

INFORMATION AND COMMUNICATION TECHNOLOGY USAGE BY SMES IN A DEVELOPING COUNTRY: AN ENVIRONMENTAL PERSPECTIVE

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ABSTRACT

The paper addresses organisational usage of Information and Communication Technology (ICT) from a developing country perspective. Applying three dimensions of environmental pressures—coercive pressures, normative pressures and mimetic pressures—with the two fundamental antecedents of Technology Acceptance Model (TAM)—perceived usefulness and ease of use—this study attempts to look at the effects of external forces on the adoption and use of ICT by SMEs in Bangladesh. PLS based path modelling with a cross-sectional dataset of 557 SMEs in Bangladesh reveals a significant association of normative pressures, coercive pressures, perceived usefulness and perceived ease of use with SMEs intention to use ICT. The path analysis further demonstrates a strong and significant effect of intention on actual ICT usage behaviour. The study concludes with implications of the results.

Keywords: Internet based digital technology, intention and actual usage behaviour, technology acceptance model, environmental pressure

1. INTRODUCTION

ICT has been widely accepted and successfully used as a tool for increasing productivity in various sectors. The uniqueness of the technology and its seemingly increasing usage trend has received bulk of researchers' attention around the world to study its adoption and diffusion phenomenon. While the question if the adoption or use of the technology induces organizational performance remains relatively under researched and questionable, an increasing trend of adoption of ICT by SMEs are manifest in developed country by virtue trickled down to the developing countries.

At the present market based global competitive environment, the economic development of a country is largely dependent on SMEs sector. Although equally important in terms of economic significance, the SMEs of the developed countries continued to contribute substantially in country's growth process, while those from the developing countries have not fared well. The rapid expansion of IT and its application in almost every sphere of economic activity has initiated the process of encouraging the SMEs to make the most cost effective use of new technologies in production, marketing, and networking (Mandal, 2007). Thus, how Bangladesh's SMEs can be tapped with the new opportunities and produce enhanced performance in the economic development is considered as a worthwhile research study.

Taking the notion of ICTs' performance implication, as well as SMEs economic significance into consideration the study opts for examining how environmental pressures affects the adoption and

diffusion of Information and Communication Technology by SMEs in Bangladesh. This study applies a mixed-method research approach which involves an in-depth field study followed by a quantitative survey.

The paper is structured as follows. Section 2 involves the conceptual framework and hypotheses development. In Section 3 descriptive information concerning sample data is provided, and variables in the empirical analysis are defined. The structural equation model specification and bootstrap outputs are also analysed in the same section. A final section addresses result discussion and conclusions.

2. CONCEPTUAL FRAMEWORK AND HYPOTHESES

In the past most of the innovation diffusion studies were based on Rogers DOI (Rogers 1983), theory of reasoned action (Fishbein & Ajzen 1975), Theory of Planned behavior (Ajzen 1985), Technology acceptance model (Davis, 1989) which involve innovation characteristics to look at the diffusion process believing its impact on the firm's performance. The theoretical frameworks, although are rooted from consumer behavior or behavioral science, are also utilized to address the small organizations technology adoption behavior. It is justified on the ground that the decision making power of a small firm is concentrated within a single person, most of the cases, the owner of the firm holds supreme power to do anything if he wishes to. However, Technology, organization and environment framework (Tornatzky & Fleicher 1990), although posits the effects of some external or contextual variables such as organizational and environmental factors, neither extensively looks at the contextual variables nor it is widely used in developing country perspective.

The technology acceptance model (TAM) was developed by Davis (1989) to explain information technology (IT) usage behaviour. It is an adaptation of TRA and states that behavioural intention to use a technology is directly determined by two key beliefs: perceived usefulness and perceived ease of use. Perceived usefulness assesses the extrinsic characteristics of IT, i.e. task oriented outcomes such as 'The prospective users' subjective probability that using specific application will increase his or her job performance within an organisational context'. On the other hand, perceived ease of use examines intrinsic characteristics of IT, i.e. ease of use, ease of learning, flexibility and clarity of interface. It is

stated as “the degree of which the prospective users expect the target system to be free of effort” (Davis *et al.* 1989).

