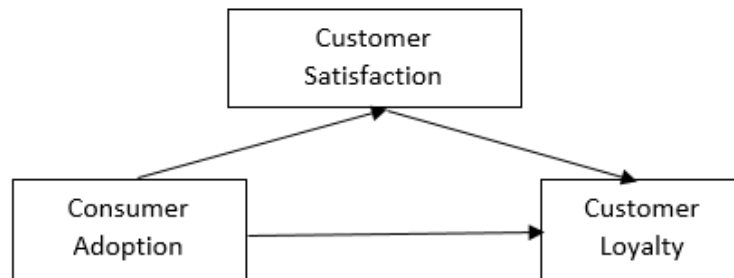


Figure 12: Relationship between Consumer Adoption, Satisfaction and Loyalty

The relationship between the constructs shown in figure 11 seems to represent the mediating role of satisfaction between consumer adoption and customer loyalty. But, such relationship could be confirmed if it satisfy the ‘mediation rule’ fixed by Baron and Kenny (1986).According to them, a variable is said to be a mediator “to the extent that it accounts for the relation between the predictor and the criterion” Barron & Kenny (1986) stated that, mediation occurs if:

1. X is a significant predictor of Y
2. X is a significant predictor of M
3. M becomes a significant predictor of Y, controllingfor X

In the relationship of consumer adoption, customer satisfaction and customer loyalty presented in the figure below, we can observe that, ‘Customer Satisfaction’ is playing the role of a mediator between ‘Consumer Adoption’ and ‘Customer Loyalty’.

According to the mediation rule ofBaron and Kenny (1986),

For fulfilling the first condition, it will be tested that, whether consumer adoption(X) is significant predictor of brand loyalty (Y) or not. It is from Standard Coefficients (Beta Value), we can confirmthe units change in customer loyalty due to one unit change in consumer adoption. In this way, the fulfilment of first condition of mediation will be checked.

For checking the fulfilment of second condition of mediation, it will be tested that, whether consumer adoption (X) is significantly predicting ‘customer satisfaction (M) or not. Again Standard Coefficients (Beta Value) will be checked to ascertain the units change in customer satisfaction (M) due to one unit change on consumer adoption (X).

The third condition of mediation will be met if customer satisfaction (M) will significantly predict brand loyalty (Y). Standard Beta Coefficients will be used to predict the units change in customer loyalty due to one unit change in customer satisfaction.

Post Adoption Satisfaction

According to IS Continuance Model of Bhattacharjee (2001), 'Post Adoption Satisfaction' is a function of expectation and Perception.

$$CS f (Expectation, Perception)$$

Customer Satisfaction can be derived by subtracting '*perceived experience*' obtained after adoption from the '*expectations*' developed before adopting a particular product.

Example:

If Factors affecting Consumer Adoption is 'Perceived Usefulness (PU)' and Perceived Ease of Use (PEOU)'

Then, Post Adoption Customer Satisfaction =

$$(Expected\ PU + Expected\ PEOU) - (Perceived\ PU + Perceived\ PEOU)$$

According to 'Expectation-disconfirmation theory', satisfaction is a function of prior expectations and disconfirmation (Oliver 1980; Susarla et al. 2003), and satisfaction is a key determinant of repurchase intentions (Oliver 1980; Oliver et al. 1994).

Expectation is defined as a set of pre-exposure beliefs about the product (Olson and Dover 1979; Susarla et al. 2003). *Disconfirmation* is the discrepancy between expectations and perceived/actual experiences. Better-than expected outcomes lead to *positive disconfirmation* and worse-than-expected outcomes lead to *negative disconfirmation* (Churchill and Surprenant 1982; Kopalle and Lehmann 2001; Oliver 1980; Oliver et al. 1994).

Post Adoption Loyalty

Oliver (1997, 1999) suggested that there are four phases of loyalty, with each successive stage stronger than its predecessor. The weakest is cognitive loyalty, which is based on factual information.

- Cognitive Loyalty - According to E Wunderlich (2006), cognitive loyalty was defined and measured as the evaluation of a product's attributes performance.
- Affective Loyalty - Oliver (1999) stated 'affective loyalty' as a kind of attachment or attitude to the brand, which is based on pleasant experience of using the brand. The consumer's commitment to the brand in this stage is called emotional loyalty.
- Conative Loyalty - Zeithaml et al. 1996 stated that, Conative loyalty consists of Repurchase intention (Retention) and Word of Mouth Intention.
- Action Loyalty - According to Kuhl and Beckman (1985), action loyalty refers to the action control process. The detection of Action loyalty involves the history of the relationship and its future prospects (Oliver (1997)).

