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The Relationship between Three types of Employees' Intelligence and Job Satisfaction in International Companies

Mohammad Hossein Ronaghi[1]*, Kamran Feizi[2], Leila Farshad[3].
[1]University of Tehran, Tehran, Iran
[2]Faculty of management, Allameh Tabatabai University, Tehran, Iran
[3]Shiraz University, Shiraz, Iran.

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Author(s):
Mohammad Hossein Ronaghi*,
Kamran Feizi, Leila Farshad.

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Corresponding Author:
Mohammad Hossein Ronaghi.
University of Tehran, Tehran, Iran.

E-mail: : mh_ronaghi@ut.ac.ir
Tel: +989123932421

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Abstract

Organizational effectiveness is important to success in any industries. In order to achieve increased and sustainable business results, organizations need to use suitable strategy to engage personnel. To create organizational effectiveness, business managers must focus on attracting and retaining profitable employees. Human resources are the most valuable capital in an organization. In this paper a model is developed of employees' intelligences based on the outcomes of previous researches and semi-structured interviews with experts in human resources. To examine the model a descriptive survey was applied. The survey sample population consisted of 455 randomly taken employees who work in international companies in Iran, according to a cluster random sampling skim. An important part of the results revealed emotional and cultural intelligence relate directly with job satisfaction. Also, Logical intelligence does not relate with cultural and emotional intelligence.

Introduction

Since the beginning of our existence, humans have searched for order in their world. Part of this search has focused on observed individual differences between and among different individuals and groups. This search has been propelled by the only universal proven law of human behavior—the law of individual differences (McGrew, 2009). People differ on many characteristics and are more different than they are alike (Killgore & Weber, 2012).

Undoubtedly, proficient and skillful human force is one of the most important elements that help organizations to achieve their goals, because human force plays a significant role in changing the level of productivity. Intelligent individuals are more skilled to cope with life activities and they have productive thinking which often includes affective awareness (O'Boyle & Hamphrey, 2011).

Indeed, reaching to optimum productivity is the most considerable aim of each organization. Within the past 30 years research investigating factors that contribute to success in workplace have resulted in distinguishing factors that are affiliated to workplace intelligence. These researches used quantified data on performance from countless organizations and industries and have contributed to the knowledge base in intelligence (Herman et al., 2008). Researchers have described various aspects for intelligence but the relationship between different aspects of intelligence has not been clearly reviewed.

This study investigates three types of employees' intelligence and their job satisfaction in international companies. At the end, a model was illustrated that shows the correlation between these variables. Before analyzing the hypothesis and a designed model for employees' intelligence, we began to review the existing literature on intelligence types and dimensions.

Emotional intelligence (EI)

Emotional Intelligence, the term originally conceived by Salovey and Mayer et al. (2002) and later in 1996 being popularized by Goleman (Chapman & Clarke, 2003), has been increasingly gaining acceptance during the last years (Orme & Bar, 2002). Nowadays, Emotional Intelligence "the ability to identify and manage feelings, both one's own and other people's" is one of the key issues when talking about improving people and business performance and job satisfaction (Jordan & Ashkanasy, 2009). Emotional Intelligence seems to be a powerful tool to understand and manage feelings and emotions.

Emotional Intelligence is "the ability to perceive and express emotion, assimilate emotion in thought,

understand and reason with emotion, and regulate emotion in self and others" (Mayer *et al,* 2002). It includes:
• Self-awareness: Knowing our feelings at the moment and using them as a guide to our decision making.
• Self-management: Handling our emotions so that they facilitate rather than interfere.
• Social awareness: Sensing people feelings, the ability to take their perspective.
• Social skills: Handling emotions in relationships well and reading carefully social situations, interacting in a smooth way. (Watkin, 2000)

Summarizing what EI comprises shows the Emotional Competence Framework (Goleman, 2001). Goleman (2001) categorized EI into two parts: Personal Competence and Social Competence.

Cultural intelligence (CI)

Cultural intelligence refers to an individual's capability to function effectively across cultures – this can include national, ethnic, organizational as well as other types of culture (Ang & Van Dyne, 2008; Earley & Ang, 2003). Rather than expecting individuals to master all the norms, values, and practices of the various cult
ures encountered, cultural intelligence helps leaders develop an overall perspective and repertoire that results in more effective leadership.

