The Factors Affecting to the Customer Attitudes Towards ATM Usage in Anuradhapura District, Sri Lanka

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ABSTRACT

Automated Teller Machine (ATM) is one of the most popular delivery channels. This study explores the factors affecting the customer attitudes towards ATM usage in the Anuradhapura district. The main objective of this paper is studying that what the factors are affecting to the customer attitudes towards ATM usage in Anuradhapura District, Sri Lanka and to identify the relationship between customer attitudes and ATM usage level.The authors validate a measurement model for customer attitudes towards ATM usage based on different models and theories. All of the concepts, ideas, opinions and theories that related to the five factors, namely; security, ease of use, trust, perceived usefulness and risk have been chosen. These variables have been tested to explore the relationship between customer attitudes and ATM usage. The Author also presented a theoretical framework.Around384 respondents participated in this study through a structured questionnaire. All the data have been analyzed by using the Statistical Package for Social Sciences (SPSS 16.0 version.). The key findings revealed that demographic factors including age, Gender, education level and occupation have a relationship with the ATM usage. Five factors were found as influence the customer attitudes towards ATM usage. And also there is a positive relationship with attitudes towards ATM usage and Actual ATM Usage level. This finding is paramount useful among the banks as it will assist with their various strategic resource allocation decisions on their ATM banking solutions.

KEYWORDS:*: Attitudes, Automated Teller Machine (ATM), Banking, Customers*

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1. Introduction

The emergence of the technology has had a significant impact on the diffusion of e- banking. With the help of the technology, banking is no longer bound to time or geography. Consumers all over the world have relatively easy access to their accounts 24 hours per day, seven days a week. Therefore, e-banking provides many benefits to both banks and their customers (Karjaluoto, Mattila and Pento, 2002). In e banking, ATM is one of the most popular delivery channels as it will permit customers to do Anywhere, Anytime banking. The Use of ATM has become extremely popular among customers as a convenient mode of transactions. The technological innovation has transformed the banking business. Banks have aggressively adopted for this mode. The advantages of using ATM have given new impetus in dimensions of service quality and banks are offering new choices to customers. Cabas (2001) noted investment opportunities, reduction in costs, satisfaction of customers and competitiveness as motives to install and add new ATM to the existing network. Moutinho (1992) established that the ATM facility resulted in speed of transactions and saved time for customers.

Currently there are many banks and financial institutions provide ATM banking facility in Sri Lanka. In Sri Lanka, e-banking was first introduced by the Sampath Bank in 1988.They started with networking all their branches enabling their customers to access to their accounts at any branch. Sampath bank also introduces first ATM system to Sri Lanka. ATM cards enable the customers to withdraw money from teller machines throughout the day. This made a complete revolution in the banking industry in Sri Lanka. In Sri Lanka IFC Mobile Money Scoping Country Report denotes, 1876 ATMs in 2009 and it increase up to 2390 in 2012.This research paper studies that factors affecting to the Anuradhapura district customer's attitudes towards ATMs usage.

1.1 Research Problem

However, acceptance of this new technology has not been equal in all parts of the world (Karjaluoto, Mattila and Pento, 2002). ATM banking helps bankers to reduce costs. There are important considerations such as, the extent to which retail bank customers use new forms of banking. That is the factors that influence to the attitudes toward using another form of banking and adoption. These considerations are very important to the practitioners who plan and promote new forms of banking in the current competitive market.

ATM banking that has revolutionized the banking industry worldwide has turned out to be the nucleus issue of various studies all over the world. However, there has constantly been a literature gap on the issue in Sri Lanka. There has been a rapid diffusion of new Electronic devices by commercial banks in Sri Lanka. Electronic banking services have been widely adopted by bank customers (CBSL 2009). In Sri Lanka IFC Mobile Money Scoping Country Report denotes, 1876 ATMs in 2009 and it increase up to 2390 in 2012. In the Sri Lankan context also this situation can be clearly identified. (Issues of ATM Should be interpreted).

This report shows the increase of ATMs in Sri Lanka. But the use of the ATM system of banking has received different perceptions. One of the views is that, it may not have really created customer satisfaction for bank clients, and the other is that, it may have Despite of all the merits of the ATMs, customers still complaint of shortfalls on the use of the system such as; break downs of ATMs, long queues at ATM service points, retention of customers cards, limited knowledge on the use of ATM cards, fraudulent transactions and its operation in just a few languages.

