

## Analysis of the Business Intelligence Function, the Inventors and Innovators Sanandaj City

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### ABSTRACT

Business Intelligence, a framework consisting of processes, tools and various technologies that convert data into information and information into knowledge are needed. Research, applied research, and data collection methods, descriptive - correlation survey, which examines how business intelligence among inventors and innovators has Sanandaj. The population have all inventors, entrepreneurs and successful scientists are in the city of Sanandaj, the number was 150, of which, according to Cochran's sample size calculation formula, 108 seats, as the sample was selected. The results of this study also showed that, among the decision criteria inventors, inventions and innovations, there is a significant relationship. So that, between process knowledge and ingenuity and invention, between ingenuity and invention to solve complex problems, and explore the power of ingenuity and invention, and the strengthening of the decision and the ingenuity and invention, there is significant relationship.

**KEYWORDS:** innovation, business intelligence, innovation, Sanandaj, inventors.

### INTRODUCTION

Today science has recognized the power and influence of mental excitement, and a place to discover and define intelligence, excitement and emotion in activities, behavior, movement and the human personality (Mokhtaripoor., 2006: 41 ). Third Millennium, become the principal wealth of information and knowledge, and business and manufacturing units to gain a competitive advantage, seek to use as much of the wealth in our momentous decisions in today's dynamic environment are. Indeed, given the rapid changes and environmental constraints in the business environment, the use of data and analyze them, have become a key strategy for any organization, and can be useful information in real time required is very important. Today, when managers spend to obtain information, it is much less than before, and the pressures of business, organizations are required to make decisions, based on preliminary data does business (BIDW, 2005). The problem today, is the lack of data, but also can convert raw data into information, which can increase the competitive advantage of organizations (Hocevar & Jaklic, 2010: 78). But the most important feature is that the current period, the tendency of managers to control and correct guidance system processes, as from time to time, and the birth of software and hardware for it is (Dorado, 2008).

Business Intelligence, a new System, standalone software program or project, but rather a framework consisting of processes, tools and various technologies that convert data into information and information into knowledge are needed. Using the knowledge gained, the managers can better make decisions, and action plan for the organization to effectively carry out commercial activities (Cates, 2005: 220). One of creating an environment of innovation, market understanding and awareness of the wide range of opportunities, and internal strengths and weaknesses, knowledge organization. Business intelligence and competitive intelligence with the capability to have a lot of information in this field provide for the organization. However, the competitiveness of an organization is another factor in creating an innovative environment, plays an important role, it can be concluded that, in fact, an organization's innovativeness, competitiveness, it is meaningless without (Salehzadeh., et al, 2010).

Therefore, business intelligence, is the term, a range of analytical tools, and solutions for the collection, integration, analysis and creation of access to information in a way that allows the user to organize, make better business decisions (Aldelman and et al, 2002), this applies to all the creative and innovative people, is correct. In other words, business intelligence, facilitating the connection of the new approach considers the organization that makes the information real-time to achieve a centralized repository, and analyzes obtained that the general level or horizontal, inside or outside business enterprise to be operational (Malhotra, 2000).

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### Capabilities of business intelligence solutions

Business intelligence solutions, facilities coordinator, to facilitate the decision making process at all levels of the organization, which is low cost and can easily be implemented.

- Coordination of data: Typically, in organizations, there is a lot of information distribution. Using different tools, makes up different databases with different structures within an organization can develop. Information services coordinators, and business intelligence solutions, makes it possible to centralize the database of valuable information for decision-making is constructed.

- Data storage: As described, the distribution of information in organizations is one of the biggest problems. Data storage, makes it possible to important data, after leaving behind the stage, coordination, focus should be placed in a database.

- Dashboard reports: several ways to display data in various reports, but this is only part of the way business intelligence. A report should be effectively well with the audience, interact, and to meet their needs.

- OLAP: functionality that access to information to create reports and analyze data for non-technical users, it is possible.

- Monitoring can be used to monitor the condition monitoring of important goals, and their progress under consideration. For example, one of the sales targets of one month can be compared with actual sales, and the decision to sell planning.

