

ASSESSING CONSUMERS ADOPTION OF SELF SERVICE BANKING IN INDIA: GENDER DIFFERENCES

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Abstract

Rate of adoption of technology based banking services has not been as per expectations of the marketers. Research indicates that individual differences like demographics, gender, age could offer plausible insights into slow rate of adoption of technology based banking services in India. It is within this background that the current study was undertaken to study the effect of gender on TAM (technology acceptance model). To test the proposed hypotheses, a survey was done and data were collected from 314 respondents. The sampling frame was defined as 26 Tier 2 cities of India. The results indicated that there were significant differences across gender in terms of technology discomfort which influenced the perceived usefulness and behavioral intention in terms of attitude to use self service banking decreased. Therefore, marketers need to address the aspect of technology discomfort especially in respect to females.

Keywords: Self service banking, Gender differences, Banking sector India.



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Introduction

Customerization; giving transactional control to the customer has been a crucial competitive marker for service industry especially information processing industries like banking. In these sectors the only way to transfer transactional control is by extensive use of technology. Companies adopt these customerization strategies because of additional benefits like reduced cost of operations, increased efficiency of service processes and improved quality (Legris, Ingham, & Collerette, 2003; Meuter, Ostrom, Roundtree, & Bitner, 2000). The key to a company realizing these benefits is in the adoption rate. A company realizes all the benefits only and only if the customers accept and adopt the technology at a progressive rate – it is only then this becomes a win win situation.

To help companies formulate its strategies and improve the technology acceptance rate the researchers have developed multiple models like the technology acceptance (Fred D Davis,
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1989; Edgett & Parkinson, 1993; Zeithaml, Parasuraman, & Berry, 1985), the theory of reasoned action (Fishbein, 1979), task technology fit model (Goodhue & Thompson, 1995) and Innovation diffusion theory (Rogers, 2010). Numerous researchers have used these models to drive lessons on which companies base their strategies. The popularity of the model based approach has been so popular that a general search on Technology acceptance model based studies on google scholar results in more than 10,00,000 hits with the phrase being either in their title or content.

Armed with the knowledge gained from these researches companies have formulated and implemented strategies to push along the technology adoption rate. Same has been true for India. The explicit work on application of models in Indian service sector is still in infancy stages with only decade of self service technologies under its belt. However, the zeal of companies to increase the adoption is not inhibited by time. Strategies like incentives, “opt out” defaults, technology conceirging and education have been used by this service provide to help customers migrate to self service channels.

However, in India, these strategies have not been able to help banks to reach its true potential in terms of self service banking technologies. This has been indicated by the banking on technology report (2014) published by EY where they state that 65% of the online banking registered customer , in India, remain inactive (public as well as private banks) and the number of registered users itself ranges between only 2% and 8% of overall number of banking transactions across all channels (EY, 2014).

A search for possible explanations into this lack of adoption indicated the answer to this question could be in culture. Review of literature indicated that as early as 1979 Zmund had indicated in his studies that individual differences like demographics, gender, age, level of education and personality related variables influenced the consumer adoption of technology (Zmud, 1979).India being a masculine culture (Hofstede, 2016)indicating that the gap between men’s and women’s values is very high. Given the two facts it could be argued that in India the strategies were not reaping desired results because they did not cater to the nuances of the gender. Some research was found to support this argument which indicated that in terms of perception regarding technology there are significant differences across gender right from the risk dimensions to the perception of capability (Elliott & Hall, 2005; Karjaluoto, Riquelme, & Rios, 2010; Wang, Wu, & Wang, 2009).

Therefore, if there are significant differences across gender ignoring these in marketing strategies forfeits the very purpose of adopting Customerization strategy and is bound to influence the technology adoption rate. It is within this backdrop that the current study has been undertaken in India.

The current research paper is an attempt to understand the underlying moderating variables of gender for technology adoption and usage decisions. Marketers need to understand these differences more especially when talking in terms of services because inseparability means the gender is part of the equation. Therefore, understanding the gender differences in usage and adoption of services could give marketers a necessary edge. It is this aspect of services which has been under researched and is the focus of the current study. The attempt is to explore the factors which affect TAM across gender. The research would help add to the existing base of literature on TAM and technology based services and also helps practitioners develop understanding of this important dimension of segmentation and positioning.

Conceptual Development

Technology Acceptance Model (TAM): Perceived usefulness and ease of use

Technology acceptance model (TAM) over the years has gained acceptance in the academic world as a model for explaining consumer behavior for technology based products (Yi & Hwang, 2003). Proposed by Davis (Fred D. Davis, 1993) the model proposes that attitude of a person towards technology is determinant of actual use and the attitude is determined by two factors i.e. perceived ease of use and perceived utility. The model postulates these two variables i.e. perceived ease of use and perceived usefulness as mediating variables for a set of external variables. Over the years many researchers have tested and proven the model strength across different technology oriented products. Pavlov used the model in ecommerce industry (Pavlou, 2003), while Lederer and his colleagues used TAM for world wide web (Lederer, Maupin, Sena, & Zhuang, 2000) and established that perceived usefulness and perceived ease of use were key drivers for acceptance of technology driven products. Further evidence for effect of perceived usefulness and perceived ease of use on attitude is provided by multiple authors over the years (Patrick YK Chau, 1996; King & He, 2006; Mun & Hwang, 2003; Venkatesh & Davis, 1996; Vijayasarathy, 2004). Previous research has found that individual differences like demographics, gender, age, level of education and personality related variables are important external variables in TAM (Zmud, 1979). Since then only limited number of researchers have tried to study moderating effect of age, perceived risk and

