

# Investigation of the Impact of Intelligence Dimensions on Customers' Satisfaction

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## ABSTRACT

Intelligence is an instrument which makes it easy to reach competitive advantage and enables organizations to excel their competitors and obtain competitive advantage. The present research aims to investigate the impact of intelligence dimensions on customers' satisfaction in branches of Mellat Bank in Zanjan City, Iran. This study evaluates the impacts of market intelligence, technologic intelligence, competitive intelligence and social intelligence on customers' satisfaction. Questionnaire was used for data collection. Questionnaires were distributed in the branches of Mellat Bank in Zanjan City and 268 complete questionnaires were returned. Structural equations modeling method and LISREL software were used for data analysis. Results showed that market intelligence, technologic intelligence, competitive intelligence and social intelligence influenced customers' satisfaction directly.

**KEYWORDS:** market intelligence, technologic intelligence, competitive intelligence, social intelligence

## INTRODUCTION

The current age is the period of speed and unpredictable changes and the companies face with most difficult competition condition by presence of factors including vague boundaries among markets, fragmentation marketing, shortening of product life span, speed change of customer purchase patterns and becoming aware and skillful that was unprecedented. In this field, only organizations will have appropriate position in the area of competition That they place the core axis of their activities, the providing of customer demand and meeting of their needs, because the high level of customer satisfaction causes more loyalty (Rahnama, et. al, 2012).

Intelligence can be called "information explosion" which is obtained by high capability of access to information and indicates the large number of commercial databases across the world. Vast social and political changes, increasing trend of businesses, intensification of international competition, and rapid technological changes are other factors which result in explosion of information. In the past, organizations would never face serious opportunities and threats but contemporary multinational companies use logical techniques and are involved in businesses which are mostly similar to war than commerce. Considering the serious competition, these organizations have always investigated competitors in order to be able to make much of their resources and set aside their competitors (Combs & Moorhead, 1992). At present, intelligence is the final weapon which is used in economic wars and different industries and organizations use it as an instrument for winning economic wars. Different countries use experiences to turn raw data into applicable intelligence for improving their economic position (Kahaner, 1996). Most organizational victories in competitions are resulted from high-quality products and designs, effective marketing and strategic use of intelligence. In other words, most defeats are caused by inappropriate timings, incorrect judgments and inadequate use of intelligence (Fuld, 1995). Considering the importance of intelligence, it is necessary to conduct studies on it so that companies are able to use intelligence in order to find acceptable positions in international and competitive arenas.

## RESEARCH LITERATURE

### Customer satisfaction

One of the most challenging subjects in marketing and consumer behavior is consumer's selection and purchase Behavior (Vazifehdoost et. Al, 2014). Nowadays, with the markets getting more competitive and the working environment undergoing constant change, organizations have realized that they no longer face an expanding economic system with ever-growing markets. As a result, each and every customer has gained a new value. Customer satisfaction is considered as a factor encouraging customers to use the service again, though there is no guaranty that a satisfied customer will return for a repeat purchase (Haghighi, et. Al, 2012).

Many definitions have been presented for customer satisfaction. It has been defined as the degree to which performance of a company satisfies customers' needs. If corporate performance satisfies customers' needs, they feel

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satisfied. Otherwise, they feel dissatisfied (Divandari and Delkhah, 2005). Jamal and Naser also defined customer satisfaction as a feeling or attitude of a customer towards a product or service after using it. They argued that customer satisfaction is the direct consequence of marketer's activities which acts as a link between different stages of consumer's purchase behavior. For example, if customers are satisfied by special services, they will probably repeat purchase. Satisfied customers also talk about their experiences with other people and therefore get involved in positive word-of-mouth marketing (oral-verbal). In contrast, dissatisfied customers will probably disconnect their relationships with the company and get involved in negative word-of-mouth marketing. Moreover, behaviors like purchase repeat and word-of-mouth advertisements directly affect conservation and profitability of a company (Jamal & Naser, 2002).

### **Competitive intelligence**

Peterson (2000) defined competitive intelligence as applied recommendations which stem from a systematic process including planning, collection, data analysis and data transfer in external environment of an organization and can be effective in competitive strength of an organization or country. It can be said that organizations which look for competitive advantage are real users of intelligence. Competitive intelligence is the final output of filtered and analyzed commercial information. Intelligence is hidden in the past and present data and helps predict future and helps managers and leaders with making decisions (Patterson, 2000).

### **Market intelligence**

This type of intelligence holds responsibility for preparing and supplying present and future trends of needs and preferences of customers for new markets (Moshabbaki and Zangouyee Nejad, 2008). Today, many companies use intelligence for acquiring a market share and acquiring competitors' share. They also use intelligence for:

- Recognizing the present environment of market,
- Prediction of future environment of market,
- Analysis of economic, political and technological factors concerning their businesses,
- Identification of weak points and finding solutions for them
- Changing their present strategies or adjusting them.

