
Behavioral Challenges of Technology Adoption among Bank Employees: A TAM perspective

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Abstract: Technology transition is norm for any business survival and growth. Across the globe business environment doesn't permit any leverage on technology adoption. The recent pandemic further made it mandatory for every organization to transform into technology enabled business operation. Many sectors were forced to adopt faster technology change to keep pace of business. Banking sector is no exception for this. After merging under single umbrella SBI has initiated technology transition and attempting to offer technology at fingertips both for its employees and customers. In recent press release SBI announced adoption of automation, AI and Machine learning in most of its back-end jobs for operational efficiency and cost advantage. These initiatives cannot be deployed in isolation; it has to have human interface to complete business process. And natural human response for any change is resistance. This is not easier transition rather this is continuous process with many challenges. The major issues are employees' adoptability to the changing technology in the job performance. Individual perception and intentions are major determinant factors for any technology adoption. Technology Adoption Model elaborately explains human behavioral responses to new technology. Perceived usefulness and Perceived ease of use are two major attributes to the behavior intentions. This study attempts to test these attributes among bank employees with respect to implementation of information technology in banking service. Resistance for any change is human nature, but preparedness to overcome this resistance is need of hour for organizational and employee survival.

Keywords: Technology, Technology Adoption Model, Banking, Employees, Technology adoption)

INTRODUCTION

Every business is under the pressure to minimize the operational cost and enhance the customer value offerings. Digitization across globe has compelled Indian banks towards technology enforcement into its operation with hope to reduce the operational cost and provide the banking services at finger tips of customers. Digitization of banking services aim at frictionless banking services, 'anybank, anywhere, anytime'. Few ambitious projects like; 'Central Banking Depository' (CBD), 'Universal Bank Account' (UBA) (Sanghai, 2020) etc. are in pipeline. Any banking services digitized cannot function in isolation there is need for human interface to develop and complete these transactions. This process of technology transition results employees working with machine/bots. Change process hinge upon the people involved in the system. Organizational culture, interaction of people supports the change. Shared values, beliefs, assumptions and expectations determine the behavioral intentions towards any change. The natural behavioral response for any technology change will be resistance. It's important at this point of time to study the challenges faces by bank employees in the process of digitization, so as to address and bring in required solution to facilitate present and future course of digitization.

The present pandemic laid down new norms of operation and fear of getting infected injected uneasy environment (Deloitte, 2020) on the other hand banks are anticipating huge losses due to economic slowdown (McKinsey, 2021). Banks are getting struck in between these complex situations. In addition, the pressure to retain consumers with their changing needs, and operational efficiency to maintain the profitability adds spices to the problems.

TAM overview

Several research studies have been propounded to define acceptance of technology and information system (Ajzen, 1991; Davis, 1989, Davis et al., 1989, Taylore and Todd, 1995. Moore, 1987). Among all Technology Acceptance Model is widely tested and cited model in information technology adoption behavior (Davis and Venkatesh, 1989, Venkatesh and Davis, 1989). Davis (1989) proposed two major determinant factors for technology adoption as, 'Perceived ease of use' and 'Perceived usefulness'. Theory of reasoned Action by Ajzen and Fishbein (1980) refers to determinant of conscious intended behaviors. Theory of Reasoned Action exhibits direct relationship between 'beliefs' and 'attitudes' which result into 'Action'. However, TAM also assumes

Beliefs towards Usefulness and Ease of use pave way for Intention to use the system. Perceived usefulness reflects beliefs regarding extent to which system is useful in performing the job. On the other hand, Ease of use reflects belief regarding extent to which system is free from mental effort.

Theory of planned behavior (Ajzen, 1985, 1991) adds subjective norms to attitude towards use. Further this theory also refers behavioral control variables such as skills, opportunities also has influence on intention to adopt the system. Decomposed Theory of planned behavior (Tylor and Todd, 1995) provides better understanding.

Gangwar et.al. (2014) in her study integrated Technology Acceptance model with Technology organization environment model for cloud computing in an organization, further the study supports the determinants for Adoption intention as Perceived usefulness and ease of use.

Dimoka, and Davis (2008) attempt to connect neural mechanism of human brain behind TAM adoption. Further this research highlight on how to enhance the Behavioral intention of technology adoption by identifying brain area and activating them.

OBJECTIVES

1. To study and analyze digitization technology adoption in relevance with Technology Adoption Model.
2. To study the degree of impact of three drivers; 'Perceived ease of use' 'Perceived Usefulness' and 'Subjective norms' on 'Employee Behavioral Intention'.

Hypothesis

H1: Perceived Usefulness is positively related to Attitudes.

H2: Perceived Ease of Use is positively related to Attitudes.

H3: Subjective Norms is positively related to Attitudes.