Therefore, against this background that the researcher was prompted to investigate and find out the effect of customer attitudes towards ATM usage in banking in Anuradhapura District.

1.2 Objectives

The objective of this research is studying that what the factors are affecting to the customer attitudes towards ATM usage in Anuradhapura District and to identify the relationship between customer attitudes and ATM usage level.

1.3 Significance of the research

The study will contribute to the existing knowledge on customer attitude which is perceived usefulness, risk, trust, security and ease to use of ATM in Sri Lanka. And also, it will help commercial banks in Sri Lanka to creating an awareness campaign through workshops and seminars on the importance and business

value of the ATM usage in financial institutions. Furthermore, it will help the any Bank which using ATM to work out an efficient information infrastructure for banks using different technology to ensure network connectivity among the customers in Sri Lanka.

1.4 Limitations of the Study

Attitude is a qualitative factor. Therefore, it will be difficult to collect information precisely. This research is conducted in the Anuradhapura district. People's beliefs and attitudes can vary across different regions and countries. Geographically the area is vast. A probability sample in a different geographic area may reveal differences in customer's attitudes towards ATM usage in the Anuradhapura district.

2. Literature Review

2.1 ATM Banking

ATMs were the first well-known machines to provide electronic access to customers. With advent of ATM, banks are able to serve customers outside the banking hall. ATM is designed to perform the most important function of banks. It is operated by plastic card with its special features.
ATMs allow doing a number of banking functions – such as withdrawing cash from one's account, making balance inquiries and transferring money from one account to another – using a plastic, magnetic-stripe card and personal identification number issued by the financial institution. ATMs represent the single largest investment in the electronic channel services for the Banks.

2.2 Attitudes of ATM Usage

As mentioned by Marr and Prendergast (1993) and Plouffe, Vandenbosch and Hulland (2000), that the pure convenience and novelty is not the key elements that ensure the viability and acceptance of the new technology. The multi-function of ATM card which reduces the number of cards carried and simplification was a most important element to ensure the take-off of ATM card in the financial institution. Berta and Mann (2000) mentioned that the security is one of the most important factors to consider in storing of data in ATM card. According to Gerald (1996), the electronic purses can be used to reduce the cost of small value transactions.

2.3 Theory of Technology Acceptance Model (TAM)

The purpose of this model is to predict the acceptability of a tool and to identify the modifications which must be brought to the system in order to make it acceptable to users. This model suggests that the acceptability of an information system is determined by two main factors: perceived usefulness and perceived ease of use.

2.4 Factors Affecting to the Customer Attitudes towards ATM Banking

- **Perceived Ease of Use:** Perceived Ease of Use is defined as "the degree to which a person believes that using a particular system would be free of effort" (Davis, 1989). Hence an application perceived to be easier to use than another is more likely to be accepted by users. Ease of use is defined as the individual's perception that using the new technology will be free of effort (Davis, 1989, 1993).
- **Perceived Usefulness:** Laforet and Li, (2005) and Eriksson et al., (2005) defined the term perceived usefulness as "the subjective probability that using the technology would improve the way a user could complete a given task".
- **Trust:** Trust is defined as the consumer expectations of how the ATM would deliver expectations, how believable the ATM's information is how much confidence the ATM commands (Bart, 2005).
- **Security Perception:** Consumers concerns about security, which arise from the use of an open public, have been emphasized as being the most important factor inhibiting the adoption and use of ATM (Daniel, 1999).
- **Perceived Risk:** Bauer (1960) defined risk in terms of uncertainty and consequences associated with customer's actions.

