Effects of e-banking services quality on manufacturing companies Managers satisfaction through perceived value

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ABSTRACT

Competitive banking systems and indistinctive products and services have caused customers to consider the quality of banking services as a competitive advantage. Therefore, managers try to attract customers' satisfaction. This study investigates the effective of e-banking services quality on manufacturing companies' Managers satisfaction through perceived value. This is a descriptive study. Data was collected through field research and questionnaire. The population of this study consists of 120 managers of Guilan manufacturing companies who are Mellat Bank customers. The questionnaire was distributed between all cases and data analyzed by applying structural equations and Lisler on the collected data. According to results, the quality of e-banking services significantly affects perceived advantage and cost. However, a significant relationship was observed between perceived advantage and satisfaction while there was no significant relationship between perceived cost and satisfaction.
KEYWORDS: e-banking, perceived value, quality of service, satisfaction.

1. INTRODUCTION

The vast majority of theoreticians and scholars accept the importance of customer satisfaction and quality of service concepts and believe that they are fundamental concepts in service management sector [1].In this regard, marketing is not on the basis of product facilities but it's on the customer satisfaction. This approach, presents new concepts associated with different product. Therefore, organizations must correctly identify the needs and expectations of its customers to offer products with the highest value for them Attracting customer satisfaction is a key factor in customer retention process as well as improvement of financial performance of companies[2]. On the other hand, in today's competitive world the quality of service (QoS) is a subject by which organizations can obtain competitive advantage. QoS is defined as the state of the preference and superiority of a service resulting from comparing the service with customers' expectations and perception of the real performance of it. It should be noted that QoS, customer satisfaction and perceived value are elements to which the managers of service-providing organizations should pay a great deal of attention in the way of providing services to their customers [1,2]. As a customer behavior predictor variable, perceived value has two parts: advantage and cost [3]. However, a proper understanding of perceived value, its significant importance in customer satisfaction and its relationship with QoS are of a great importance. A customer does not always judge based on QoS. What that a customer purchases is not considered a service by itself. Instead, the consequence of the use of the purchased thing is considered a service.

In other words, a customer decides to make a purchase in order to meet its need. The quality of a service and the consequence of the use of it constitute the advantages and value of the service [4]. Since customer satisfaction is the key factor for the survival of organizations, this study tries to investigate the impact of the quality of e-banking services as well as perceived value on companies' Managers satisfaction in Mellat Bank.

2.LITRETURE REVIEW

There is hug literature a direct relationship between e-service quality, benefits and sacrifices, the latter which represent the two components of perceived customer value. In turn, the two components of perceived customer value are hypothesized to affect satisfaction. Caruana (2000)[5] investigated the relationship between customer satisfaction, QoS and value in order to develop a model. According to results, value plays a significant role in the relationship between the two concepts. They concluded that QoS does not affect satisfaction directly. Rather, it is a mediator in the relationship between the concepts. However, perceived quality has been identified as one of the determinant factors of perceived advantages, Bolton and Drew(1991)[6]; Woodraph and Gardill(1996)[7]; Cronin (2000)[8]; Ekinsi and Riley(2001)[9]. The studies of Oh (1995)[10] showed that the value (advantages and costs) of customers plays a significant role in the post-purchase decisions of customers. Customer value is precedence over customer satisfaction and re-purchasing decisions. Higher levels of QoS, considering costs and advantages, increase customer satisfaction. In other words, if the

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quality of provided service is less than customers' expectations satisfactions will be decreased [11]. However, many studies confirm the relationship between satisfaction and perceived value [12]. Chen and Hu (2010)[13] showed in their studies that paying attention to relational advantages through increased perceived value can affect customer loyalty and, in turn, customer satisfaction. Empirical evidences have confirmed the positive relationship between perceived value and customer satisfaction [14].

2.1. Satisfaction

Customer satisfaction is an important and critical subject for today's organizations. Currently, the degree of customers' satisfaction of products produced and offered by an organization, (goods or services), determines the success or failure of that organization. Satisfaction can be defined as the study of customers' feelings reflecting the degree of their beliefs and positive sense to the provided services. Customers compare their experience of the use of a service with their expectations. Customer satisfaction increases repurchase chance and reduces complaints. Also, satisfied customers are less sensitive to prices and they purchase accessories and are less likely to be affected by competitors [1]. Satisfaction of a service is a product of QoS and perceived value [4]. In service-providing organizations, customer satisfaction is the product of understanding customer's value in relation with service providers. Customers' perception of the value of provided services is in a close relationship with their awareness and the amount their expenses for received services [15].