- Analysis of information and display them in various forms, business intelligence work is only the first step. This way, a powerful tool of analysis for different groups and different threads, are available to people (www.mgtsolution.com).

## LITERATURE REVIEW

William and Andy (2009), in an article critical success factors in the implementation of business intelligence systems studied, and the success of the organization stressed.

Mahmoodi (2008), in an article entitled, approach to the construction and implementation of business intelligence systems, it was concluded that, BI systems need to be implemented quickly, it is very difficult because such systems are specific to each company. However, depending on the effective component in reducing construction time business intelligence, in the implementation of necessary actions that have already been tested, and are generalized to work. Such solutions allow better compliance systems are discussed, as will the company 's IT infrastructure.

Mirabi et al ( 2010), business intelligence applications in banking, analyzed data, and concluded that the high level reports for executives, reducing costs, improving corporate communications, increase customer satisfaction, fast response to changes environment, given the time required to react against them, reducing banking costs, increase profitability, banks, understanding individual behavior of customers, reduce risk and increase market share, the most important advantage is the use of business intelligence systems.

Nabavi and Mahmoodi (2010 ), in an article entitled, as a business intelligence application of modern information technology in the banking industry, the scope of its application ventures, marketing and fraud detection insists.

Barahooee and et al (2012 ) examined the business intelligence concepts, general and its importance from the perspective of the organization began, and the first to introduce commercial and general intelligence and its implications, and further research in the field, most applications business intelligence, firms from the perspective of economic management, has determined.

### Research hypotheses

1. The processing of knowledge, ingenuity and invention, there is significant relationship.
2. Between solving complex problems, and the ingenuity and invention, there is significant relationship.
3. Explore the power and ingenuity and invention, there is significant relationship.
4. The strengthening of the decision, and the ingenuity and invention, there is significant relationship.
5. Between competitive ability and ingenuity and invention, there is significant relationship.

## RESEARCH METHODOLOGY AND STATISTICAL SOCIETY

Research, applied research, and data collection methods, descriptive - survey correlation. Population, have all inventors and successful entrepreneurs and scientists in the City are a total of 150 persons, of which, according to the formula for calculating sample size Cochran 108, as the sample was selected, for data collection in this research, library resources and interviews with a range of managers, and the questionnaires were distributed. Questionnaire used is composed of two parts, the first part of the person specification and job-related, and the second part including inventory decision support components, has been on inventors. The questionnaire consists of 20 questions which, for any questions, 5 answers, from totally agree to totally disagree

considered, and in many studies, has proved its reliability and validity. To check the validity of academic experts, was used by calculating Cronbach's alpha reliability of the questionnaire was measured, which is equivalent to 0/775, respectively. To investigate these hypotheses, inferential statistics and tests t, ANOVA, and linear regression was used to test significance.

### The analysis tests the hypothesis

The questionnaire included demographic characteristics - Job respondents ( age, gender, level of education), they are. %31 of 108 respondents, Diploma, 40/7 percent, BA 15/3, graduate, doctoral and 27 percent. 25/4 percent of respondents under the age from 30, %33/6 of respondents between thirty to forty years, 19/7, forty to fifty years, and 20/3, more than fifty years of age, are. More than respondents ie %65/6 male, and less than 34/4 are women.

### Findings

To investigate these hypotheses, inferential statistics, and test t, ANOVA and linear regression significance test has been used.

Hypothesis 1: the process knowledge, ingenuity and invention, there is significant relationship.

Results of ANOVA table, is as follows:

**Table 1 - Results of Testing Hypothesis 1**

ANOVA Variable power bounce					table
The probability	Statistics <i>F</i>	The mean square	The sum of squares	Source of variation	
0/398	0/789	151/178	326/287	Knowledge processing	
		184/885	18488/541	error	
			18805/845	sum	

According to the above table, one can see that,  $F$  whereas the 0/789, the value is very small, and the probability of 0/398, which is possible because the amount is large, and we have:  $p - value = 0/446 > \alpha = 0/05$  So no reason to reject the null hypothesis at a significance level  $\alpha = \%5$  Does not have the processing power and knowledge between innovation and invention, there is no significant relationship.