3. Methodology

3.1 Conceptual Framework

This study focuses on independent variables that are Perceived Ease of use, security, Perceived Usefulness, Risk and Trust.
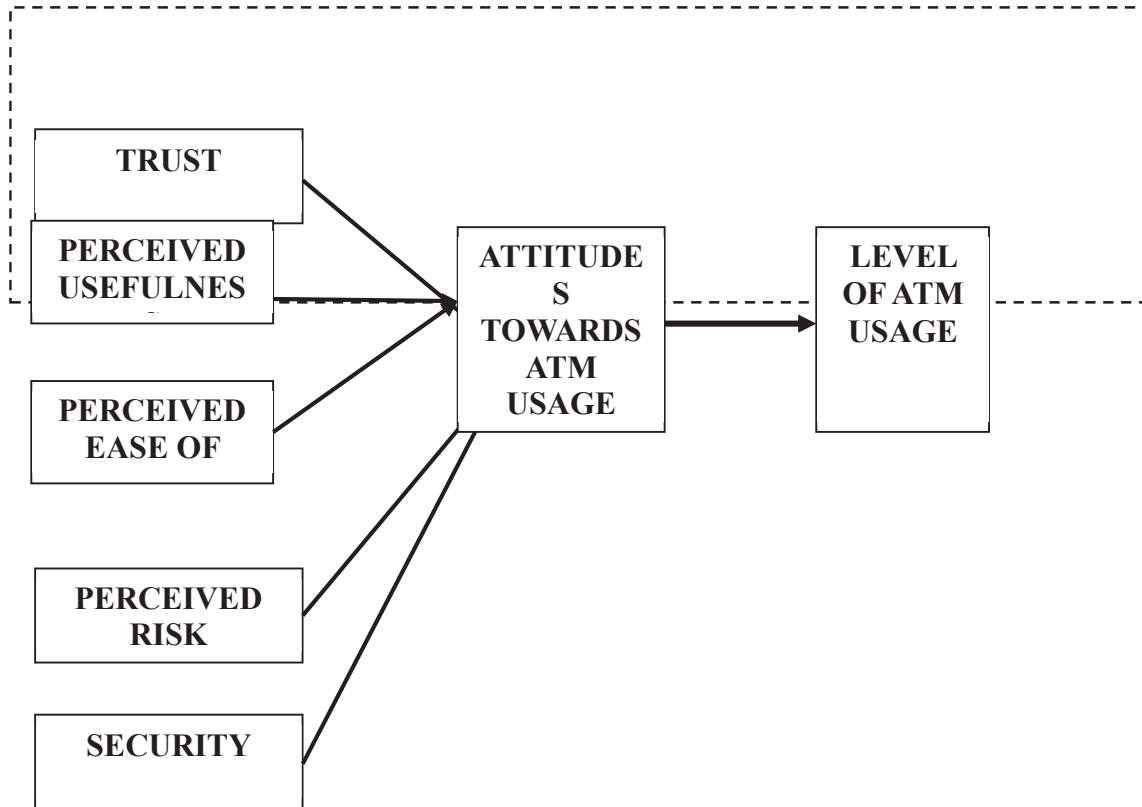
Source: TAM model

3.2 Research Population, Sample & Sampling Technique

The study population comprised of 228,657 customers who used ATM services in the Anuradhapura district. Population is targeted from the Anuradhapura District. The sample size of the respondents is 384 respondents selected based on the table for determining sample size by Krejcie and Morgan, (1970). The Data collection instrument is a structured questionnaire. The questionnaire that prepared for this exercise was divided into 3 sections. Simple random sampling design is used to select respondents from customers who used an ATM in Anuradhapura district, Sri Lanka.

3.3 Data Analysis Methodology

Reliability is a measure of the internal consistency of a set of scale items. It shows whether each scale is measuring a single idea. According to Uma Sekaran (2003), the reliability of a measure indicates the extent to which it is without bias (error free) and hence ensures consistent measurement across time and across the various items in the instrument. For measure every independent variable using mean, ANOVA and t-test. The mean or the average is a measure of central tendency that offers a general picture of the data without unnecessary inundating one with each of the observations in a data set,

Mean > 3, Satisfactory Level / Mean = 3, Average/ Mean < 3 , Not Satisfactory Level.

In here mainly use one-way ANOVA to analysis the variance and variability with two variables. Coefficient determines how much change in the dependent variable in relation to the independent variables of Ease of use, perceived ease of use, perceived usefulness, trust and perceived risk. In addition to that Statistical tools such as, Multiple Regression, Analysis of Variance (ANOVA) and T test were used in the study. According to Burns and Bush (2000), multiple regression analysis is an expansion of the bivariate regression analysis in that more than one independent variable is used in the regression equation. The

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interpretation of the regression analysis is based on the multiple regression analysis, T-test, R square (R^2), and F-test. The F –statistic is determined by looking the value at F and Sig. in ANOVA table regression. This test to provide evidence whether to accept or reject the hypotheses made before. The statistical tools use in the study is the Multiple Linear Regression Model. This model of analysis is done to examine the simultaneous effects of several independent variables on a dependent variable.