gender on TAM and have indicated that the influence of perceived ease of use and perceived usefulness on attitude will be moderated by gender (Elliott & Hall, 2005; Karjaluoto et al., 2010; Wang et al., 2009). Elliot and Hall established that males had a stronger desire to experiment with new technologies while women exhibited less confidence in making a new technology work (Elliott & Hall, 2005). Past research also indicates that perceived ease of use and effort expectancy are stronger determinants of intention for women (Venkatesh & Morris, 2000; Venkatesh, Morris, & Ackerman, 2000). Therefore, based on the findings of past researchers the current study proposes that the males are more driven by their nature to experiment and hence their desire to experiment would make them exhibit lesser influence of perceived usefulness and perceived ease of use on attitude as compared to females. It is hypothesized that influence of perceived usefulness and perceived ease of use on attitude will vary across gender.

Hypothesis 1: Perceived usefulness will have positive and significant impact on individual's Attitude to use self service banking more strongly for women than for men. **(PU->Attitude)**

Hypothesis 2: Perceived ease of use will have positive and significant impact on individual's Attitude to use self service banking and perceived usefulness more strongly for women than for men. **(PEOU -> Attitude)**

TAM in past decade has been tested across industries, cultures and later been extended to include a set of external variables which influence the Perceived usefulness and perceived ease of use (Calisir, Altin Gumussoy, Bayraktaroglu, & Karaali, 2014; Legris et al., 2003). These works were used to develop a list of external variables for the current gender based study.

Subjective norm: This set of items is defined as a person's perception that most people who are important to him think he should or should not perform the behavior in question (Fishbein, 1979; Fishbein & Ajzen, 1975). Subjective norm refers to set of variables which indicate a consumers need to gain social acceptance and his perception that the use of technology would help him gain that. In India the culture is a collectivist culture (Hofstede, 1983) and therefore, every consumer decision is a we decision in India indicating that social acceptability is a strong variable in determining consumer behavior. Furthermore, research has indicated that women are motivated more by affiliation needs than men and extent of affiliation influenced the moods of the individual more strongly in females (Hoffman, 1972; Wong & Csikszentmihalyi, 1991). Therefore, research indicates that women are more people and

relationship oriented than men and therefore, stronger determinant of behavior in women than in men (Venkatesh et al., 2000). Given the high difference in masculinity and femininity roles in India (Hofstede, 1983) it can be argued that social norm will have a significant impact on behavioral intentions in women than in men. Therefore, it is proposed that social norm would affect perception of the customer more in women than in men. The current study extends the model to test social norm with perceived usefulness and perceived ease of use.

Hypothesis 3: Social Norm will have positive and significant impact on perceived usefulness to use self service banking more strongly for women than for men. (SN -> PU)

Hypothesis 4: Social Norm will have positive and significant impact on perceived ease of use to use self service banking more strongly for women than for men. (SN -> PEOU)

Perceived Risk: Perceived risk as a construct refers to uncertainty regarding expected benefits from a product or service (Bauer, 1960). It is the perception of negative outcome which influences the adoption of a technology. If the cost and chances of negative outcome are high the perception is that the consumer would be reluctant to adopt a technology. To test this perception many scholars have extended TAM to include perceived risk as an external variable (Featherman & Pavlou, 2003; Kesharwani & Bisht, 2012; Lee, 2009; Yiu, Grant, & Edgar, 2007). Kansal study indicates that the adoption of online purchase in India is greatly influenced by perceived risk and privacy concerns (Kansal, 2014). Therefore, given the high information processing nature of banking industry the perception of financial and security risk is expected to be high indicating a negative relationship between behavior and perception of risk. Some research indicates that individual variables like gender also influence the perception of risk. LaGrange and his colleagues in early 1989 established that there was a significant difference in perception of risk and fear of crime across gender (LaGrange & Ferraro, 1989). Researchers have further indicated that Women have greater perceived likelihood of negative outcomes and a lesser expectation of enjoyment which is partially mediated by their lower propensity toward risky choices in gambling, recreation, and health domains (Harris, Jenkins, & Glaser, 2006). Weber and his colleagues tested risk taking and gender across five domains financial decisions, health/safety, recreational, ethical, and social decisions and found that women were more risk-averse in all domains except social risk (Weber, Blais, & Betz, 2002). Garbarino & Strahilevitz in their research indicate that women perceive more risk in online purchasing than men and are more risk averse than men (Garbarino & Strahilevitz, 2004). Therefore, the current study tests the hypothesis based on

proposition that perceived risk would be a greater inhibitor for behavioral intent i.e. perceived usefulness and perceived ease of use, in women than men.

Hypothesis 5: perceived risk will have negative and significant impact on perceived usefulness to use self service banking more strongly for women than for men.