Different models can describe different processes creating customer satisfaction. The models draw the relationship between customer satisfaction and motivations. The most reputable customer satisfaction model is based on one of the well-known customer satisfaction theories i.e. disconfirmation of expectations theory. According to this theory, satisfaction is recognized by comparing achieved performances and standards that are defined as the expectations and requests [16]. The creation and achievement of customer satisfaction is realized due to the existence of a clear and strong relationship between product quality and customer satisfaction on the one hand and acquisition on the other hand. It should be mentioned, however, that this subject is one of the main targets of commercial organizations [1]. Theoretical fundamentals on the relationship between customer satisfaction, customer taste and acquisition state that customer satisfaction affects customers' taste and, in turn, acquisition [17]. Blamchare& Galloway (1994)[18] believe that customer satisfaction is the result of customer's perception during a deal or a valuable relation so that the price equals to the ratio of QoS to the price and customer's expenses [19]. Rast and Zahowick (1991) studied the relationship between customer satisfaction and customer retention in retail banking[20]. Andreessen and Lindestad (1998)[21], Hallowell (1996)[19], Bierli (2004) showed that customer satisfaction and customer selection affect banking industry[22].

2.2. Quality of Service (QoS)

The special characteristics of services make a difference between measuring of quality in this sector compared with products. In service sector, quality is generally defined proportional with customers' needs and there are different methods for measuring the quality of products. In the sector Service is not strict definition for quality. There is no clear definition of specifications for the quality of the service sector, and researchers have been defined quality from different perspectives. Assuming that a customer is able to assess the performance of a service, the result of this assessment is compared with the customer's expectations before purchasing or consuming the service. Any non-conformity between customers' assessments and their expectations disconfirms the service in question. Positive disconfirmation retains or promotes satisfaction while negative disconfirmation results in dissatisfaction. Managers can find disconfirmation through analyzing the leave of customers and customers' complaints. If customers easily leave a company and refer to competitors, this will be considered as customer attrition. Customers' complaints of the quality of a provided service indicate that the performance of the provided services has been below customers' expectations. Developed countries have generally concentrated on QoS in service industries. Meanwhile, service sector is being enhancing in developing countries. It should be noted, however, that attempts for gradual generalization of developed countries findings to developing countries cannot be accurate and will be certainly accompanied with ambiguities. The vast majority of banks have not developed general standards scales by which they can measure customer perceived quality of banking services. The lack of measurable quality standards, considering the important and strategic role of banking services, is obvious in developing countries [20].

2.3. E-Booking

E-banking is the electronically communication of bank and customers aimed at providing, managing and controlling financial transactions. The history of e-banking backs to 1918 when U.S reserve federal banks transmitted monies through telegraph lines. The website of Bankeronline (bankeronline.com) offers a comprehensive definition of e-banking: "ebanking is a comprehensive word referring to a process by which customers can make financial transactions electronically with no need for physical presence in banks". According to this definition, a group of services like pc-banking, internet-banking, virtual banking, online-banking, home banking, remote e-banking and phone banking place in this category[23]. There are different definitions for the quality of electronic services. In England, for example, website accessibility, trust, customer care and website reputation are the variables of e-services while in Hong Kong, reputation, effectiveness, problem solving capability and security are the variables of e-services. In Sweden, reputation, effectiveness, meeting needs, security, website reputation and direct access are major measures of e-services. In Taiwan, however, effectiveness, meeting needs, security, relationship, competence and website conformity with cultural issues are the important qualitative measures of e-services[24]. Customer satisfaction is likely the major factor showing the

mentioned measures. Knowing the possibility of experiencing losses in long-term, many customers keep their inclination to those e-services that have no negative effect on their advantages and meet their needs and finally results in their satisfaction.

This theoretical consider effectiveness, work completion, direct access, security and privacy as e-service quality measures.