The earlier version of TAM included subjective norms with perceived ease of use and usefulness as antecedents of behavioural intention which was omitted from the model latter. Social influence has a strong effect in technology adoption in a mandatory setting while it has different effects in voluntary setting and in the context of having experience (Venkatesh & Morris 2000). One key benefit of using TAM to understand system usage behaviour is that it provides a framework to examine the influence of external factors of system usage (Hong, Thong, Wong & Tang 1999).

Various external variables such as computer self-efficacy, social influence, experience, voluntariness, diversity of technology, trust, culture, and relevance, have been added in the context of TAM in different settings to get more insight into technology acceptance in previous initiatives (Agarwal & Prasad 1999; Davis *et al.*, 1989; Hong *et al.* 1999; Shih 2004; Taylor & Todd 1995a; Venkatesh & Morris 2000; Venkatesh & Davis 1996; Venkatesh & Davis 2000; Wang, Wang & Tang 2003; Yoon 2009).

Apart from these individual adoption diffusion phenomena Tornatzky and Fleicher (1990) proposed a TOE framework to look at organisational aspects of technology diffusion. The technology organisation and environment (TOE) framework identifies three aspects of a firm’s context that influence the process by which it adopts, implements and uses technological innovations.

(i) Technological context concerns about the existing technologies as well as new technologies relevant to the firm. (ii) Organisational context addresses the descriptive measures about the organisation such as scope, size, and the amount of slack resources available internally. (iii) Environmental context refers to the aspects of how a firm conducts its business, responds to its industry, customers and competitors, and deals with government. This framework has received more attention and acceptance from diverse fields of study as it is consistent with the classical innovation diffusion theory (Rogers 1983). Rogers emphasized technological characteristics, and both internal and external characteristics of the organisation, as drivers for technology diffusion.

The impact of environmental factors and their characters are well addressed in institutional theory which needs to be synthesised with the adoption diffusion theories so as to reach external variables as

reflected in Rogers (1983) innovation diffusion theory and subsequent TOE and other innovation diffusion frameworks.

Institutional theories posit that organisations face pressures to conform to these shared notions of appropriate forms of behaviours, since violating them may call into question the organisations legitimacy and thus affect its ability to secure resources and social support (DiMaggio & Powel, 1983; Tolbert, 1985)

DiMaggio and Powel (1983) distinguished between three types of isomorphic pressures-coercive, mimetic, and normative-and suggested that coercive and normative pressures normally operate through interconnected relations while mimetic pressures act through structural equivalence.

Azjen and Fishbein (1980) explore the role of subjective norm and studied how it affects individual behaviour. Subjective norm in other word pressures from friends and family plays a vital role in the formation of intention to use an innovation. In organisational aspects, a focal organisation is able to learn about an innovation and its associated benefits and costs from other user organisations who are directly or indirectly tied to them, and is likely to be persuaded to behave similarly (Burt 1982). Many studies consider normative pressure as an antecedent of organisational innovation adoption phenomena (Kuan & Chau 2001; Toe, Wei & Benbasat 2003).

Mimetic pressures are the influences of other structurally equivalent organisations those have initiated some innovations and become successful. This pressure may cause an organisation to change over time to become more like other organisations in its environment (DiMaggio and Powel 1983). Many past studies include mimetic pressures to look at organisational ICT adoption behaviour (Premkumar & Ramamurthy 1995; Toe et al. 2003).

Coercive pressures address various kinds of powers or influences, informal or formal, exercised by other organisations upon which they are dependent. A dominant customer, supplier or parent organisation sometimes exercise their power or coercively influence the organisations to do a certain thing where the dependent organisation has no option other than complying with the requirements. Coercive pressures have great importance in studying information and communication technology diffusion behaviour (Toe, Wei & Benbasat, 2003; Quaddus & Hofmeyer 2007).