Cultural intelligence is an outsider's seemingly natural ability to interpret someone's unfamiliar and ambiguous gestures the way that person's compatriots would (Livermore, 2009).

Ang and Van Dyne divide CI into four factors that synthesize the volumes of material and perspectives on intelligence and cross-cultural performance. CI is composed of four qualitatively different capabilities and yet, each of the four factors is interrelated. For real effectiveness, employees need all four CI capabilities because focusing only on one factor of CI may actually result in increased cultural ignorance rather than resulting in enhanced cultural intelligence. This is because CI requires an overall repertoire of adaptive capabilities. Each four factors of CI are described below:

- Motivational CI: Showing interest, confidence, and drive to adapt cross-culturally
- Cognitive CI: Understanding cross-cultural issues and differences
- Metacognitive CI: Strategizing and making sense of culturally diverse experiences.
- Behavioral CI: Changing verbal and non-verbal actions appropriately when interacting cross-culturally

Logical intelligence

The concept of intelligence, which has long attracted the interests of scholars and lay persons alike, has been the result of people observing that "individuals differ from one another in their ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought" (Neisser et al., 1996).
Nine abilities are generally accepted. Brief definitions of the nine primary abilities are as follows (McGrew, 2009):

a. Fluid reasoning (Gf): The use of deliberate and controlled mental operations to solve novel problems that cannot be performed automatically. Inductive and deductive reasoning and logic are generally considered the hallmark indicators of Gf. Gf has been linked to the ability to handle greater degrees of cognitive complexity which is typically defined as more efficiency in processing a wider and diverse array of elementary cognitive processes (in active working memory) during cognitive performance.
b. Comprehension-knowledge (Gc): A person's breadth and depth of acquired knowledge of the language, information and concepts of a culture, and/or the application of this knowledge. Gc is primarily a store of verbal or language-based declarative (knowing what) and procedural (knowing how) knowledge acquired through the investment of other abilities during formal and informal educational and general life experiences.
c. Short-term memory (Gsm): The ability to apprehend and maintain awareness of a limited number of elements of information in the immediate situation (events that occurred in the last minute or so). It is a limited resource-capacity system that loses information quickly through the decay of memory traces, unless an individual activates other cognitive resources to maintain the information in immediate awareness.
d. Visual-spatial processing (Gv): The ability to generate, store, retrieve, and transform visual images and sensations in the "mind's eye." Gv abilities are typically measured by tasks (viz., figural or geometric stimuli) that require the perception and transformation of visual shapes, forms, or images or tasks that require maintaining spatial orientation with regard to objects that may change or move through space.
e. Auditory processing (Ga): Abilities that depend on sound as input and on the functioning of hearing. A key characteristic of Ga is the extent an individual can cognitively control (i.e., handle the competition between signal and noise) the perception of auditory information. The Ga domain circumscribes a wide range of abilities involved in the interpretation and organization of sounds, such as discriminating patterns in sounds and musical structure (often under background noise and/or distorting conditions) and the ability to analyze, manipulate, comprehend and synthesize sound elements, groups of sounds, or sound patterns.
f. Long-term storage and retrieval (Glr): The ability to store and consolidate new information in long-term memory and later fluently retrieve the stored information (e.g., concepts, ideas, items, names) through

Table 1:The Factors of Cultural Intelligence

Cultural Intelligence	
	intrinsic
	Extrinsic
Motivational CI	Self-efficacy
	verbal
	nonverbal
Behavioral CI	Speech acts
	Cultural system
Cognitive CI	
	Cultural norms & values
	Awareness
Metacognitive CI	planning
	checking

Table 2: The Factors of Emotional Intelligence

Personal competence	
	Emotional self-awareness
Self-awareness	Accurate self-assessment
	Self-confidence
	Self-control
	trustworthiness
	conscientiousness
Self-regulation	adaptability
	innovation
	Achievement drive
	commitment
	initiative
Motivation	optimistic
Social competence	
	Understanding others
	Developing others
	Service orientation
	Leveraging diversity
Empathy	Political awareness
	Influence
	Communication
	Conflict
	Management
	leadership
	Change catalyst
	Building bonds
	Collaboration & cooperation
Social Skills	Team capabilities

association. Memory consolidation and retrieval can be measured in terms of information stored for minutes, hours, weeks, or longer. Some Glr narrow abilities have been prominent in creativity research (e.g., production, ideational fluency, or associative fluency).