2.4. QoS and Customer Satisfaction

In most organizations, customer satisfaction and QoS are two critical interrelated subjects so that the improvement of the former can result in the promotion of the latter [25].The quality of services is closely related to customer satisfaction in the banking system[26].This is why banks try to use more technology-based tools and pay attention to the need for assessing customers' confidence and trust to the services simultaneous with the increased use of e-banking tools and changing their customers' behavior. Considering the fact that banks provide almost the same services to their customers, banks managers should make a difference in providing services to customer in order to continue the competition and attract their customers' satisfaction and loyalty [27].

The emphasis of previous discussions was that which one of the two mentioned factors is preferred to the other or in other words, does customer satisfaction promote QoS[28]? Bolton et al. (1991)[6], employed *services equal to a vision* hypothesis as a base to determine the preference of customer satisfaction to QoS. Gronrose (2001) has defined QoS as the degree of difference between customers' perception of services and their expectations [26]. Anderson et al (1998)[21] believe that satisfaction demands consumption experience and depends on the price while the quality can be achieved without consumption experience and it is generally independent from the price. Although a number of studies have separated satisfaction and quality, the unsolved problem is the sequence of quality and satisfaction.

Paramason et al (1991)[29] argued that higher quality of perceived services promotes customer satisfaction. According to their vision, if customers' expectations become higher than the performance of services this will result in dissatisfaction. Therefore, they believe that this is QoS that results in customer satisfaction. Customer satisfaction and QoS have been determined as the history of customers' loyalty. Direct attention to the study of customer satisfaction, especially identifying a positive relationship between satisfaction and loyalty results will complete service literature [30].

2.5. Perceived Value

Perceived value is defined as a customer's assessment of its payment for a given product or service and the advantages of that product or service [4]. Zithamal(1988)[31] defines perceived value as a customer's total assessment of the desirability of a product or service based on his/her perception of the received advantages versus expenses[20]. The received advantages could be in the form of both tangible and intangible advantages. The expenses of a customer for receiving a given service can be in the form of money, time, energy, attempts and experienced stress. On the other hand, value assessment is measured in relation with communication advantages as well as change. In other words, as companies create value continuously for themselves this increases customers' advantages as well. To increase this type of values, companies should establish a long-term relationship with their customers and increase the dimensions of relational advantages based on relational marketing. According to research, from relational advantages points of view, customer satisfaction can affect by increased perceived value [32].This theoretical consider acquisition, transfers, website availability and amortization as the dimensions of e-service advantages. They defined financial costs, spent time, attempts for the use of e-banking services and social costs as the dimensions of banking services. Their studies showed that higher levels of perceived QoS, especially in organizations, results in higher levels of customer satisfaction and company's performance. A customer tries to reduce cost dimension as much as possible. This requires activities for avoidance of considerable losses before making a payment [13].

3. Conceptual Model-Hypothesis and methods

Fig. 1 shows the conceptual model of this study in accordance with the study literature. There are four hypotheses regarding the conceptual model investigating the effect of e-service quality, perceived cost and perceived advantage on customer satisfaction.

H1a: The quality of e-services has a positive effect on customer perceived advantage
H1b: The quality of e-services has a negative effect on customer perceived cost
H2a: Perceived advantage has a positive effect on customer satisfaction
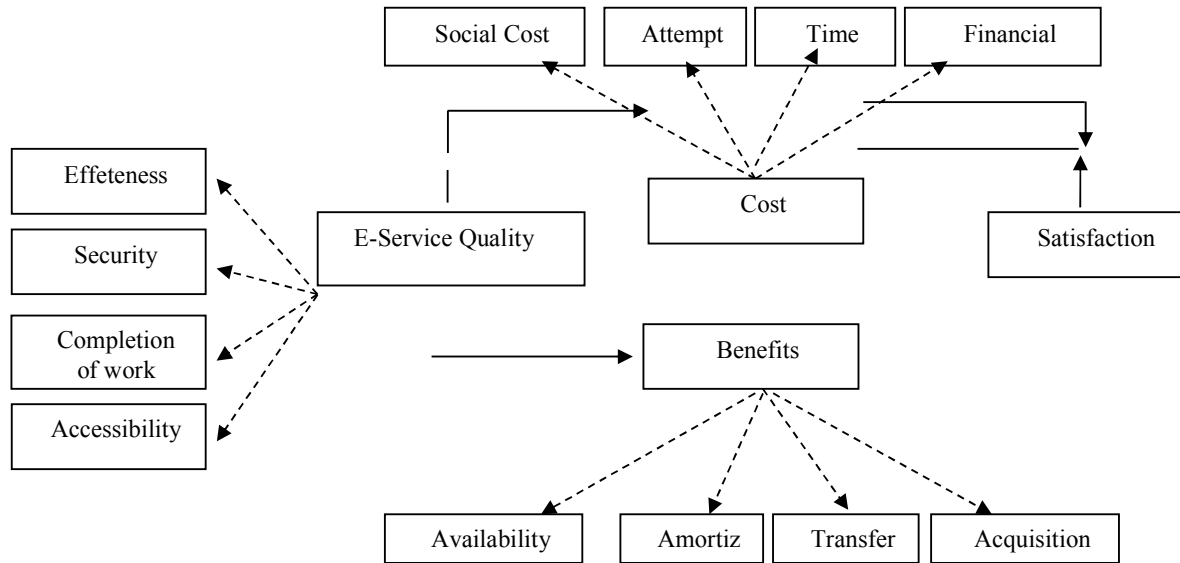H2b: Perceived cost has a negative effect on customer satisfaction