3.4 Respondent Rate

In this study survey is used as a data collection method. Sample was taken randomly from ATM users. Data collection was conducted in Anuradhapura District and Total number of distributed questionnaires were equal to 400 of which 16 were incomplete. Responded rate is 96%.

4. Data Analysis, Results And Discussion

4.1 Reliability Test

For the purpose of this study, researchers were identified main four variables. Those are, **Ease of use, perceived ease of use, perceived usefulness, trust** and **perceived risk**. Before the analysis, internal consistency of each construct was evaluated with reliability analysis.

Table 4.1 Reliability Test

No	Variable Name	Alpha (α)	No of Questions
1	Ease of Use	0.784	7
2	Perceived Usefulness	0.770	6
3	Trust	0.782	4
4	Security	0.782	5
5	Perceived Risk	0.775	5
6	ATM Usage	0.847	3
	Total Value	**0.882**	**30**

Source: Developed by researcher

The alpha values for the four constructs indicated that the items that formed them had reasonable internal consistency reliability – being from **0.782 and 0.847**. All the variables are greater than 0.6 and all over the questions Alpha value is **0.882**. Thus the researcher concludes that the questions regarding four factors are acceptable.

4.2 Hypotheses Testing

Pearson Correlation Coefficient is used to test the hypotheses. The hypotheses tested are the linear relationship exists between two variables which is dependent and independent variable, as seen in the correlation coefficient (r). (Guilford, 1956).

Table 4.2 Summary of Hypothesis Testing and Correlation of Attitudes Factors and ATM Usage

Hypotheses	Factor	Correlation	Sig	Hypothesis test
Hypothesis 1: There is a relationship between customer attitudes towards Automated Teller Machine (ATM) usage	Customer Attitudes and ATM Usage	0.831	0.000	Accept
Hypothesis 2: Perceived usefulness has an effect on customer attitude towards Automated Teller Machine (ATM) usage	Perceived usefulness and Customer attitudes	0.850	0.000	Accept
Hypothesis 3: Perceived ease of use has an effect on customer attitude towards Automated Teller Machine (ATM) usage	Perceived ease of use and Customer Attitudes	0.822	0.000	Accept
Hypothesis 4: Security has an effect on customer attitude towards Automated Teller Machine (ATM) usage	Security and Customer Attitudes	0.832	0.000	Accept
Hypothesis 5: Perceived risk has an effect on customer attitude towards Automated Teller Machine (ATM) usage	Perceived risk and Customer attitudes	-0.633	0.000	Accept
Hypothesis 6: Trust has an effect on customer attitude towards Automated Teller Machine (ATM) usage	Trust and Customer Attitudes	0.790	0.000	Accept

Source: Developed by the researcher

4.3 Factors Affecting to the Customer Attitudes towards ATM

Tables 4.23 present the results from the multiple regression carried out using the five constructs: attitudes on **Trust, usefulness, Ease of use, Perceived risk and security** as the independent variables and **customer attitudes towards ATM usage** as the dependent variable.

4.4 Relationship between Attitudes Factors and Attitude

Table 4.3: Coefficient and Model Summery (Multiple Regressions Analysis)

Model	Unstandardized Coefficients		t	Sig.
	B	**Std. Error**		
(Constant)	-6.036	.378		0.000
Usefulness	0.221	.070	1.636	0.000
Perceived risk	0.219	.068	1.671	0.000
Ease of use	0.157	.082	1.385	0.000
Trust	0.189	.062	1.846	0.000
Security	0.198	.056	1.025	0.000
R Square 0.831	**Adjusted R Square** 0.763		**F**	4.234

Source: Developed by the researcher

4.6 Relationship between ATM Usage and Customer Attitudes

> **Attitudes = -6.036+ (0.221) usefulness + (0.219) risk+ (0.157) Easy to use+ (0.189) trust+ (0.198) Security**

> $Y= a+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5$

Tables 4.3 present the results from the simple regression carried out using the constructs: attitudes towards ATM as the independent variables and ATM usage as the dependent variable. This was done to determine the best linear combination of the constructs for predicting ATM usage.