g. Cognitive processing speed (Gs): The ability to automatically and fluently perform relatively easy or over-learned elementary cognitive tasks, especially when high mental efficiency (i.e., attention and focused concentration) is required over a sustained period of time, typically measured by timed tasks.

h. Reading and writing (Grw): The breadth and depth of a person's acquired store of declarative and procedural reading and writing skills and knowledge. Grw includes both basic skills (e.g., reading and spelling of single words) and the ability to read and write complex connected discourse (e.g., reading comprehension and the ability to write a story).

i. Quantitative knowledge (Gq): The breadth and depth of a person's acquired store of declarative and procedural logical or numerical knowledge. Gq is largely acquired through the investment of other abilities primarily during formal educational experiences. Gq represents an individual's store of acquired mathematical knowledge, not reasoning with this knowledge (Kaufman, 2009).

Research Methodology

Research Factors and Measurement

Cultural intelligence factors: according to the literature (brought to you) in recent pages specially by Ang and Van Dyne's suggestion (2008), which could be suitably fitted to employees' cultural intelligence in international companies and the outcomes of eight semi structured interviews with experts in the relevant fields, it was categorized into 4 variables and 12 indicators. Table 1 shows these variables and their measuring indicator components.

Emotional intelligence factors: Goleman (2001) developed a 23-item measuring instrument to assess employees' emotional intelligence. We picked up this measuring instrument. In our mentioned interviews we could also obtained agreement of the experts to apply this instrument for this part of the research. (Table 2). Furthermore, employees' satisfaction was taken simply as answering to a question.

Logical intelligence factors: according to the McGraw research (2009), we could obtain agreement with three psychologists and five human resource experts. Table 3 shows these measuring indicator components.

The survey questionnaire

We used three questionnaires with 60 items extending

Table 3: The Factors of Logical Intelligence

Logical intelligence
Fluid reasoning
Comprehension-knowledge
Short-term memory
Visual-spatial processing
Auditory processing
Long-term storage and retrieval
Cognitive processing speed
Reading and writing
Logical knowledge

the concept of employee's intelligence and job satisfaction. The responses were measured on a 5-point semantic differential scale with 1= strongly disagree, and 5 = strongly agree.

Validity

The structure and content of our questionnaire were discussed with the experts in mentioned semi-structured interviews and some modifications were made to justify the validity of our measuring instrument. To remove possible ambiguities a pilot test was carried out at a convenience sample of 30 employees and as the result some miner clarifications were made in necessary points of a number of questions.

Reliability

Data accumulated through questionnaires were run through the Cronbach alpha reliability test. Cronbach's alpha was used to test the reliability and validity of data. The results showed that all alpha scores were more than 0.78. This approves reliability of the data gathering instrument.

The Population and Sampling

Our population was defined as the collection of all employees who work in international companies in Iran as a clarifying and accessible sample of employees in the world. According to our estimation, the size of population could be taken as unlimited. So, we had to collect more than 450 completed questionnaires (according to Morgan table). We selected samples among 38 international companies because of cultural differences.

Defining the procedure of sampling and gathering relevant data happened to be the most difficult and time-consuming part of our study. We intended to distribute the survey packages and collect completed ones via internet by the two-way process of email and reply. From our interviews with experts (mentioned in earlier parts of this article), we planned to collect about 800 employees' email addresses from their companies, according to a cluster random sampling skim.

Obtaining the addresses and emailing our survey package to each address took place almost simultaneously. The replies began to be received. The survey package contained a letter briefly and simply explaining our research aims, some hints to complete the questionnaires and a sentence of our sincere appreciation for those who help us by replying the questionnaires.

Research Hypotheses

Based on key factors and relations derived from the literature and our semi structured interviews, our hypotheses of the population of employees (for a sample of international companies in Iran) were formulated as follows:

H1: Logical intelligence is positively associated with job satisfaction.
H2: Emotional intelligence is positively associated with job satisfaction.
H3: Cultural intelligence is positively associated with job satisfaction.
H4: Logical intelligence is positively associated with Emotional intelligence.
H5: Cultural intelligence is positively associated with Emotional intelligence.
H6: Logical intelligence is positively associated with Cultural intelligence.