Fig. 1. Conceptual model

3.1.METHODOLOGY

This is an applied study in terms of objective and a descriptive study in terms of method. The study population consists of the managers of Guilan manufacturing companies who use e-banking services of Mellat Bank. According to the statistics of the Informatics department of the studied bank as well as the credit department of its branches, 120 managers of Guilan manufacturing companies have an account in Mellat Bank under the name of their company. Sampling process was not practiced due to the limited number of population. 120 questionnaires were distributed among the cases 106 of which were returned with answers to the researcher. This means that the return and use rate of this questionnaire was 88%. Likert-five point scale (very low, low, very high, high and moderate) was used to score the variables of this study.

The scores of 5, 4, 3, 2 and 1 were assigned to the scales of very high, high, moderate, low and very low, respectively. The mean score of variables was used to analyze the questions. Data was collected through field study as well as researcher-made questionnaire. Faroughianet al(2012)[33] questionnaire, designed, was used to measure the influential factors on customer satisfaction. This questionnaire has two sections. The first section contains demographic data of the studied bank customers including sexuality, education and the duration they use Mellat Bank services. The second section covers the questionnaire variables including the quality of e-services, customer perceived advantage, customer perceived cost and customer satisfaction. The opinions of scholars and experts were used to measure the face validity by which its structural errors were recognized and appropriate actions were made to meet face validity. The sustainability or conformability of this study can be assessed by a reliability coefficient like Cronbach's alpha. The reliability coefficient of Cronach's alpha, ranges from 0.0 (not sustainable) to 1.0 (full sustainable). The closer the obtained value to 0.1 the more reliable the questionnaire. A sustainability value between 0.6 and 0.8 is sufficient for examining the study's targets. In most resources the acceptable range is >0.7. Formula 1) Cronbach's alpha

$$ r_a = \frac{j}{j-1}\left(1 - \frac{\sum S_j^2}{S^2}\right) $$

Where

$\quad$ J= number of the subsets of test or questionnaire questions

S_j^2 $\quad$ =variance of the jth sub test

$\quad$ = variance of whole test

S^2

According to table 1, the cronbach's alpha of all variables is above 0.7. Therefore, one can claim that the questionnaire has an ideal validity. The study's hypotheses were examined using structural equations. Also, regression was used to examine the hypotheses and to find their impacts.

Table 1 Cronbach's alpha of variables

item	Variable	Cronbach'salpha
1	e-service quality	81%
2	Customer perceived advantages	74%
3	Customer perceived costs	73%
4	Customer satisfaction	79%

4.Analysis and Result

Table 2 explains the responders' data including sexuality, age, education and duration of activity. Table 3 explains the study's variables including e-service quality, advantages, costs and satisfaction.