INSERT FIGURE 1 HERE

Hypotheses:

Based on the above discussions the following hypotheses have been proposed:

H1a: Perceived usefulness has direct positive effects on SMEs intention to use Information and Communication Technology

H1b: Perceived ease of use has direct positive influence on SMEs intention to use Information and Communication Technology

H2a: Greater normative pressures lead to greater intention to use Information and Communication Technology among SMEs

H2b: Greater mimetic pressures lead to greater intention to use Information and Communication Technology among SMEs

H2c: Greater coercive pressures lead to greater intention to use Information and Communication Technology among SMEs

H3: Intention has direct positive effects on SMEs usage of Information and Communication Technology

3. RESEARCH METHODOLOGY AND FINDINGS

Research method

This study applies a mixed method research approach. An in-depth field study was administered to explore the study constructs and anticipate the structural links among them as well as fine-tune and contextualise the concept developed through literature review. This study uses NVIVO version 9 to analyse the field interviews. At the qualitative phase of the study 11 owners or managers of different SMEs were interviewed.

To test the conceptual model a survey instrument was designed for data collection. The measures used to operationalise the constructs included in the proposed model were adapted from relevant prior studies, with slight modification and expressional changes to fit them to the targeted context and also explored through the intensive field study. The questionnaire was fine-tuned via several runs of pre-test, revisions and pilot tests. After finalising the questionnaire a cross sectional survey was administered to the SMEs in Bangladesh. All of the items were measured using a 5 point Likert-type scale with anchors on strongly agree and strongly disagree, respectively. A total 566 data, comprised of 283 Manufacturing Industry and 283 Service Industry, were collected from 566 SME in

Bangladesh selected through a random sampling. A careful review screened out 8 surveys as the numbers of employees working in those firms were higher than the upper limit of SMEs, so, finally 557 surveys were considered appropriate for the purpose of the analysis. PLS software was used to analyse the quantitative data.

Sample profile

As the study utilises probability sampling techniques, different types of SMEs have been included in the sample which brings in the logical ground for generalising the inferred outcomes.

The study investigates the opinions and perceptions of the owner or owner manager or manager (decision maker) or delegated representatives of SMEs located at or adjacent to Dhaka city. Dhaka has been selected as the sampling area considering the fact that high industry concentration is evident at or nearby Dhaka. The Internet penetration is also high in Dhaka which comprises around 80 per cent of the total country's Internet users. The sample consists of 50.6 per cent of manufacturing industry and 49.4 per cent of service industry.

Ninety eight per cent firms surveyed have their own home page operation, 65.7 per cent of the sample firms have a product cataloguing capable homepage, 58.3 per cent have experience in e-commerce, and 29.1 per cent have Enterprise Resource Systems. The study includes 13.1 percent firms enjoying preferences as SME and only 12.9 per cent have received any grants or subsidies for ICT.

Each of the respondents is using some sort of ICT. This survey confirms that the firms surveyed have Internet and ICT usage experience to conduct online banking and communication with main suppliers. 91.7 per cent firms have cable broadband connectivity, 52.7 per cent have mobile broadband while only 5.2 per cent firms are connected with the Internet via dial-up or ADSL. 26.93 per cent firms started ICT operations prior to 2000 while 73.07 per cent started ICT operation after 2000. 72 per cent of the firms surveyed are small and 28 per cent medium (see Table 1a in Apendix-1 for detail about the sample firms).

The distribution of the sample into various types of companies and their staff results in the strength of generalisability of the sample survey's outcomes.

Process of field study and final model specification

The field study employs direct and face to face interviews with the persons selected for qualitative surveys (See Sample profile for the field study as given in Table 1b). The interviews are organised and recorded with the consent of the interviewees. The content analysis technique was employed to analyse the qualitative data (Siltaoja, 2006). During the qualitative data analysis both inductive and deductive methods were utilized to compare the qualitative data with the theoretical framework and also to develop a causal relationship between the constructs under study (Berg, 1989).

This study uses Nvivo 9 to analyse the qualitative interviews. In order to analyse the interview by Nvivo the recorded interviews were transformed into the interview transcripts. The Nvivo first imports all of the interview transcripts. The researcher created numerous free nodes by naming each segment of the data with a label. Each 'free node' summarized and accounted for each concept about the data which are providing the basis for developing various tree nodes comprising similar free nodes. The tree nodes were developed from the free nodes, developed in the immediate earlier stage. The tree nodes comprised of a number of relevant free nodes with a similar concept may become as a construct.