(PR -> PU)

Hypothesis 6: perceived risk will have negative and significant impact on perceived ease of use to use self service banking more strongly for women than for men. **(PR -> PEOU)**

Self efficacy/ Capability : Social learning theory states that psychological procedures alter expectations of personal efficacy (Bandura, 1977, p. 79). For the current paper self efficacy refers to an individual's perception of his/her ability to complete a task using technology. Therefore, as per social learning theory if an individual perceives that he/she does not have the capability to learn the technology the behavioral intentions would be inhibited. Research has supported this perception and has indicated that an individual's perceptions of his/herself efficacy influence what actions to take, how much effort to invest and how long to try and what strategies to use in the face of challenging situations (Patrick Y Chau, 2001; Igbaria & Iivari, 1995; Yi & Hwang, 2003). Most of the self services banking methods require use of technology therefore capability was included as an external variable in the study. Gender based studies in context of computer literacy indicate that women have more computer and internet related anxiety and men had higher self efficacy than men (Durndell & Haag, 2002; Ong & Lai, 2006; Schwarzer, Bassler, Kwiatek, Schroder, & Zhang, 1997). Results show that the reason for this is parents support and encouragement where boys seem to indicate a greater support as compared to girls (Busch, 1995). Extending the results it can be argued that as India is a patriarchal society where boys are encouraged more in majority of aspects the construct of self efficacy would be a strong driver or inhibitor of behavioral intentions. Therefore, the current study tests the hypothesis based on the proposition that self efficacy influences the perceived ease of use and perceived usefulness more in women than in men.

Hypothesis 7: Capability will have significant impact on perceived usefulness to use self service banking more strongly for women than for men. **(C -> PU)**

Hypothesis 8: Capability will have significant impact on perceived ease of use to use self service banking more strongly for women than for men. **(C -> PEOU)**

Technology Discomfort: Technology discomfort is referred to as the tendency of an individual to be uneasy, apprehensive, stressed or have anxious feelings about the use of

technology(Venkatesh, 2000). Past research has indicated that technology discomfort as a external variable is a inhibitor of behavioral intentions and has a negative relationship with perceived ease of use and perceived usefulness(Rose & Fogarty, 2006; Venkatesh, 2000). In case of self service banking technologies technology discomfort and insecurity are the major inhibitors of adoption of technology(Lin & Hsieh, 2007). As the current study includes self efficacy and perceived risk constructs individually it was decided to include only technology discomfort dimension instead of technology readiness. In context of gender it was found that in general women exhibit a higher discomfort with computer based technology as compared to men(Durndell & Haag, 2002; Gefen & Straub, 1997; Ong & Lai, 2006). Therefore, current study proposes that technology discomfort will act as an inhibitor for perceived ease of use and perceived usefulness more strongly in context of women than men.

Hypothesis 9: Technology discomfort will have negative and significant impact on perceived usefulness to use self service banking more strongly for women than for men. **(TD -> PU)**

Hypothesis 10: Technology discomfort will have negative and significant impact on perceived ease of use to use self service banking more strongly for women than for men. **(TD -> PEOU)**

Personal Contact: Curran and Meuter extended the TAM to include need for interaction and risk. Need for interaction refers to desire to retain personal contact with the service provider (Curran & Meuter, 2005; Dabholkar, 1996; Hosseini, Fatemifar, & Rahimzadeh, 2015). Past research has also indicated that women are motivated more by affiliation needs than men (Hoffman, 1972; Wong & Csikszentmihalyi, 1991) and women tend to be more relationship oriented than men (Skitka & Maslach, 1996; Stockard, Van De Kragt, & Dodge, 1988).Therefore, it is proposed that a female customer desires higher degree of personal contact and attention would avoid using self service banking and therefore would have lesser perceived usefulness. The current study extends the model is extended to test personal contact with perceived ease of use. It is hypothesized that there would be a negative relationship between the two.

Hypothesis 11: Personal contact will have negative and significant impact on perceived usefulness to use self service banking more strongly for women than for men. **(PC -> PU)**

Hypothesis 12: Personal contact will have negative and significant impact on perceived ease of use to use self service banking more strongly for women than for men. **(PC -> PEOU)**

Research Model

Based on review of literature and conceptual development the proposed research model is presented in Figure 1. The research model proposes that relationship of five external variables i.e. perceived risk, technology discomfort, personal contact, subjective norm and capability with attitude towards self service banking would be mediated by perceived ease of use and perceived usefulness and moderated across gender.

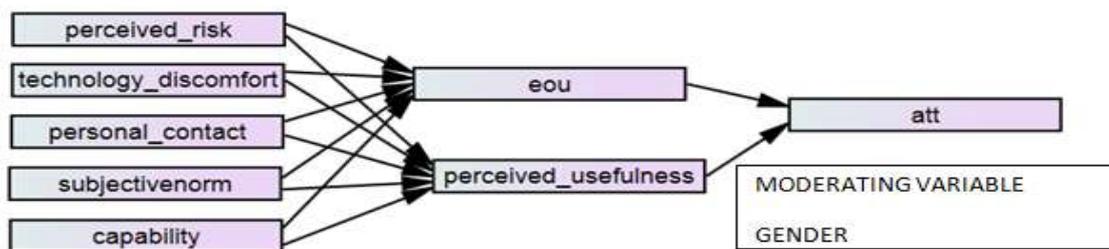


Figure 1: Conceptual Model

Research Methodology

To test the proposed hypotheses, a survey was done and data were collected from 314 respondents. The sampling frame was defined as 26 Tier 2 cities of India. 4 cities were chosen for data collection i.e. Chandigarh, Ahmedabad, Dehradun and Ludhiana. The cities were generated from a list of tier 2 cities, which was based on grading structure devised by the Government of India to allot House Rent Allowance (HRA). Data was collected by mall/market intercept from 80 respondents in each city. However, total usable questionnaire were 314.