Constituents of different phases of Loyalty

Loyalty Stage	Composition		
Cognitive	Service Rating Experience Verhoef et al. (2004)	Quality/Price ratio Verhoef et al. (2004)	Reasonability, Worth of Use Verhoef et al. (2004)
Affective	Inattractiveness to Alternatives Sambandam and Lord (1995)	Emotional Barrier to Switching Manzuma-Ndaaba, et al (2016)	
Conative	Recommendation Jiewanto et al., (2012)	Retention Zeithaml et al. (1996)	
Action	Frequency of Use D W Odekerken-Schröder and Lacobucci (2001)	Expenditure on Service M Blut, H Evanschitzky, V Vogel, and D Ahlert (2007)	Usage comprehensiveness Manzuma-Ndaaba, et al (2016)

Figure 13: Constituents of different phases of loyalty

$$CL = A + Y_{CogL} + Y_{AffL} + Y_{ConL} + Y_{ActL}$$

Where,

Y_{CogL} *f*(Service Experience, value proposition, reasonability, worth of use)

Y_{AffL} *f*(Inattractiveness to alternatives, Emotional barrier to switching)

Y_{ConL} *f*(Retention, Recommendation)

Y_{ActL} *f*(Frequency of Use, Expenditure on service, Usage comprehensiveness)

‘Adoption over Time’ Score

a) Measurement of Continuous Usage

According to R Pins (2008) consumers arrive at a stage of sustained continuous use at a certain level where user has had time to learn from his or her experience with the new product and he might have adapted usage levels already which refers to the continuous usage of post adoption.

We have observed above that, consumers evaluate their ‘experience’ derived from the adopted product during the stage of ‘post-adoption satisfaction’ and they enter into the ‘continuous usage’ phase at the stage of ‘action loyalty’. Thus, the constituents of ‘action loyalty’ can serve as the constituents of ‘continuous usage’ during post-adoption.

Continuous Usage =

Frequency of Use + Expenditure on Service + Usage comprehensiveness

b) Measurement of Behavioural Intention to continue

Bhattacharjee (2001) defined ‘retention’ as ‘continuance intention’ in the post-adoption period.

Behavioural intention to continue has already been stated above as the product of trust and commitment as specified by Yuan Yang (2018) taking into consideration the, ‘*Commitment-Trust Theory*’

$$\text{Adoption over Time} = (\text{Frequency of Use} + \text{Expenditure on Service} + \text{Usage comprehensiveness}) + (\text{Trust X Commitment})$$

As specified by Oliver (1999), customer loyalty forms in a consecution of cognitive loyalty, affective loyalty, conative loyalty (commitment), and action (behavioural) loyalty.

Score of Adoption over time consists of retention part of conative loyalty and constituents of action loyalty.

Conclusion

Consumer Adoption is not an end but is the beginning of a customer’s journey instead. Adoption consists of ‘behavioural intention to use’ along with ‘minimum usage’ of an innovation. The study found ‘satisfaction’ and ‘loyalty’ as two major consequences of consumer adoption. ‘Post adoption satisfaction’ is a function of perception and expectation. An adopter gets satisfied if he/she finds the perceived value of innovation in excess to its expected value. Post adoption loyalty varies from cognitive, affective, conative and action loyalties leading towards composite loyalty. Literature confirms the relationship between consumer adoption, customer satisfaction and customer loyalty. Further analysis of their relationship indicates the mediating role of satisfaction between consumer adoption and customer loyalty. Figure 14 highlights the relationship between adoption and its consequences in light of the specification of their constituents.