### **Technological intelligence**

Cost-benefit analysis of new and present technologies and also prediction of technologies which will die in future and technologies which will be common in future is a responsibility of this kind of intelligence (Moshabbaki and Zangouyee, 2008).

Information technology revolution has provided companies with some advantages; because it has created new competition instruments. Information technology has had a deep impact on total process of production. Information technology is embedded in all elements of "value chain" and "supply chain" and has changed value-creating activities and nature of interactions among them. Moreover, it has influenced single activities and has promoted firms' abilities in discovering relationships among activities through new information flows.

### **Social intelligence**

This kind of intelligence includes financial and tax regulations, political and social issues and also some human resource and social subjects (Weis & Sub, 2007). Strategic and social intelligence includes rules, taxes and vast economic and political affairs and human resource issues. The fourth type of competitive intelligence i.e. strategic and social intelligence analyzes social behaviors. It must be said that the four types of intelligence are inter-related (Rezaeeiyan and Lashkar Boluki, 2010).

### **Conceptual framework of research**

After investigation of research literature, we present the following framework as conceptual model of the research. This model indicates causal relationships among five variables (market intelligence, technological intelligence, competitive intelligence, social intelligence and customers' satisfaction).

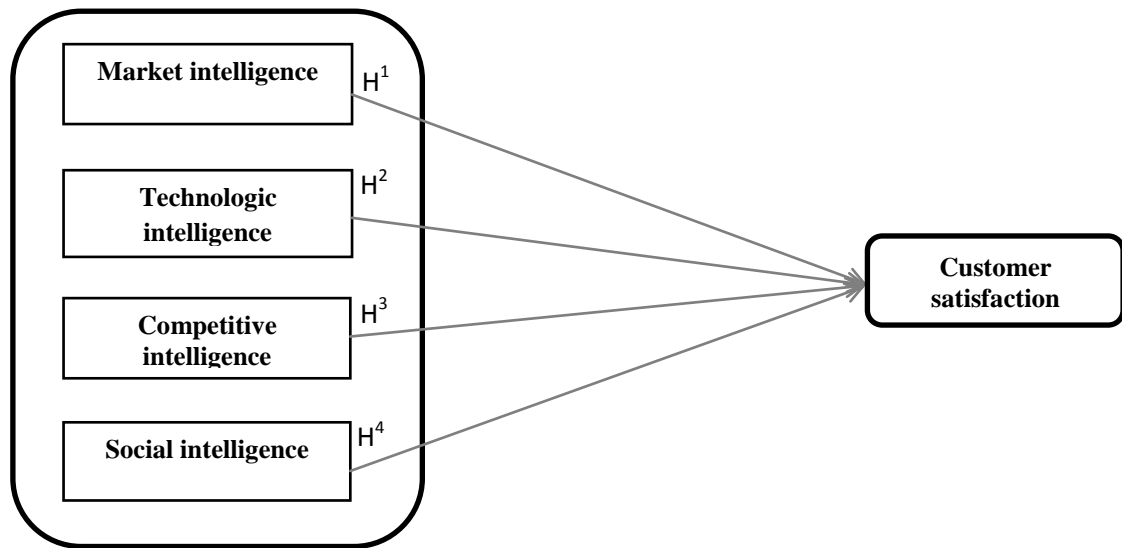


Figure 1: research conceptual model

### Research hypotheses

H1: market intelligence has a direct impact on customers' satisfaction.

H2: technologic intelligence has a direct impact on customers' satisfaction.

H3: competitive intelligence has a direct impact on customers' satisfaction.

H4: social intelligence has a direct impact on customers' satisfaction.

## RESEARCH METHODOLOGY

### Questionnaire

Questionnaire was used as data collection instrument. The questionnaire contained 4 questions for measuring latent variable of market intelligence, 6 questions for measuring technological intelligence, 4 questions for measuring social intelligence, 4 questions for measuring competitive intelligence and 4 questions for measuring customers' satisfaction. After preparation of the questionnaire, 30 questionnaires were distributed among customers as a pretest and for investigation of reliability. Cronbach's alpha was used for investigation of reliability. Results showed that Cronbach's alpha coefficients of all variables were greater than 0.7. Further, validity of the questionnaire was also verified by experts. Therefore, the questionnaire had enough validity and reliability for distribution among statistical population.

### Population and sample

Statistical population of the present research included all employees of Mellat Bank in Zanjan City, Iran. 268 people were selected for the survey. 268 questionnaires were randomly distributed among sample members. Demographic information of the respondents can be observed in table 1.