Data was collected using a structured non disguised questionnaire. The questionnaire had 8 sections for each one of the variables in the study and standardized constructs were adopted to quantify the responses .i.e. Perceived Usefulness and Perceived ease of Use (Fred D Davis, 1985); Technology discomfort(Parasuraman, 2000); Subjective norm(Taylor & Todd, 1995); Perceived risk(Parasuraman, 2000); Self efficacy(Chen, Gully, & Eden, 2001); Personal Contact(Dabholkar, 1996; Walker, Craig-Lees, Hecker, & Francis, 2002) and the items for attitude towards intention to use were developed.

The sample consisted of respondents aged between 20 -70 years. Among 314 respondents, majority of respondents i.e. 39.2 per cent of the total respondents were in their 20s, 30.3 per cent in their 30s and 7 percent were in their 60s. Among the respondents, the data was

skewed towards males i.e. 60.2 per cent of the total respondents were males and around 40 per cent of the total respondents were female. Majority of the respondents (86.9 per cent) had been using some form of self service banking. 58.2 percent of the respondents had been using self service banking for 3- 8 years. Interestingly except for ATM which was being used by majority of respondents around 60-70 percent of times for their transactions as compared to other methods like the debit card, credit card and mobile banking. These methods of self service banking were being used only 10-20 per cent of times for transactions. Thereby, indicating some degree of reluctance on the part of the sample for self service banking methodologies(except ATM) and making them adequate for the study.

Face validity of the questionnaire was tested through pilot testing. The survey instrument was written in English and was pre-tested on a small sample of 20 respondents. Face validity and content validity of the instrument and its items were concluded by various researchers with experience in conducting surveys.

Data Analysis

A two step analysis was performed in order to first assess the measurement model and then to examine the hypothesis by fitting the structural model. However, before SEM could be applied on the defined model the constructs in the model were tested for Discriminant and convergent validity through confirmatory factor analysis (CFA).

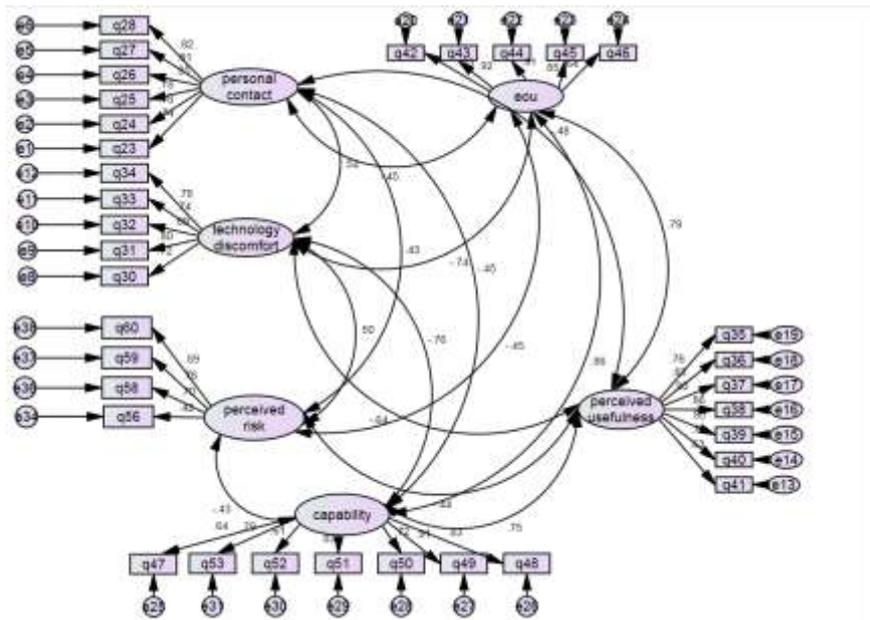
The analysis of factor structure was done with help of confirmatory factor analysis (CFA). This was conducted in AMOS 20 using maximum-likelihood estimation (MLE) procedure to estimate the models parameters where all analyses were conducted on variance and covariance matrices. Following the past research Confirmatory factor analysis was done on the independent and mediating variables (Hair, 2010). CFA was done to test the convergent and Discriminant validity of the scales and to delete the unreliable indicators. The Original CFA model tested personal construct with 6 items; technology discomfort with 6 items, Perceived risk with 5 items, capability with 7 items, perceived usefulness with 7 items and ease of use with 5 items for construct validity (Model 1). Under construct validity convergent validity was done to check if the measures of each construct within the model were reflected by their own indicators and Discriminant validity was done to check if the of the different concepts were statistically different(Gefen, Straub, & Boudreau, 2000; Hair, 2010). Past research indicates that convergent validity is confirmed when composite reliability (CR) values are greater than average variance explained (AVE); and AVE values are greater than

0.50 while Discriminant validity is established when maximum shared squared variance (MSV) values are less than AVE, while average shared squared variance (ASV) values are less than the AVE(Hair Jr, Black, Babin, Anderson, & Tatham, 2010).