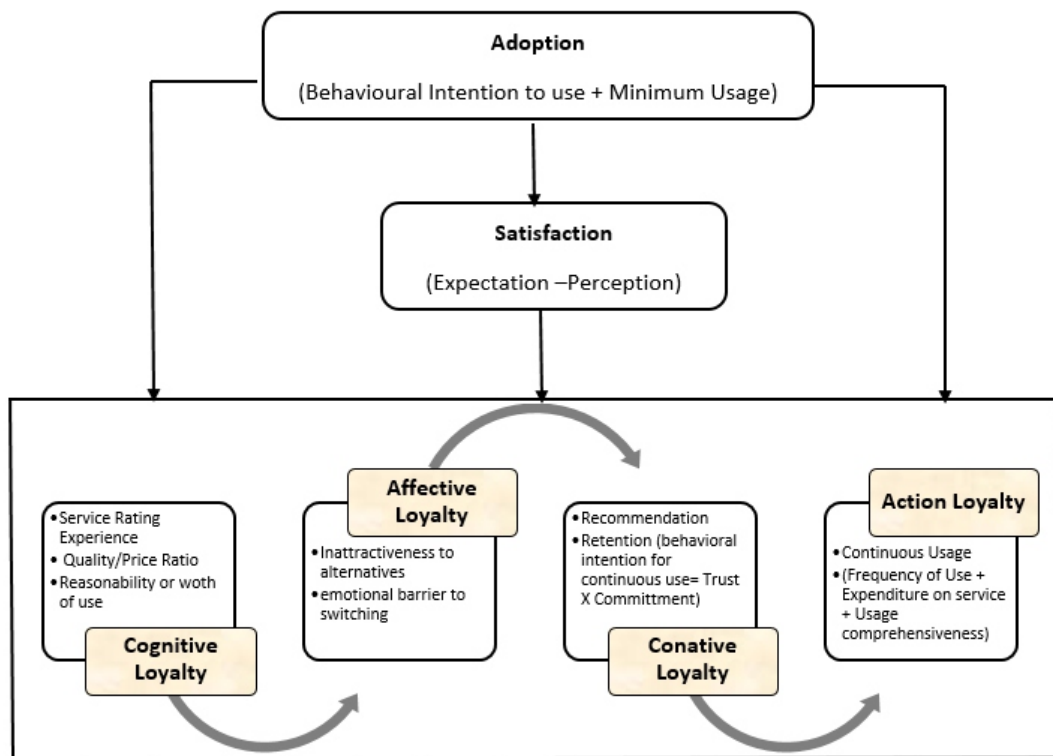


Figure 14: Flow and Constituents of 'Post Adoption Consequences'

Adoption over time holds greater significance as it includes stronger reasons for consumers to stay with the company for long. The resultant constituents of 'Adoption over time' were found to be 'behavioural intention for continuous use' and 'continuous usage'. Literature confirmed the 'retention' part of conative loyalty as an individual's 'behavioural intention for continuous use'. Further, the score of 'behavioural intention for continuous use' has been found as a product of 'trust' and 'commitment'. 'Continuous Usage' got reflected in action loyalty phases comprised of constituents leading to it's composite score. Thus, the Score of 'Adoption over time' reflected in the sum of these two scores that could also be obtained from 'retention' part of conative loyalty and constituents of action loyalty combined together.

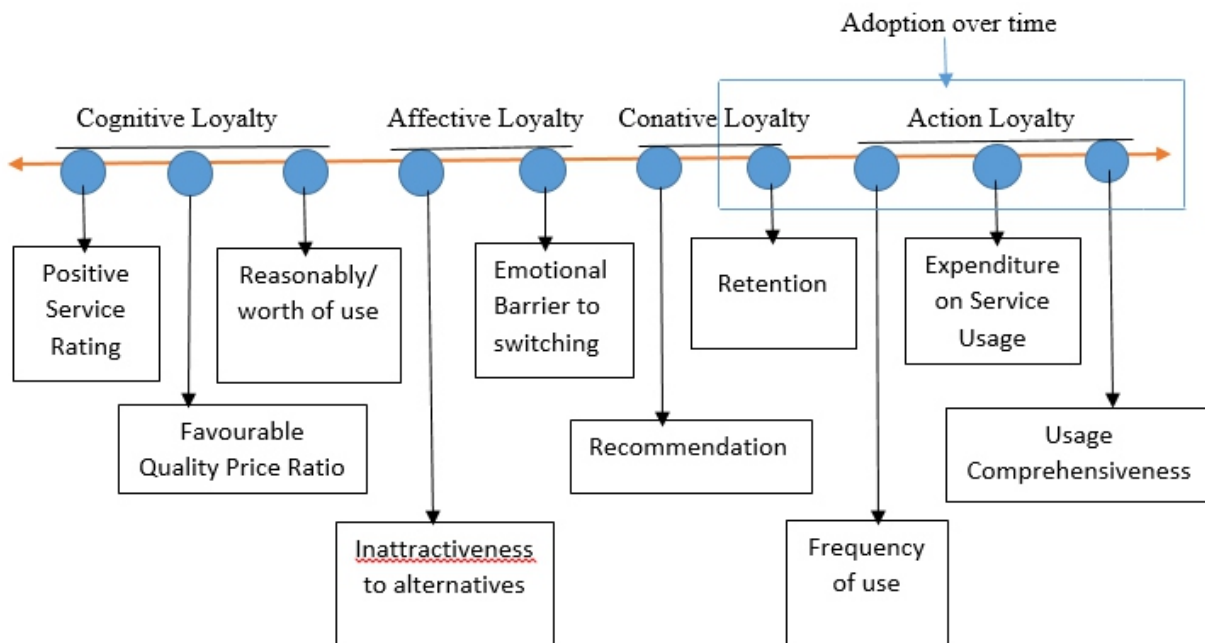


Figure 15: 'Adoption over Time' on continuum of loyalty

Figure 15 reflects the composite constituents of 'Adoption' over time' score through loyalty continuum constructed on the basis cognitive, affective, conative and action phases of loyalty.

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