Table 1. demographic variables

Frequency percentage	frequency	dimensions	variable
61.2	182	male	gender
38.8	104	female	
24.1	69	Below 30	age
34.2	98	35-40	
29.1	83	40-50	
12.6	36	51 and above	
16.8	45	Below 3	experience
19.4	52	3-5	
30.6	82	6-10	
33.2	89	Above 10	

### Data analysis

Structural equations modeling method was used for testing research hypotheses and data analysis. This method is a statistical modeling technique which embraces other techniques like multivariate regression, factor analysis, and path analysis and its main emphasis is on latent variables which are defined by measurable and scalable variables. Structural

equations model has two parts: 1. Measurement model and 2. Structural model. Measurement model links a collection of observed variables to latent variables and structural model links latent variables to each other via a collection of direct and indirect relationships. Structural equations modeling calculations were carried out via LISREL software. Fitness of the research model is important for investigation of variables relationships. This can be observed via fit indices which are presented in final output of LISREL. Table 2 shows fit indices for the research model.

Table 2. Model fit indices

indices	Allowable range	Calculated numbers
Kai-2 over df	$\chi^2 / df < 3$	2.19
P value	P value < 0.05	0.0000
RMSEA	RMSEA < 0.08	0.07
Fit index	Above 0.9	0.91
Comparative fit index	Above 0.9	0.96
Normalized fit index	Above 0.9	0.93

As it can be seen in table 2, it can be said that all fit indices are in their allowable ranges and this is indicative of fitness of the research model (Kai-square to df is equal to 2.19, p is equal to 0.000, RMSEA is equal to 0.07, goodness of fit is equal to 0.91 and comparative fit index is equal to 0.96 and normalized fit index is equal to 0.93). In order to investigate research hypotheses, we used results of LISREL software calculations in two states of research model i.e. standard model (figure 2) and significance model (figure 3).