Data Analysis

This research is a descriptive survey and uses the logical paradigm. To examine the hypothesis, we used Spearman's rank correlation and Z test. The tests were conducted by SPSS version 17.0 for Windows operating system. The degree of significant assumed to be 5%.

The intelligence score of each employee was calculated by averaging its measuring question scores obtained from the questionnaires. Then, satisfaction scores were calculated. After that, the Spearman's rank correlation for each component was calculated. The results indicate that three types of intelligence positively associate with job satisfaction (Table 4) but cultural and emotional intelligence did not relate to logical intelligence.

We used z-test for testing the result in population, z-test was used because n was greater than 30. An example of null hypothesis is shown in the illustration below:

H_0: $\rho<=0$ $\quad E(r_s) = 0$

H_1: $\rho>0$ $\quad V(r_s) = \frac{1}{n-1}$

$$Z = \frac{r - E(r)}{\sqrt{V(r)}}$$

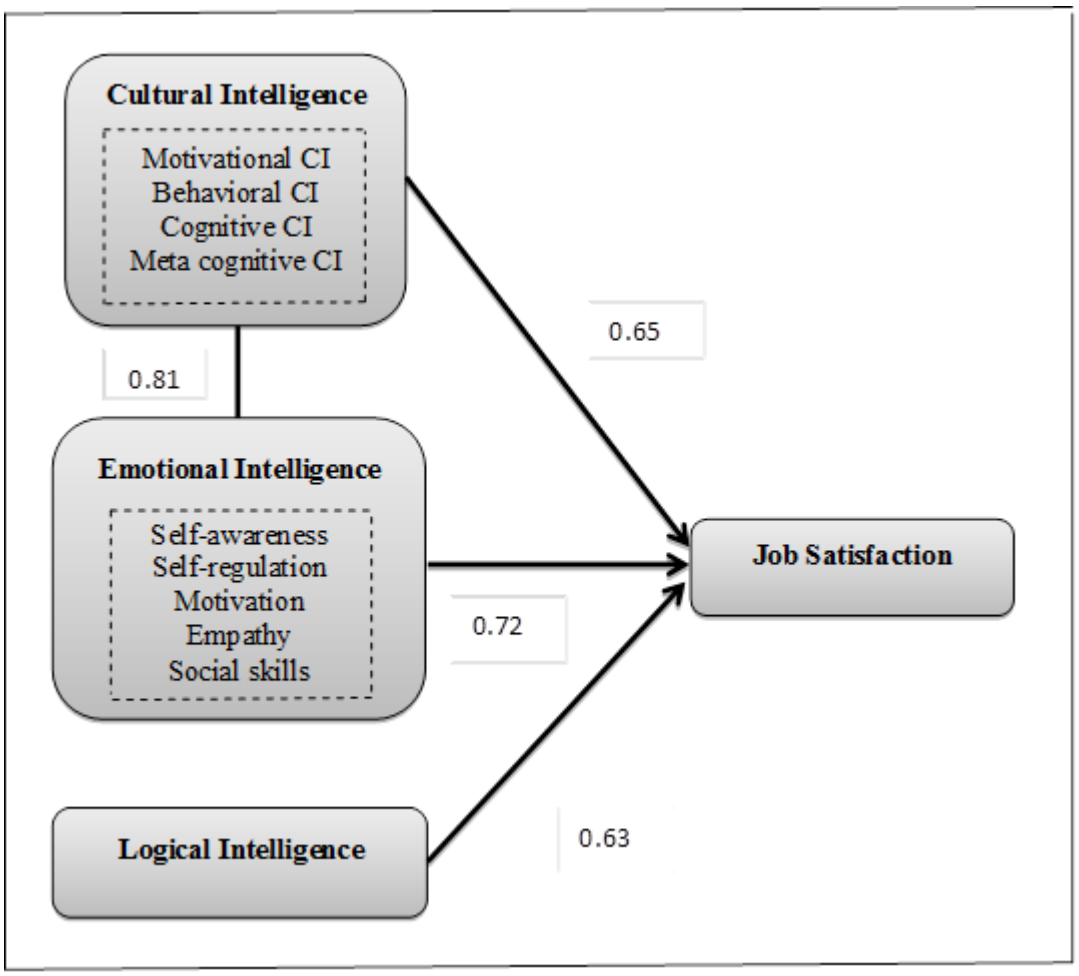
Our test value would place in acceptance region. The Decision is that we cannot accept H_0: $\rho<=0$ ($\alpha<5\%$).