Table 2 responders' data

Responders' Data	frequency	percentage	Responders' Data	Frequency	percentage
Sexuality			Education		
Female	11	10.3%	Under diploma	6	5.7%
Male	91	85.7%	Diploma Above	15	14.2%
Total	102	96.2% 3.8%	diploma B.S.	28	26.4%
No answer	4	100%	M.S and above	48	45.3%
Total	106		Total	5	4.7%
Age		13.2%	No answer	102	96.3%
20<age<30	14	45.3%	Total	4	3.7%
30<age<40	48	34.9%	Service use duration	106	100%
40<age<50	37	3.8%	<5 years		
Age>50	4	97.2%	5<duration<10	86	81.1%
Total	103			16	15.1%
No answer	3 106	2.8%	>10 years total	4	3.8%
Total		100%		106	100%

Table 3 descriptive statistics of variables

Descriptive statistics	count	The minimum	The maximum	Mean	Standard deviation	Variance
e-service quality	106	2	4.67	3.73	0.42	0.2
Benefits	106	2	5	3.73	0.409	0.168
Costs	106	2	4.44	3.49	0.433	0.188
Satisfaction	106	1	5	3.82	0.923	0.853

4.1.Evaluation of Structural Model

In PLS method (Partial Least Square), the study's model is evaluated through the following ways:

a)   The evaluation of the validity and reliability of the model measuring the relationship between observed variables with corresponding latent variable

b)   The evaluation of structural model aimed at studying the relationship of latent variables with each other

Table 10 evaluates the study's model reliability

Table 4 evaluation of the model's reliability

Structure and measuring index		Load of each structure		Composite reliability (PC)	Average variances (AVE)	outp
		Factor load	t statistics			
benefits				0.74	0.53	
	Transfers	0.65	3.98			
	Availability	0.68	5.28			
	Amortization	0.59	4.10			
	acquisition	0.740	7.19			
cost				0.73	0.51	
	Financial costs	0.56	3.47			
	Time	0.58	3.50			
	Attempt	0.66	3.56			
	Social costs	0.71	6.11			
e-service quality				0.81	0.58	
	Effectiveness	0.68	4.84			
	Completion of work	0.81	10.09			
	Accessibility	0.49	2.98			
	Security	0.52	3.70			
Satisfaction	Satisfaction and happiness	0.93	2.16	0.79	0.52	

According to table 4, the factor load of each variable is statistically significant because the derived t-statistics for all is above

1.96. However, the composite reliability is higher than 0.7 for every variable according to Fornell and Larcker scale (1981) [Fornell C. &Larcker, D.]. Therefore, the reliability of measuring tool is confirmed. According to Fornell and Larcker scale, increasing of AVE above 0.5 should be met to achieve convergent validity. Therefore, according to the values, it can be claimed that the convergent validity of the measuring model is satisfied.

4.2.Descriptive Statistic Results

In the following, you may find the results of the examination and analysis of this study's variables based on the average value of variables factors.

E-service quality is an independent variable with the following factors: rapid response of the website of the studied bank during the use of e-services, accurate notification of running a new e-service, acceptable service speed for a given business, reliable high security of system during the use of services and the capability of a company in managing its accounts through e-banking services. According to the analysis of customers' opinions, the average value of all factors associated with eservice quality is above the average score of 3 in LFPS (Likert Five Point Scale).

Advantage is a behavior predictor variable with the following factors: positive effect on income and the quality of financial transfers, improvement of cash flow and general performance of company and simpler e-services than past. According to the analysis of customers' opinions, the average of all factors associated with advantage is above the average score of 3 in LFPS. Cost is another behavior predictor variable with the following factors: monetary investment, saving time, activation of another business thanks to the use of the bank e-services and training the bank employees. According to the analysis of customers' opinions, the average of all factors associated with cost is slightly above the average score of 3 in LFPS.

Satisfaction is the dependent variable of this study with the following factors: more satisfaction than past due to the use of Mellat bank e-services. Regarding the fact that the average expected score of society variable in the Likert scale is 3, the analysis of customers' opinions showed that the average of all factors associated with satisfaction is slightly above the average score of 3.