Table 1: Discriminant and Convergent validity issues Model 1

	CR	AVE	MSV	ASV	capability	Personal contact	Technology discomfort	Perceived usefulness	EOU	Perceived risk
capability	0.908	0.589	0.733	0.451	0.768					
Personal contact	0.913	0.635	0.888	0.220	-0.452	0.797				
Technology discomfort	0.881	0.554	0.822	0.23	-0.763	0.537	0.744			
Perceived usefulness	0.922	0.631	0.624	0.404	0.746	-0.475	-0.646	0.795		
EOU	0.920	0.701	0.733	0.64	0.856	-0.453	-0.746	0.790	0.837	
Perceived risk	0.792	0.450	0.727	0.205	-0.422	0.423	0.522	-0.442	0.448	0.671

The original CFA model converged but the indicators (table 1) indicated that the square root of the AVE for capability is less than one the absolute value of the correlations with another factor; the square root of the AVE for technology discomfort is less than one the absolute value of the correlations with another factor; the square root of the AVE for EOU is less than one the absolute value of the correlations with another factor; the AVE for capability is less than the MSV; the AVE for technology discomfort is less than the MSV.; the AVE for Ease of use is less than the MSV and the AVE for perceived risk is less than 0.50. These results indicated that there were Discriminant and convergent validity issues in the ease of use, technology discomfort, perceived risk and capability constructs being used and the independent variables also had some multicollinearity issues because of which SEM could not be applied on the independent and mediating constructs.



Model 1: Original Model

Therefore, to clean the constructs and achieve Discriminant and convergent validity construct wise Exploratory factor analysis was done. Ideally, the items loading at a factor loading of less 0.40 are deleted as suggested by past research (Costello & Osborne, 2011) however, in this case all the items were loading at factor loading of more than 0.40 (model 1). Review of literature indicated that only way of improving AVE is to improve Discriminant validity and to improve Discriminant validity it is important to improve convergent validity by removing offending items in Exploratory factor analysis(Farrell, 2010). Therefore, to improve AVE and remove Discriminant and Validity issues of the scale it was decided to remove items which were affecting convergent validity. This pruning resulted in deleting items from perceived risk, technology discomfort, capability and ease of use constructs.

The CFA of the redefined model indicated that the pruning of the model addressed both Discriminant and convergent validity. The Composite reliability (CR) values of the second model were greater than average variance explained (AVE); and AVE values were greater than 0.50; maximum shared squared variance (MSV) values were less than AVE, and average shared squared variance (ASV) values were less than the AVE (table 2).

As the scales were adapted the reliability of the scale was tested with help of Cronbach Alpha. The data was also checked for multicollinearity across independent variables in the new model. The results indicated that there were no multicollinearity issues among the independent variables as suggested by Tabachnick, & Fidell(Tabachnick & Fidell, 2001). The

internal consistency and reliability of the scale was measured using Cronbach coefficient alpha. According to works of Nunnally, 1978, for purpose of basic research, a Cronbach alpha of 0.70 or higher is sufficient(Nunnally, 1978). Cronbach alpha for the adopted scale met this limit. It was found that a Cronbach alpha value for both the constructs was higher than .70.

Table 2: Discriminant and Convergent validity issues in refined CFA Model

	CR	AVE	MSV	ASV	capability	Personal contact	Technology discomfort	Perceived usefulness	eou	Perceived risk
capability	0.908	0.711	0.706	0.422	0.843					
Personal contact	0.913	0.636	0.250	0.214	-0.444	0.797				
Technology discomfort	0.832	0.553	0.517	0.381	-0.719	0.500	0.744			
Perceived usefulness	0.922	0.631	0.618	0.394	0.728	-0.475	-0.637	0.794		
eou	0.932	0.776	0.706	0.445	0.840	-0.459	-0.700	0.786	0.881	
Perceived risk	0.796	0.508	0.244	0.196	-0.402	0.433	0.494	-0.435	0.447	0.713

Furthermore, the CFA model fit indices indicated that the adapted CFA model was an adequate fit (table2). Therefore, the normed chi square (2.19) was evaluated which was found to be within acceptable limit of 1 to 3. Normed chi square is not sensitive to sample size and therefore has been referred to as a better indices than chi square for judging model fitness by some (Hooper, Coughlan, & Mullen, 2008). Therefore, model was acceptable as per parsimonious indices. As per absolute indices the RMSEA was at (0.06) which was within the acceptable limit and GFI was at 0.85. Therefore, the absolute fit indices were moderate. Incremental fit indices indicated moderate to good fit for the model that AGFI was 0.82. A model can be accepted if it passes at least 3 fit indices(Jaccard J. & K., 1996). Therefore, the constructs in the model was accepted to proceed withStructural equation modeling.