Table 4: The Coefficient of Correlation between Research Variables

	Logical Intelligence	Emotional Intelligence	Cultural Intelligence	Job Satisfaction
Logical Intelligence	1.00			
Emotional Intelligence	0.00*	1.00		
Cultural Intelligence	0.00*	0.81*	1.00	
Job Satisfaction	0.63*	0.72*	0.65*	1.00

*The degree of significant is 5% in 2- tailed test

Figure 1*:* The research model



Based on the results, H1, H2, H3 and H5 were accepted.

The Model

The research results demonstrate a model that shows relationships between logical intelligence, emotional intelligence, cultural intelligence and job satisfaction. This model is based on employees' opinion in international companies in Iran. (Figure 1 where results of testing the model by R^2 is presented).

Conclusion

Employees' intelligence and job satisfaction are important factors contributing to business success. In this article, we developed a model to explain three types of employees' intelligence and their relations with job satisfaction. Our statistical population consists of employees of international companies in Iran. This paper also empirically defines the differences between logical, cultural and emotional intelligence. All kinds of

intelligence relate positively with job satisfaction. Our study results indicated that although there is a positive relationship between cultural intelligence and emotional intelligence, logical intelligence does not positively relate to cultural and emotional intelligence. It means that each employee with logical intelligence does not necessarily have cultural and emotional intelligence. We hope this research could help to remove some of the confusions surrounding the delicate relationships between three kinds of intelligence.

References

Ang S, Van Dyne L (2008). Handbook on cultural intelligence: Theory, measurement and applications. Armonk, NY: M.E. Sharpe.

Chapman M, Clarke R (2003). Is emotional intelligence development in police officers an antidote to stress? Competence & Emotional Intelligence Quarterly, 10 (3): 41-45.

Earley PC, Ang S (2003). Cultural intelligence. Stanford, CA: Stanford Univ. Press.

Goleman D (2001). An EI-based theory of performance. In C. Cherniss & D. Goleman (Eds.), The Emotionally Intelligent Workplace. San Francisco: Jossey-Bass.

Herman T, Huang X, Ashkanasy NM (2008). A study of the interactive effects of emotional intelligence and leader-member exchange quality on job attitudes in Chinese work teams. In: 23rd Annual Conf. Society for Industrial and Organizational Psychol. (SIOP), San Francisco, California, pp.10-12.

Jordan J, Ashkanasy M (2009). The science of emotional intelligence: Knowns and unknowns. United Kingdom: Oxford Univ. Press.

Kaufman AS (2009**).** IQ testing 101. New York: Springer Pub.

Killgore W, Weber S (2012). Gray matter correlates of Trait and Ability models of emotional intelligence**.** Cognitive Neuroscience and Neuropsychology Journal. Retrieved from http://journals.lww.com

Livermore D (2009). Leading with cultural intelligence*:* The new secret to success. New York: AMACOM.

Mayer JD, Caruso DR, Salovey P (2002***).*** Emotional intelligence meets standards for traditional intelligence*.* Intelligence, 27: 267 298.

McGrew K (2009). Editorial: CHC theory and the human cognitive abilities project: Standing on the shoulders of the giants of psychometric intelligence res. Intelligence*,* 37: 1-10.

Neisser U, Boodoo G, Bouchard TJ, JR, Boykin AW, Brody N, Ceci SJ (1996). Intelligence: Knowns and unknowns. Am. Psychol., 51: 77-101.

O'Boyle E, Humphrey R (2011). The relation between emotional intelligence and job performance: A meta-analysis. J. Organizational Behavior*,* 32 (5): 788–818.

ORME G (2000). The world of emotional intelligence*.* Competence & Emotional Intelligence Quarterly, 7 (3): 22-27.

Orme G, Bar R (2002).The contribution of emotional intelligence to individual and organizational effectiveness. Competence & Emotional Intelligence Quarterly*,* 9 (4): 22-28.

Watkin C (2000). Developing emotional intelligence. Competence & Emotional Intelligence Quarterly, 7 (3): 28-30.