H4: Attitude is positively related to Behavioral Intention

RESEARCH METHODOLOGY

This is descriptive study based on primary and secondary data. Extensive online and offline literature review has been done to develop research outline. Widely cited TAM model has been tested for digitization of banking technology among Sate bank of India employees.

Empirical study was conducted with the sample size of 202 State Bank of India employees working in different branches across Bangalore city. A structured questionnaire was designed based on previous research studies conducted.

Out of total 202 sample size, 111 are male employees and 91 are female employees. 178 employees are I the age group of 16-50years. Individual behavior factors such as, 'Perceived ease of use (PEOU), perceived usefulness (PU) and subjective norms (SN), attitudes (Attitude), and behavioral intentions (BI) has been considered for study. Questionnaire was constructed considering 13items under 5 dimensions. Reliability test conducted to test the validity of variables under consideration. Correlation technique is used to test the TAM Model.

RESEARCH FINDINGS

1. Correlation's analysis

Table 1: Correlations Perceived usefulness (PU), Perceived ease of Use (PEOU), and Subject to conditions (SC) to Attitude (ATT)

ATT			
	Pearson Correlation	Sig. (2-tailed)	N
PU	.585**	.000	202
PEOU	.162*	.021	202
SC	-.032	.652	202
ATT	1		202
**. Correlation is significant at the 0.01 level (2-tailed).			
*. Correlation is significant at the 0.05 level (2-tailed)			

Correlation analysis

Coefficient reveals a significant and positive relationship between 'perceived usefulness' and 'Attitude' ($r = 0.585$, $P = 0.00$), and we reject the null hypothesis.

'Perceived ease of use' and 'Attitude' ($r = 0.162$, $P = 0.21$), we reject the null hypothesis and accept alternate hypothesis.

However, coefficient reveals non-significant relationship between 'Subjective condition' and 'attitude'; here we accept the null hypothesis.

Table 2: Correlations Attitude (ATT) to Adoption(ADO)

	Pearson Correlation	Sig. (2-tailed)	N
ATT	.621**	.000	202
ADO	1		202

** . Correlation is significant at the 0.01 level (2-tailed).

Correlation analysis between ‘Attitude’ and ‘Adoption’ reveals Significant and positive relationship ($r=0.621$, $P=0.00$), hence we reject the null hypothesis.

2. Regression Analysis

Table 3: Descriptive statistics, Model summary, Analysis of variance

		PU-> ATT	PEOU->ATT	SC->ATT	ATT->ADO
Model summary ANOVA	R2	0.343	0.026	0.001	0.385
	F	104.26	5.371	0.204	125.393
	Sig	.000	0.021	0.652	.000
Coefficient	Bo	4.589	11.8880	13.839	2.030
	B (att/Ad)	0.886	0.743	0.566	0.607
	Sig	.000	.000	.000	.000

‘Perceived usefulness’ has significant influence on attitude. PU predicts 34.3 percent variance in attitude. ‘Perceived ease of use’ has significant influence on ‘Attitude’. It assumes 2.6 percent of variance in attitude. On the other hand, ‘Subject to condition doesn’t have significant influence on ‘Attitude’.

DISCUSSION

1. Perceived usefulness: Perceived usefulness plays a dominating role in determining behavior intention as compared to perceived ease of use (Davis, 1989, 1993). The present study reveals the similar finding with 34.3 percent variance in Attitude formation towards behavior intention.
2. Perceived ease of use: Perceived ease of use has small but significant impact on behavior intention (Davis, 1998). The present study conducted to test digitization technology adoption among Bank employees reveals the similar outcome with 2.6 percent variance.
3. Subjective conditions: Theory of Planned behavior (Ajzen 1985, 1991) proposes addition to attitude to use subjective conditions such as skills, opportunities and resources to use system also influences behavior. However, this study reveals impact of subjective norms on behavior intention. Primarily this might be due to the fact of job security among the employees which override the fear factor of job insecurities.
4. Attitude to adoption: perceived usefulness and perceived ease of use acts as construct for attitude and which in turn determine the behavior intention (Davis, 1989). Present study support the TAM with attitude has 38.5 percent variance in adoption/Intention.

CONCLUSION

This study brings another addition to bundle of studies conducted under the TAM application for technology adoption. In general, most of the study supports basic model with greater importance to perceived usefulness and perceived ease of use as compare with subjective norms. However, the research outcome needs to be deployed for improving the technology adoption among the employees and individuals for efficient working process and for optimization of revenue for any organization. Any technology needs human interface and human psychographics are determinant factor for his response to technology.

Benefit of technology implementation can only be derived if employees accept the new norms and forms of operations and process.

Embracing technology is the only way out for banks to keep in pace with competition and customer retention. There is need for change agents to study the behavior of employee to prepare them for changing technology norms and operational process required in line with changing customer service expectation and for unforeseen challenges posed by present pandemic.

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