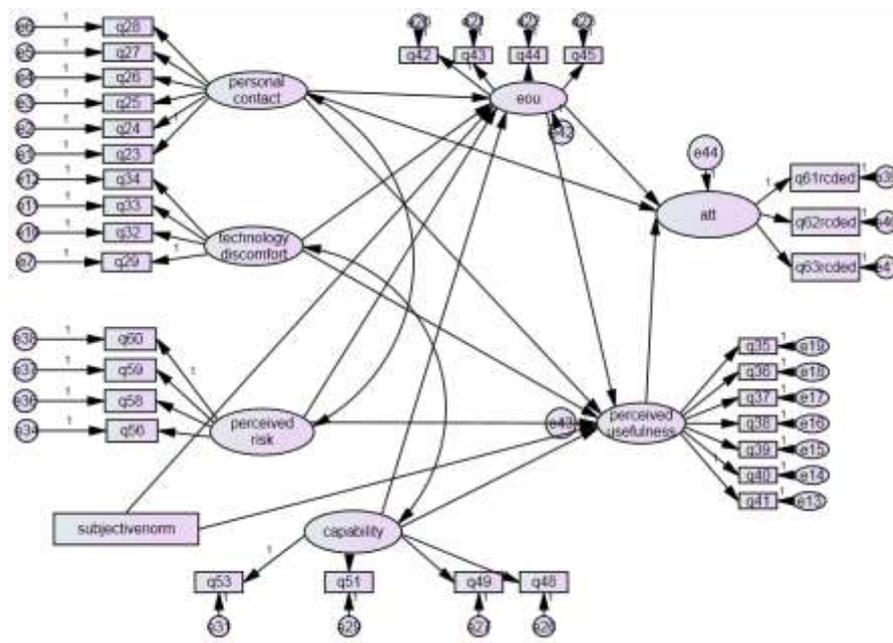
Table3: Model Fit measures for CFA model 2

MODEL FIT INDICES	Std. Values
CMIN/Df	2.19 Less than 5
GFI	0.851 Closer to one is a better fit
AGFI	0.821 Closer to one is a better fit
CFI	0.94 Closer to 1 but greater than equal to 0.90
NNFI (TLI)	0.928 Closer to 1 is better fit cut off is 0.80
REMSEA	0.062 Less than 0.1
SRMR	0.0485 Value less than 0.08 is good fit

Source for Std. Value Hair Jr, J., Black, W., Babin, B., Anderson, R. &Tatham, R. 2010. SEM: An introduction. *Multivariate data analysis: A global perspective*, 629-686.
Hooper, D., Coughlan, J. & Mullen, M. 2008. Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.

The initial structural model was defined in terms of variables as reflective construct to test the convergence and model fit (model2). The model tested the relationship of 5 independent variables i.e. personal contact, technology discomfort, capability, perceived risk and subjective norm on behavioral intention while being mediated by perceived ease of use and perceived usefulness. In the first step the overall convergence of the model was tested before testing the effect of moderating variable i.e. gender.

The model fit indices (table3.) indicated that the normed chi square (2.6) was evaluated which was found to be within acceptable limit of 1 to 3. Normed chi square is not sensitive to sample size and therefore has been referred to as a better indices than chi square for judging model fitness by some (Hooper et al., 2008). Therefore, model was acceptable as per parsimonious indices. As per absolute indices the RMSEA was at (0.065) which was within the acceptable limit and GFI was at 0.85. Therefore, the absolute fit indices were moderate. Incremental fit indices indicated moderate to good fit for the model that AGFI was 0.89. A model can be accepted if it passes at least 3 fit indices(Jaccard J. & K., 1996). Therefore, the constructs in the model was accepted for testing of hypothesis in Structural equation modeling.



Model 2: SEM on the refined CFA Model

Table 4: Model Fit measures for SEM Model 2

MODEL FIT INDICES	Std. Values
CMIN/Df	2.6 Less than 5
GFI	0.85 Closer to one is a better fit
AGFI	0.89 Closer to one is a better fit
CFI	0.90 Closer to 1 but greater than equal to 0.90
NNFI (TLI)	0.88 Closer to 1 is better fit cut off is 0.80
REMSEA	0.065 Less than 0.1
SRMR	0.082 Value range from 1 to 0. Values less than 0.08 is good fit

Source for Std. Value Hair Jr, J., Black, W., Babin, B., Anderson, R. &Tatham, R. 2010. SEM: An introduction. *Multivariate data analysis: A global perspective*, 629-686.
Hooper, D., Coughlan, J. & Mullen, M. 2008. Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.

The hypothesis along with mediation also tested moderating effect of gender. Therefore, the model fit was also tested across gender. The model fit indices are sample size sensitive and therefore, it was expected that some of the model fits would decrease. The model fit indices indicated that even across gender the model was valid. However, the indices still indicated that the model was a moderate fit as it had more than 3 indices which were within the moderate to good fit values.

Table5: Model Fit measures for SEM Model across gender

MODEL FIT INDICES	Std. Values
CMIN/Df	2.096 Less than 5
GFI	0.80 Closer to one is a better fit
AGFI	0.79 Closer to one is a better fit
CFI	0.89 Closer to 1 but greater than equal to 0.90
NNFI (TLI)	0.86 Closer to 1 is better fit cut off is 0.80
REMSEA	0.05 Less than 0.1
SRMR	0.09 Value less than 0.08 is good fit

Source for Std. Value Hair Jr, J., Black, W., Babin, B., Anderson, R. &Tatham, R. 2010. SEM: An introduction. *Multivariate data analysis: A global perspective*, 629-686.
Hooper, D., Coughlan, J. & Mullen, M. 2008. Structural equation modelling: Guidelines for determining model fit. *Articles*, 2.

All hypothetical links of the model 3 were tested. The results indicated that though the model was significant yet all the paths were not significant and there was difference in the determinants of self service banking across gender. All the paths i.e. **PU-> Attitude, PEOU -> Attitude, SN -> PU, SN -> PEOU, PR -> PU, PR -> PEOU, C -> PU, C -> PEOU, TD -> PU, TD -> PEOU, PC -> PU and PC -> PEOU** were tested across gender.