In analysing all interview transcripts under interpretative research approach, the field study supports extension of the technology acceptance model and endorses the influence of perceived 'usefulness' and 'ease of use' on SMEs intention to use Information and Communication Technology in Bangladesh. As a single person, in most cases the owner, hold supreme power of decision making in a small firm, the owners' positive perception and willingness matter in accepting or rejecting any innovation regardless of its actual benefits or performance. Thus, 'usefulness' and 'ease of use' are logically considered as important factors in anticipating SMEs' intention to use Information and Communication Technology.

The field study also explores the positive influences of coercive, mimetic and normative pressures in SMEs intention to use Information and Communication Technology in the context of Bangladesh.¹

Thus the primary model developed in Section 2 is justified where, actual usage behaviour (*B*) has been modelled as a direct function of behavioural intention (*BI*). *BI* is in turn, a weighted function of

¹ Due to the scope of this paper, all phases of field study and analysis are not stated in detail but the final results of the field study have been reported.

perceived usefulness (U), perceived ease of use (E), Normative pressure (NP), Mimetic pressure (MP), Coercive pressure (CP) and error term (e).

$$B = w_1 BI + e \quad (1)$$

$$BI = w_2 U + w_3 E + w_4 NP + w_5 MP + w_6 CP + e \quad (2)$$

Data Analysis and results

The structural equation modelling is appropriate to analyse the data in accordance with the proposed conceptual framework. A growing number of researchers are adopting causal or structural equation modelling as it allows the analysis of complex networks of constructs, each construct typically measured by multiple variables. Understanding the nature of the study and its practical implications, the data gathered from the survey were analysed by partial least squares (PLS) based structural equation modelling (Barclay, Higgins & Thompson, 1995).

Measurement model

The measurement model was first assessed by a confirmatory factor analysis through PLS graph. The model, therefore, was assessed for evaluating the psychometric properties of the measurement model in terms of reliability, convergent validity, and discriminant validity (Fornell & Larcker, 1981). The reliability of the constructs was assessed by considering composite reliability. Construct reliability for all of the factors in the measurement model were above 0.70, an acceptable threshold suggested by Nunnally and Bernstein (1994) and Straub (1989).

Construct validity was evaluated by examining the factor loadings within the constructs as well as the correlation between the constructs (Anderson & Gerbing, 1988). The factor loadings on all of the constructs were highly satisfactory in the expected direction with satisfactory critical ratio and level of significance (i.e. ranged between 0.568 and 0.989), thus providing evidence of satisfactory item convergence on the intended constructs (see Table 2 from Appendix 1).

This study used the square root of the AVE and cross loading matrix to assess the discriminant validity as suggested by Igbaria, Guimaraes, and Davis (1995) and Barclay, Higgins and Thompson (1995). According to Barclay et al. (1995), the model is assessed to have acceptable discriminant validity if the square-root of the AVE of a construct is larger than its correlation with other constructs. The results are detailed in Table 3 with the square roots of the AVEs shown in the main diagonal of

the table. The off diagonal elements represent the correlations among the latent variables. Table 4 indicates that the discriminant validity of the latent variables was met, which means that all the latent variables are different from each other.

Discriminant validity of the measures has also been cross-checked through cross loading matrix (Barclay, Higgins & Thompson 1995). Results of the cross-loading analysis showed that all items loaded higher on the construct that they were measuring than they did on other constructs in the model (Barclay et al., 1995). To save space, the cross-loading matrix is not presented in this paper.

INSERT TABLE 3 HERE

Structural model

The structural model deals with testing the hypothesized relationships. A bootstrap method has been used to test the hypotheses. The results detailing the path coefficients and *t*-statistics are summarized in Table 5.

It is observed that among the primary hypotheses H_{1a}, H_{1b}, H_{1e}, H_{1f}, H_{1g} and H₂ were supported (significant *t*-values), while hypotheses H_{1c} and H_{1d} were not supported (insignificant *t*-values). According to Santosa, Wei, and Chan (2005) the nomological validity or explanatory power of the proposed model can be assessed by observing the R² values of the endogenous constructs. The model explains 58.6% of the variance (R²) in intention to use Information and Communication Technology and 81.7% of the variance (R²) in SMEs actual Information and Communication Technology usage behaviour. All R² values exceeded the minimum required value of 0.10 as suggested by Falk and Miller (1992) (see Table 4).