Hypothesis 2: the resolution of complex problems and the ingenuity and invention, there is significant relationship.

ANOVA table, is as follows:

**Table 2 - Test results of Hypothesis 2.**

ANOVA					table
Variable power bounce					
Source of variation	of	Source of variation	of	Source of variation	
0/203	1/112	441/16	1183/81	Solve complex problems	
		218/121	17722/26	error	
			17805/78	sum	

According to the above table, one can see that,  $F$  whereas the 1/112 and the amount is small, and the probability of 0/203, which is because the probability is small, and we have:  $p - value = 0/133 > \alpha = 0/05$  So no reason to reject the null hypothesis at a significance level  $\alpha = \%5$  No, that is the solution of complex problems and the ingenuity and invention, there is no significant relationship.

Hypothesis 3: the power of exploration and ingenuity and invention, there is significant relationship. The results are as follows:

**Table 3 - Test results of Hypothesis 3**

ANOVA					table
Variable power bounce					
Source of variation	of	Source of variation	of	Source of variation	
0/191	1/333	431/16	1214/76	Power Exploration	
		221/121	16612/24	error	
			16805/78	sum	

As shown in the above table, it is observed, the test statistic  $t$  to 1/333 is a probability value ( $p$ -value). Equal to 0/91, that is, the  $p - value = 0/189 > \alpha = 0/05$ . After a significant level of 5%, there is no reason to reject the null hypothesis, the power of exploration and ingenuity and invention, there is significant relationship.

Hypothesis 4: the strengthening of the decision and the ingenuity and invention, there is significant relationship.

Results of ANOVA table, is as follows:

**Table 4 - Results of hypothesis testing 4**

ANOVA Variable power bounce					table
Source of variation	of	Source of variation	of	Source of variation	of
0/701	0/609	108/46	501/189	Strengthen the decision-making	
		187/441	20221/538	error	
		--	20608/736	sum	

According to the above table, one can see that, whereas the 0/609, the value is very small, and the probability of 0/701, which is possible because the amount is small, and we:  $p - value = 0/693 > \alpha = 0/05$ . So no reason to reject the null hypothesis at a significance level  $\alpha = 5\%$ . No, the strengthening of the decision and the ingenuity and invention, there is significant relationship.

Hypothesis 5: The competitive strength and ingenuity and invention, there is significant relationship. Results of ANOVA table, is as follows:

**Table 5 - Results of hypothesis testing 5**

ANOVA Variable power bounce					table
Source of variation	of	Source of variation	of	Source of variation	of
0/422	2/358	778/201	778/216	Competitive	
		184/102	18809/258	error	
		--	20101/625	sum	

According to the above table, one can see that, whereas the 2/358 which is great value, and the probability of 0/422, which is possible because the amount is not small, and we  $p - value = 0/31 < \alpha = 0/05$ . The null hypothesis at a significance level  $\alpha = 5\%$  Can not be denied, that the competitive strength and ingenuity and invention, there is significant relationship.

## RESULTS

Set of BI capabilities, technologies, tools and approaches that, to better understand the creative and intellectual property, business conditions could help. Business intelligence tools, the views of past, present and future are available to people. With the implementation of business intelligence solutions, the gap between the levels of creativity, from the perspective of information communication, will disappear, and the required information for managers at every level in time and with high quality, they will be provided. The experts and analysts can, using simple features, improve their operations, and to find better results.

Business intelligence to the organization because all the data on a page, gathering, and using charts and forms, easily interpreted for managers and employees are a valuable tool in today's competitive environment are considered. Leaders of organizations are using dashboards, instead of wasting time reading reports, complex and incomprehensible, and extract the needed information from them, its time to correct and clarify decisions, allocate, and its competitive advantage, the same rapid response to the changing conditions of use. The results of this study also showed that, the decision of inventors, inventions and innovations, there is a significant relationship. So that, between process knowledge and ingenuity and invention, between solving complex problems, and the ingenuity and invention, between the power of the exploration, and ingenuity and invention, and the strengthening of the decision, and the ingenuity and invention, a significant relationship there.

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