For the male group, the results of the study indicated that path coefficients for the **C -> PEOU, PEO ->PU, PEOU -> Attitude and PC->Attitude** links in the model were all significant at 99% confidence interval while **C -> PU, PU-> Attitude** were significant at 95

% confidence interval and **PR -> PU, TD -> PEOU** were significant at 90 % confidence interval (table 6).The model explained 70 percent variance of attitude towards self service banking in male respondents. The results of the study indicated that perceived ease of use was a stronger predictor of attitude in males. The results of the study indicated that for the male respondents there was a significant affect of perceived usefulness, ease of use and personal contact on attitude and out of all the drivers shortlisted for the study only capability, perceived risk and technology discomfort were significant. The results however indicated that a social norm was not a significant driver for behavioral attention in males.

For the female group, the results of the study indicated that path coefficients for the **PR -> PEOU, C -> PEOU, PEOU->PU, PEOU -> Attitude, PU-> Attitude, PC-> Attitude**were significant at 99 percent confidence interval while **PC -> PU, TD -> PU** were significant at 90 percent confidence interval (Table 6). The model explained 80 percent variance of attitude towards self service banking in female respondents. The results of the study indicated that for female respondents there was a significant affect of perceived ease of us; perceived usefulness and personal contact on behavioral intention to use self service banking and out of all the drivers shortlisted for the study perceived risk, capability and technology discomfort were significant. The results however indicated that social norms, even for females were not significant drivers.

Table 6 : Regression Results for the SEM across Gender.

				Male		Female	
				P	Std Value	P	Std Value
			Hypothesis				
eou	<---	personal_contact	H12	0.132	-	0.302	-
					0.087		0.069
eou	<---	perceived_risk	H6	0.296	-	***	-
					0.061		0.208
eou	<---	technology_discomfort	H10	*	-	0.96	-
					0.147		0.006
eou	<---	capability	H7	***	0.724	***	0.806
eou	<---	subjectivenorm	H4	0.696	0.019	0.348	0.052
perceived_usefulness	<---	personal_contact	H11	0.134	-	*	-
					0.099		0.144
perceived_usefulness	<---	perceived_risk	H5	*	-0.13	0.49	0.056
perceived_usefulness	<---	eou	H2	***	0.5	***	0.581
perceived_usefulness	<---	technology_discomfort	H9	0.716	0.031	*	-
							0.249
perceived_usefulness	<---	capability	H7	**	0.259	0.923	0.017
perceived_usefulness	<---	subjectivenorm	H3	0.818	0.012	0.274	0.067

att	<---	eou	H2	***	0.456	***	0.477
att	<---	perceived_usefulness	H1	**	0.267	***	0.414
att	<---	personal_contact	NH	***	-	***	-
					0.285		0.246

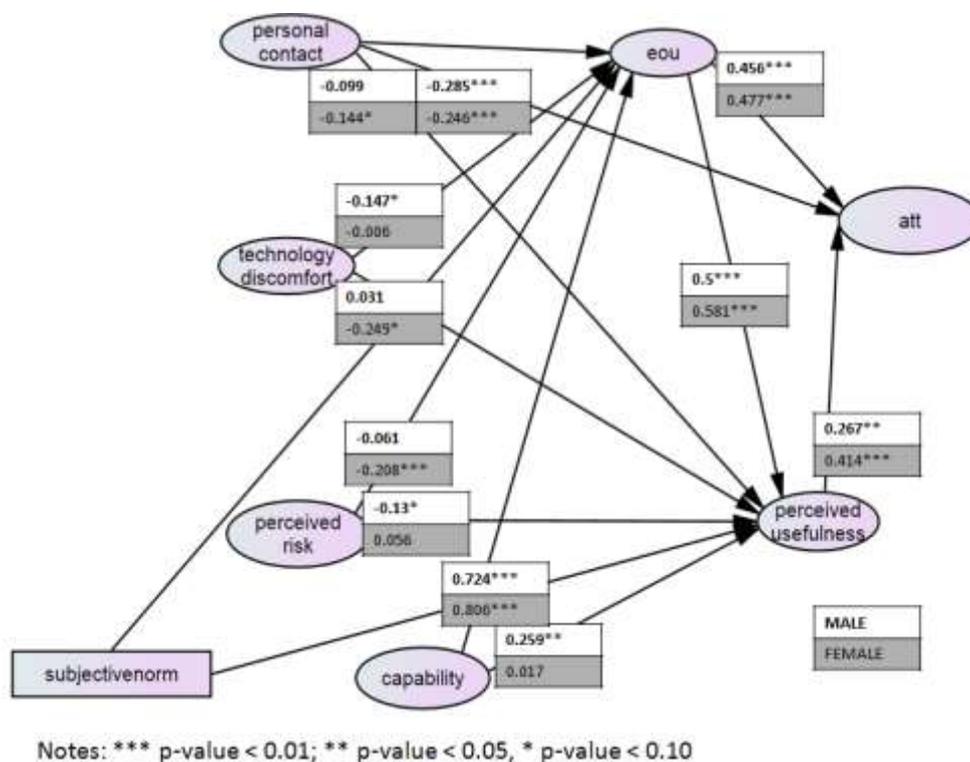
Notes: *** p-value < 0.01; ** p-value < 0.05, * p-value < 0.10

A further analysis indicated that gender moderated effects in the factors and also the direction of relationship. The analysis indicated that perceived ease of use and perceived usefulness both were strong indicators of attitude towards self service banking in females while ease of use was a strong predictor of attitude towards self service banking in males.