INSERT TABLE 4 HERE

The structural equation estimation shows that all constructs under the model are related in expected direction according to the proposed theoretical framework. The study has shown that the proposed model is applicable in a developing country like Bangladesh setting to significantly explain intention to use as well as actual use of Information and Communication Technology by SMEs.

The fundamental component of TAM, perceived ease of use and perceived usefulness were found to have strong significant effects on SMEs intention to use Information and Communication

Technology. The result is complementary to some of the previous studies (Chau & Hu 2002; Chau 1996; Szajna 1996; Subramanian 1994). The result is also complementary to the fundamental assumptions of TAM as supported by many previous studies (Davis 1989; Davis et al. 1989; Lu et al. 2003; Mathieson 1991; Szajna 1996; Taylor & Todd 1995a; Venkatesh & Davis 2000; Yoon 2009).

Finally the structural model depicts intention as a strong and significant determinant of actual use of the Information and Communication Technology among the SMEs in Bangladesh. The finding supports previous theories and empirical studies (Ajzen & Fishbein 1980; Azam & Quaddus 2009b; Chang 1998; Fishbein & Ajzen 1975; Mathieson 1991; Taylor & Todd 1995a; Taylor & Todd 1995b; Venkatesh & Morris 2000; Venkatesh & Davis 2000).

4. DISCUSSION AND CONCLUSION

The structural equation model explains the joint effects of all constructs used in the model. The study depicts the magnitude and degree of the effects of the antecedent factors of ICT usage among the SMEs in Bangladesh. The study found that perceived usefulness, perceived ease of use, normative pressures, coercive pressures have strong direct effects on behavioural intention while mimetic pressures didn't produce any significant effects. Thus hypotheses H_{1a}, H_{1b}, H_{2a}, H_{2c}, and H₃ were accepted and H_{2b} was rejected.

Consistent with the prior technology acceptance studies, perceived usefulness has a positive direct effect on behavioural intention, thus hypothesis H_{1a} is supported. As postulated in hypothesis H_{1b} perceived ease of use also affects behavioural intention. The respondents or subjects of this study, in general the owners or managers of the firms, show their intention to use Information and Communication Technology considering the technology is easy to operate by the employees. They also show their intention to use the technology in considering its advantages, benefits and effectiveness. The structural equation estimates also show that the environmental pressures are supportive to the SMEs intention to use ICT.

Normative pressures have a positive direct effect on behavioural intention, thus hypothesis H_{2a} is supported. These findings infer stakeholders (such as partner, supplier, customers etc.) influence on SMEs intention to adopt Internet based digital technology. Premkumar et al. (1997) suggests

operating online transactions requires all trading partners to install compatible electronic systems. Thus they can provide Internet-enabled services for each other and mutually benefit. The organisations such as the suppliers or the organisational customers who have already adopted Internet based technology require their associated organisations using the technology to acquire the full advantages and utility of the technology installed. Thus the technology readiness of partners or suppliers or customers produces normative pressures on the focal SMEs. Consistent with Zhu et al. (2005, 2006) normative pressures arising from partners' readiness are positively related to SMEs intention to use Information and Communication Technology in Bangladesh.

Despite insignificant mimetic pressures, coercive pressures significantly influence SMEs' intention to adopt Information and communication Technology. Consistent with Teo et al. (2003) this study anticipates parent company, suppliers or customers' powerful and dominating role to force the focal SMEs in adopting Information and Communication Technology. As the sample firms are small in size and capital they have no option other than to obey the requirements of the big and powerful suppliers or customers. The SMEs involved in export-import activities operate their businesses with the companies operating through a high technology based environment those are not able to work with manual based SMEs. As a result the SMEs operating through a technology based working environment are getting competitive advantages over other manually managed working firms. Thus firms, although not interested in adopting Information and Communication Technology, are compelled to install technologies according to the requirement of the dominant suppliers or customers².