4.3.Inferential Statistics Results

According to the results of examining the hypotheses of this study, the value of t-statistics lies inside the standard range for all variables but H2b and the hypotheses were confirmed. That hypothesis which was not outside the standard range was statistically rejected. It can be concluded that the quality of e-services provided by Mellat Bank to its customers can be seen as an advantage resulting in increased advantages and decreased costs for customers. Therefore, hypotheses H1a and H1b were confirmed. It should be mentioned, however, that in the study of Faringham et al (2012), the hypothesis stating that the quality of e-services affects customer perceived advantage and perceived cost was rejected. This implies the need for continuous concentration on investing on the quality of e-services in order to retain customer perceived advantage. Regarding the average value of the variables factors, our results revealed that as the effectiveness of e-services increases or in other words as the website responds more rapidly, the awareness of customers of the quality of baking operations increases. This makes it possible to perform banking operations through the website and promote the accessibility and security of the bank. The population of this study has perceived these advantages so that the security and rapid access to the system on the one hand and the instant response of the system on the other hand have decreased banking costs of customers. It should be noted that costs are not merely the financial costs associated with referring to the bank. Rather, in addition to this type of costs, spending less time for performing banking operations or other social costs like inappropriate behavior of the employees of Mellat Bank with its customers in excuse of having a lot of works, are a kind of cost in customers' view. Thus, as e-services of the bank increases, this type of costs decreases and customers gain more advantages.

Similar to the hypotheses of Faringham et al (2012) study stating the effect of customer perceived advantages on satisfaction, H1b hypothesis is confirmed too. In other words, obtaining advantage results in the increased satisfaction of a person and he/she will share this satisfaction with others while in the event of dissatisfaction he/she will decide to leave the bank. This implies, in fact, that the costs associated with preventing a customer leave depend directly on the obtained advantages. It can be concluded that, the more advantage the more difficult and costly decision for leaving the bank. H2b hypothesis is rejected similar to the hypothesis of Faringham et al (2012) study stating that appeared costs do not affect customer satisfaction.

Table 5- hypotheses examination in summary

hypothesis	coefficient	t-statistics	result
H1a E-service quality has a positive effect on customer perceived advantage	0.591	6.276	confirmed
H1b E-service quality has a negative effect on customer perceived cost	-0.321	3.285	confirmed
H2a perceived advantage has a positive effect on customer satisfaction	0.154	2.17	confirmed
H2b perceived cost has a negative effect on customer satisfaction	0.016	0.131	rejected

5.Conclusion and Suggestion

The analysis of the study's data concludes that the quality of e-services provided by Mellat Bank to its customers can be considered as an advantage increasing and decreasing customers' advantages and costs, respectively. Regarding the average value of the variables factors, our results reveals that as the effectiveness of e-services increases or in other words as website responds more rapidly, the awareness of customers of the quality of baking operations increases. This makes it possible to perform banking operations through the website and promote the accessibility and security of the bank. The population of this study has perceived the advantages so that the security and rapid access to the system on the one hand and the instant response of the system on the other hand have decreased banking costs of customers. It should be noted that costs are not merely financial costs associated with referring to the bank. Rather, in addition to this type of costs, spending less time for performing banking operations as well as other social costs like inappropriate behavior of the employees of Mellat Bank in excuse of having a lot of works, are a kind of cost in customers' view. Therefore, as e-services of the bank increases this type of costs decreases and customers gain more advantages.

According to the information derived from each variable factor, there is a significant relationship between banking services and advantages of the services while there is no relationship between the former and perceived costs. Meanwhile, the average values of security and accessibility factors, which are a subset of the quality of banking services, were at the minimum level compared with other variables, although they were high individually. It seems that customers think that the security of Mellat Bank website for banking operations is at a low level. Also, the problems associated with the accessibility of other e-banking services, due to the limited number of ATM devices and disconnection from central server as a result of satellite and telecommunication problems can have negative effects on QoS.

We recommend bank managers to understand customers' concerns and treat with their information as confidential. They should make actions to provide customers easy access to e-banking tools. Perceived advantage significantly affects satisfaction while perceived cost does not. Within the subsets of the advantage category, availability has the minimum average value with the minimum effect on satisfaction. However, within cost forming factors, saving time has the minimum effect on satisfaction. It is suggested to raise web site accessibility in order to promote customer satisfaction. This requires the enhancement of network infrastructures because there is a relationship between availability and low time saving.

It is recommended for future studies to separately study the effect of each e-service of Mellat Bank, including phone-bank, internet bank, and mobile bank, POS and ATM, on the studied customers and compare the results with those of previous studies in order to determine the weakness and strength of Mellat Bank in every e-service. However, future studies can investigate the effect of perceived advantage and cost on customer satisfaction in different industrial situations and environments.

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