The results indicated that gender moderated the relationship between perceived risk and behavioral intention being mediated by ease of use. There was a significant and negative relationship between perceived risk and ease of use for females while for males it was not significant indicating that the results supported Hypothesis 6. The results were in agreement with past studies which indicated that there was a difference in perception of risk across gender (Garbarino & Strahilevitz, 2004; Weber et al., 2002). The results of the study indicated that female respondents perceived higher risk in self service banking technologies and therefore, perceived ease of use of the technology to be less and this in turn influenced the behavioral intention in terms of attitude to use the technology by decreasing it. Therefore, perceived risk acted as a stronger inhibitor of behavioral intention in females than in males for use of self service banking when the relationship was being mediated by ease of use. The implications of these results are that the marketers of self service banking technologies should stress on communication and sales strategies which help decrease the perception of risk in females. For example in terms of communication strategy, to mediate risk for women, a marketer could have friends recommend a site or in present case self service banking technology to them.

The results indicated that gender moderated the relationship between perceived risk and behavioral intention being mediated by perceived usefulness. The results indicated that there was a significant and negative relationship between perceived risk and perceived usefulness for males while for females it was not significant but also had a positive relationship. The results indicated that though there was a significant and negative relationship between perceived risk and perceived usefulness but it was stronger for males than for females. The results were contrary to past results which indicated that the relationship would be stronger for female group of respondents than for male group of respondents (Venkatesh & Morris,

2000). One plausible explanation for this contradiction could be in the masculinity and femininity index of India. Masculinity is associated with independent, career oriented, hard working, courageous (Basu, 2010) and more technology savvy (Ong & Lai, 2006). Therefore, in a patriarchic society like India with strong masculinity and femininity divides a male respondent will have difficulty accepting that perceived risk influences their ease of use. These respondents would simple cry wolf and say usefulness of the technology is less. However, since the present study used non-disguised self assessment questionnaire this aspect could not be explored in detail.



Model 3: SEM across Gender

The results indicated that gender also moderated the relationship between technology discomfort and behavioral attention being mediated by perceived usefulness on one hand and with capability on another. The results indicated that at 90% confidence there was a significant and negative relationship between technology discomfort and perceived usefulness for females while for males it was not significant indicating that the results supported Hypothesis 9. The results also indicated that perception of capability influenced the perceived usefulness in males more significantly and positively than in females. The results indicated that males perceived themselves more capable of handling self service

technologies than female respondents and it positively influenced their perceived usefulness and attitude. The results were in agreement with past studies which indicated that general women exhibit a higher discomfort with computer based technology as compared to men (Durndell & Haag, 2002; Gefen & Straub, 1997; Ong & Lai, 2006). The results indicated that as the technology discomfort increases the perceived usefulness decreases and behavioral intention in terms of attitude to use self service banking decreases. Therefore, marketers need to address the aspect of technology discomfort especially in respect to females.

Conclusion

The current study attempted to assess the differences in male versus female consumers with regard to self service banking technologies. In earlier stages of market development and product adoption companies can segment the market on basis of benefit bases like transaction costs and convenience. However, as the market concentration in term of repeat customer increases the marketers have to pay attention to nuances of moderating variables like gender. Self service banking has been around in India for more than a decade but the market is still segmenting itself on basis of benefits from the products resulting in strategies based on these parameters. Previous studies do not consider the moderating effect of gender on attitude towards adoption of self service banking.

The results of the study indicate that there are significant differences across gender with respect to drivers which influence perceived usefulness and perceived ease of use self service technologies in banking. These difference need to be accepted, understood and catered to by bankers to increase overall attitude of the customers towards self service banking. Results of the study highlight that males are more technology ready to use self service banking implying that promotional strategies targeting males should be more in terms of informative cues. Results of the study indicated that female respondents had more technology discomfort and therefore were probably more anxious in terms of using self service banking technology. Therefore to promote self service banking among this group of respondents strategies like explanatory videos which help reduce uncertainty and negative consequences of the self service failure would be more helpful.

Managerial Implications

Currently the banking services in India are not being marketed on basis of gender. However, as the industry matures and Corporate's start looking for new ways to grow it would be a lucrative option for these banks to look at gender based positioning strategy. The current

study suggests that marketing practices for self service banking need to be different for two groups i.e. males and females. The gender differences in the study show that communication strategies in order to create more favorable attitude in males should concentrate more on perceived ease of use while for females it should target both perceived ease of use and perceived usefulness.

Furthermore, for this sample three key areas of differences emerge i.e. perceived risk, technology discomfort and capability. Males exhibited stronger perceived capability to use self service banking while female respondents exhibited a lesser confidence in technology of self service banking (technology discomfort) and also perceived it to be more risky. The female respondents seemed to be in stronger need for hand holding and assurance that the technology will operate reliably.

The research has a major limitation that impact generalization of findings. The research reports findings of a study undertaken in a developing country from 4 tier 2 cities. It might have limited implications if the results are generalized to all the population. The findings also might not apply to tier 1 cities. Future research can address these limitations and also perform a cross cultural study. Moderating effect of age and education also needs to be studied in future studies.

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