Finally a strong and significant effect of behavioural intention on actual usage behaviour is found. Thus hypothesis H₃ is supported. This result indicates that the positive and strong intention would foster the use of Information and Communication Technology at the firm level.

The SME is considered an incubator of the national economy. The economic development of the country is largely dependent on the development of small and medium enterprises. Adoption and utilisation of Information and Communication Technology may help develop SMEs by acquiring efficiency in their operations and by staying ahead in the competitive global environment.

² The field study supports this finding in the Readymade Garments Industries in Bangladesh.

The government of Bangladesh is dedicated to establishing a computer driven society and utilise the potential of information and communication technology in the country's economic development. Thus ICT has been considered as a thrust sector of the country and numerous policies and priorities have been adapted to promote ICT usage in the country. The government has also launched some motivational programmes to boost ICT usage in different sectors.

This study addresses a different aspect of Information and Communication Technology diffusion among SMEs in Bangladesh. Understanding the role of environmental pressures, it is seen that Bangladesh's SMEs are largely dependent on their strong buyers or suppliers which, in a sense, indicate a lack of SMEs self-motivation to embrace information and communication technology to accomplish their production, management or marketing functions. The results also indicate a scenario which is contrary to the Government policy and priority developing a digital based economic environment. The government of Bangladesh has given high priority in SMEs development as well as dedicated to establish a digital technology dependent country by 2021 while the most influential industry in the country's economy, SMEs are found not to be self-motivated to utilise the ICT. The findings of normative pressures are however favourable to the government's initiative as the SMEs are also influenced by their peers in establishing an ICT dependent working procedure. Thus, the government and concerned authorities may perform a pivotal role to look at why the SMEs are not self-motivated in adopting ICT and formulate appropriate policies and strategies to encourage the owners or decision makers to use ICT into their various functional areas. If the organisations are influenced by the government or other authorities and start using the technology, the followers will start using the same (as the normative pressures are seen significant in Bangladesh) which will ultimately foster the economic development of the country.

The study was limited to only the owners' or managers perceptions about the technology and some environmental pressures while, although important, other concerns—such as the effects of organisational resource based as well as country e-readiness—are not inquired which may be considered as future research direction to look at the adoption and usage of information and communication technology by SMEs from a developing country perspective.

Appendix-1
Table 1a Demographic profile

	Description	Frequency	%
Industry	Manufacturing	282	50.6%
	Service	275	49.4%
Sector	Readymade Garments	225	40.4%
	Lather	57	10.2%
	ICT and telecommunications	217	39.0%
	Tourism	58	10.4%
Business Size	Small	401	72.0%
	Medium	156	28.0%
ICT Status	Homepage	546	98.0%
	Online cataloguing	366	65.7%
	Participate in online commerce	325	58.3%
	ERP	162	29.1%
SMEs preferences	Received preferences as an SME	73	13.1%
	No preferences received	484	86.9
ICT grants	Received subsidies or ICT grants	72	12.9%
	No grants or subsidies received	485	87.1
Nature of customer	Geographically diverse customer	509	91.4%
	Customers not geographically diverse	48	8.6%
Internet connectivity	Dial-up/DSL	29	5.2%
	Broadband(cable and mobile)	511	91.7%
	Mobile broadband	293	52.7%
Operating offices or stores	Operating single office or stores	11	2.0 %
	Operating at least two offices or stores	437	78.5%
	More than two offices or stores	18	3.3%
ICT Experience	Started ICT before 2000	150	26.93%
	Started ICT since 2000	407	73.07%

Source: Survey

Table 1b Demographic profile for qualitative research

Firm ID	Type of SME	No of employees	Size	Market position	REVENUE
A	S	35	Small	Good	Increase
B	M	95	Small	Good	Increase
C	S	21	Small	Extremely good	High increase
D	S	47	Medium	Good	High increase
E	S	9	Small	Good	Increase
F	S	5	Small	Good	Substantial Increase
G	M	21	Small	Good	High increase
H	S	92	Medium	Bad	Steady
I	M	35	Small	Neither good nor bad	Increase
J	M	35	Small	Very good	High increase
K	M	89	Medium	Very good	High increase