4.5 Simple Regressions Analysis

Table 4.4 Coefficient of ATM Usage and Attitudes

Model	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	1.962	.345	5.694	.000
Attitudes	.305	.087	3.502	.001
R Square 0.569			**F** 12.267	
a. Dependent Variable: ATM Usage				

Source: Developed by the researcher

The R Square value for the model showed that 56.9 % of the variance in the model can be predicted from the independent variable, attitude. As, p is less than 0.05, the model is significant. Thus, attitude significantly predicted the dependent variable of ATM Usage (F=12.267; p < 0.05). A unit change in the independent variable Attitude would produce an effect on the dependent variable, ATM Usage. From this table, Attitude had a high impact on ATM. The large t value and corresponding low p value supports the result for which there is a high Beta coefficient.

The Simple liner regression equation for this analysis consequently is:

$$Y= a+\beta 1X1$$

$$ATM\ Usage = 1.962 + 0.305(Attitude)$$

5. Conclusion

More than a quarter of the respondents identified withdrawal of money to be the major service of the ATM, followed by checking of balances on one's account. The research was implemented to determine the major factors that affect to Customer attitudes towards ATM usage in Anuradhapura District and to identify the level of affect from the factors that affect to Customer attitudes towards ATM usage.

Perceived Usefulness: The perceived usefulness was checked under four sub factors (Easy, speed, time saving and convenient). The study shows that there was a highly positive impact from the customer attitudes on perceived usefulness to the towards ATM usage.

Perceived Risk: Perceived risk was checked under three sub factors (Safety, uncertainty and social risk), the findings of the study indicate that there is a negative relationship between Consumer Attitude on Perceived Risk towards ATM usage. This implies that consumer attitudes are negatively affected by the perceived risk.

Ease of Use: The ease of use was checked by considering three sub factors (easiness, minimum effort, clearness). Ease of use was positively high affected to customer attitudes towards ATM usage. This finding suggests that easy to use technologies should be put in place by banks in order to enhance usage.

Trust: Trust was checked under four sub factors (efficient, Honest, Openness and competence).The Pearson (r) correlation coefficient shows that there is a significant positive relationship between Consumer Attitude and Trust. This implies that when customers believe that ATM banking fulfills the commitments and promises it assumes and that it is reliable, honest, and confidential and has the necessary abilities to carry out its work, that are likely bound to usage of ATMs.

Security: The security was checked under four sub factors (confidence, reliability, uncertainty, and privacy). Daniel (1999) also identifies security as a factor influencing customer attitudes towards ATM usage.The Pearson (r) correlation coefficient shows that there is a significant positive relationship between Consumer Attitude and security.

5.1 Relationship between Customer Attitudes and ATM Usage

It can be concluded that this research is aimed to know the relationship between dependent variable (ATM usage) and the independent variables (Trust, Security, Perceived usefulness, perceived risk and ease of use). The Pearson (r) correlation coefficient shows that there is a positive relationship between Consumer Attitudes and ATM usage

Model 01- Developing a Model for Customer Attitudes Factors and Current Level of Customer Attitudes towards ATM

$$Y= a+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5$$

X1= Perceived Usefulness

X2=Perceived Risk

X3=Ease to Use

X4=Trust

> **Attitudes = -6.036+ (0.221) usefulness + (0.219) risk+ (0.157) Easy to use+ (0.189) trust+ (0.198) Security**

Model 02- Relationship of Customer Attitudes and ATM Usage.