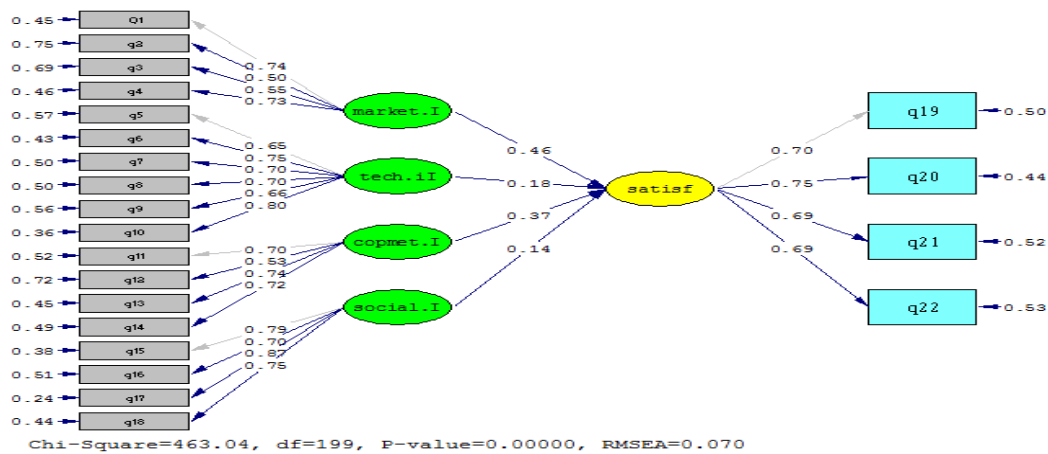


Figure 2. Research model in standard state

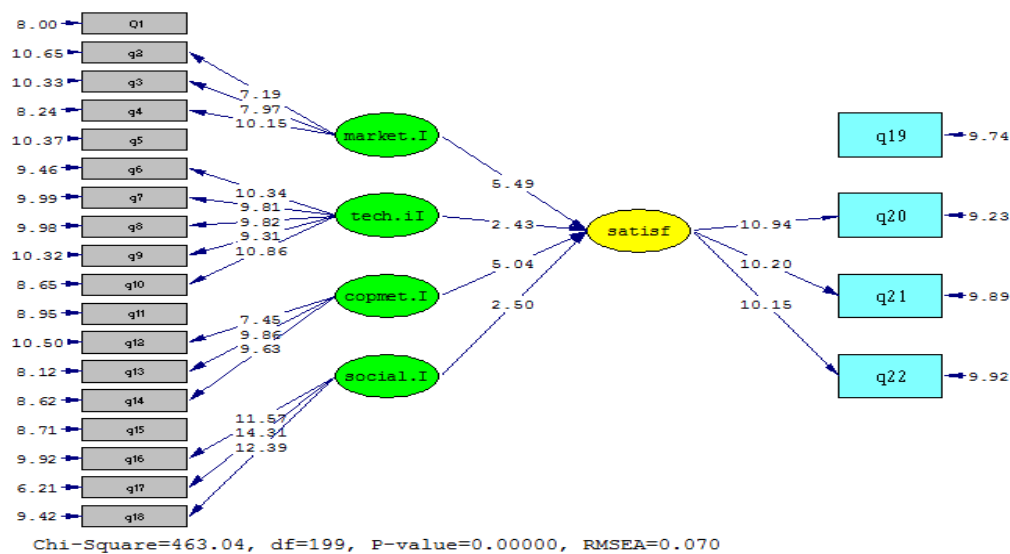


Figure 3. Research model in significance state

Measurement model: evaluation of measurement section of the model is more important than structural section. In evaluation of measurement of the model we investigate relationships among apparent variables (questions of questionnaire) and latent variables of the model. Considering the mentioned values for relationships between apparent and latent variables, all variables have appropriate factor loadings and all of them are significant. In other words, all observed variables have necessary reliability and validity in the model and they can be used for measuring latent variables and evaluation of research hypotheses.

Structural model: research hypotheses have been formed based on relationships among latent variables. These relationships can be observed in structural model. Therefore, we use structural model for investigation of research hypotheses. Considering the research model in significance and standard states, we examine research hypotheses in the following sentences:

H1: market intelligence has a direct influence on customers' satisfaction. Results show that market intelligence (with standard factor loading equal to 0.46 and  $t=5.49$ ) has a direct impact on customer satisfaction. Therefore, H1 is supported. In other words, as banks have more intelligence with respect to market, customers' satisfaction will increase.

H2: technologic intelligence has a direct influence on customers' satisfaction. Results show that technological intelligence (with standard factor loading equal to 0.18 and  $t=2.43$ ) has a direct impact on customer satisfaction. Therefore, H2 is supported. In other words, as banks have more technological intelligence, customers' satisfaction will increase.

H3: competitive intelligence has a direct influence on customers' satisfaction. Results show that competitive intelligence (with standard factor loading equal to 0.37 and  $t=4.04$ ) has a direct impact on customer satisfaction. Therefore, H3 is supported. In other words, as banks have more competitive intelligence, customers' satisfaction will increase.

H4: social intelligence has a direct influence on customers' satisfaction. Results show that social intelligence (with standard factor loading equal to 0.14 and  $t=2.5$ ) has a direct impact on customer satisfaction. Therefore, H4 is supported. In other words, as banks have more social intelligence, customers' satisfaction will increase.

## **DISCUSSION AND CONCLUSION**

In the present research we aimed to investigate the impact of bank intelligence dimensions on customers' satisfaction. To this end, different branches of Mellat Bank in Zanjan City (in Iran) were selected for data collection. Investigations showed that all research hypotheses were supported. Market intelligence with a factor loading equal to 0.46 was the main factor in satisfaction of customers from employees and managers viewpoints. Then, competitive intelligence was the second important and effective factor.

First hypothesis test revealed that there is a significant relationship between market intelligence and customers' satisfaction. Considering the positive sign of correlation coefficient, we can conclude that this relationship is direct. In other words, use of market intelligence in Mellat Bank will increase customers' satisfaction. In other words, the first hypothesis of the research is supported.

Second hypothesis test revealed that there is a significant relationship between technological intelligence and customers' satisfaction. Considering the positive sign of correlation coefficient, we can conclude that this relationship is direct. In other words, use of technological intelligence in Mellat Bank will increase customers' satisfaction. In other words, the second hypothesis of the research is supported.

Third hypothesis test revealed that there is a significant relationship between competitive intelligence and customers' satisfaction. Considering the positive sign of correlation coefficient, we can conclude that this relationship is direct. In other words, use of competitive intelligence in Mellat Bank will increase customers' satisfaction. In other words, the third hypothesis of the research is supported.

Fourth hypothesis test revealed that there is a significant relationship between social intelligence and customers' satisfaction. Considering the positive sign of correlation coefficient, we can conclude that this relationship is direct. In other words, use of social intelligence in Mellat Bank will increase customers' satisfaction. In other words, the fourth hypothesis of the research is supported.

Considering the results of hypotheses tests, the following recommendations are presented in order to help improve customer satisfaction in Mellat Bank:

- Improvement of internet system and online services
- Concentration on more up-to-date and more comprehensive methods of marketing
- Concentration on employees empowerment
- Steady evaluation of opportunities and environmental threats
- Improvement of customer database

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