Note: Type of SMEs S=Small enterprise, M=Medium enterprise Source: Field study

Appendix-2

Table 2: Measurement Model-I

Constructs	Items	Weight	SE	t-Statistics	CR	AVE
Perceived Usefulness	PU1	0.9526	0.0048	199.025	0.971	0.895
	PU2	0.9609	0.0043	222.958		
	PU3	0.9527	0.007	136.7667		
	PU4	0.9187	0.0087	105.8748		
Perceived Ease of Use	PEU1	0.9564	0.0048	197.9807	0.972	0.898
	PEU2	0.9652	0.0034	287.4972		
	PEU3	0.9612	0.0046	210.1075		
	PEU4	0.9078	0.0116	78.4214		
Intention	INT1	0.7993	0.0162	49.4405	0.928	0.721
	INT2	0.8687	0.0115	75.6697		
	INT3	0.9066	0.0071	127.3219		
	INT4	0.85	0.0134	63.2033		
	INT5	0.8198	0.0141	57.8879		
Use	USE1	0.8422	0.0143	59.2885	0.865	0.682
	USE2	0.8651	0.0094	92.1835		
	USE3	0.7713	0.0251	30.5569		
Normative Pressure	NP1	0.198	0.071	2.5735	0.591	0.516
	NP2	0.9981	0.0027	370.2347		
Mimetic pressure	MP1	0.7322	0.0397	18.5266	0.764	0.62
	MP2	0.8372	0.0282	29.5684		
Coercive Pressure	CP1	0.9988	0.0016	632.6176	0.634	0.536
	CP2	0.2754	0.0522	5.162		

Note: AVE=Average variance extracted, CR=Composite reliability; Source: Survey

Table 3 : Measurement Model-II

	PU	PEU	INT	Use	NP	MP	CP
PU	0.946						
PEU	0.642	0.947					
INT	0.732	0.539	0.849				
Use	0.613	0.499	0.691	0.825			
NP	0.496	0.403	0.632	0.519	0.718		
MP	0.4	0.386	0.443	0.385	0.369	0.787	
CP	0.588	0.432	0.758	0.634	0.719	0.447	0.732

*Source: Survey; Note: PU = Perceived usefulness, PEU = Perceived ease of use, INT = Adoption intention, Use = Use of ICT
PD = Power distance, UA = Uncertainty avoidance, InGr = In-group collectivism, BVal = Bengali value, NP=Normative pressure,
MP=Mimetic pressure, CP=Coercive Pressure*

Appendix-3

Table 4 : Structural Model

	weight	SE	t statistic	Comments
PU→INT	0.353	0.032	10.93**	Supported
PEU →INT	0.069	0.031	1.98*	Supported
NP→INT	0.105	0.043	2.41*	Supported
MP→INT	0.033	0.025	1.08*	Not Supported
CP→INT	0.383	0.042	9.02**	Supported
INT →USE	0.692	0.019	35.42**	Supported

Source: Survey; ** indicates $p > .01$, * indicates $p > .05$ Note: R^2 for INT = 0.736, R^2 for USE = 0.477
 NP=Normative pressure, MP=Mimetic pressure, CP=Coercive Pressure, INT=Adoption intention, Use=Use of ICT

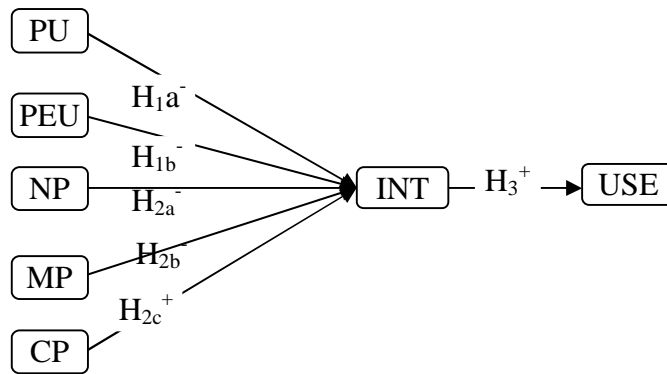


Figure 1: Conceptual Model

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