$$Y= a+\beta1X1$$

X1= Customer attitudes towards ATM usage

> **ATM Usage = 1.962 + 0.305(Attitude)**
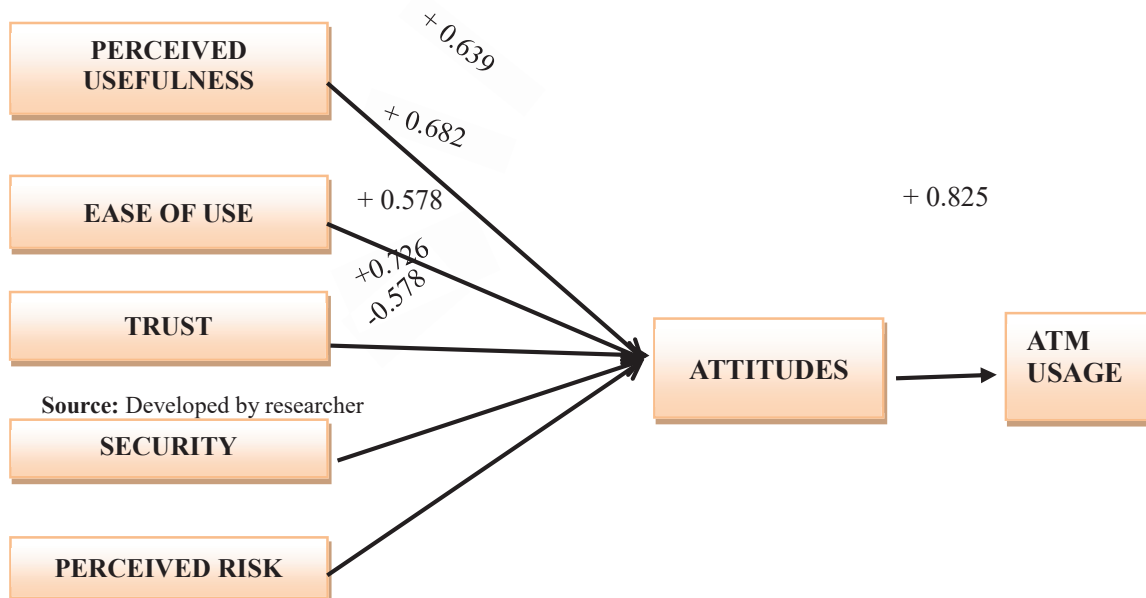
5.2 Conclusion

From the demographic factors, public employees use ATM for the withdrawal but they do not use for further service. But businessmen use ATM for transfer fund, paying bills and Deposit cash. Education level is influenced to the ATM usage and most of the professional, educated customers use ATM services in Level four and most of the above Advance level qualified customer use ATM for withdrawal.

It is observed from the study that four factors are positive relationship between customer Attitudes and ATM usage and one negative relationship between customer attitudes. It was found out that five factors have strong influences on ATM usage, namely Trust, Security, Perceived usefulness, perceived risk and ease of use.

The study shows the significant positive relationship between Customer Attitude and ATM usage. This means that when customers believe that ATM is safe, useful, securer, can be trusted, flexible and less risky, easy to use, reliable, and fulfil the commitments and promises it assumes. The study shows the negative relationship between Consumer Attitude and Perceived risk. This is because when customers are not sure of the privacy and security aspects of ATM banking, they are bound not adopt the system. If there was a higher the perceived risk, there is a lower the rate of customer attitudes towards ATM usage. This is because in the environment can be performed with extremely high speed. According to the above conclusion following framework can be shown as a final finding of the research.

Figure 5.1 Conceptual Framework for Factors Affecting to the Customer Attitudes towards ATM Usage

PERCEIVED USEFULNESS

+ 0.639

+ 0.682

EASE OF USE

+ 0.578

+ 0.726

-0.578

TRUST

Source: Developed by researcher

SECURITY

PERCEIVED RISK

ATTITUDES

+ 0.825

ATM USAGE

Basing on the results of this study, recommendations are suggested that should help to improve ATM actual system usage. These recommendations do not solely apply to the studied organization but to all organizations that are committed to technological competitiveness. In highlight of the research findings, the following recommendations are made:

Organizations should undertake a deliberate policy to develop and adopt technological innovations perceived to be useful and easy to use by customers so as to foster significant actual system usages.

Organizations, which have embraced technological innovations by focusing on changing customer needs and wants, monitoring their strategies closely, should create an enabling environment that facilitates perceived usefulness, ease of use and trust. Attitudes are enhanced when positive perceptions exist. Finally, this attitude influences the decision of actual system usage Consideration should be made to customer needs, internal functions and processes that enable the realization of results.

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