

THE EFFECTS OF MULTIPLE INTELLIGENT (IQ, EQ, AND AQ) ON EMPLOYEE PERFORMANCE: A CASE OF ABC AUTOMOTIVE CO., LTD.

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Abstract

The objective of this independent study was to study multiple intelligence including (intelligence quotient, emotional quotient and adversity quotient) that are related to job performance of employees in ABC Company located in Amata City Industrial Estate and to use the results of the study as a guideline for human resource department to develop, train and improve work ability of employees. The respondents consisted of 210 employees who worked in Automotive Company in Amata City Industrial Estate Rayong Province. The questionnaires were used to collect the data. The data analysis employed frequency, percentage, mean, standard deviation and multiple regression model. The analyzed results showed that the intelligence quotient and emotional quotient in terms of empathy and self-management had an effect on employee performance at the significance of 0.00, 0.03 and 0.00, respectively.

Keywords: Multiple Intelligent, Intelligence Quotient, Emotional Quotient, Adversity Quotient, Employee Performance

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Introduction

In the present, business world competition is very high. Not only the competition with their own country, but also with foreign countries, thus all companies should be outstanding in the business for both new and innovative product strategy.

Automotive company is a business focusing on the development of new technology and innovation to compete for market advantage to achieve business goals. Not only does it have the resources, capital, raw materials or good management, but it also requires good human resources. Thus, human resource is an important factor that helps the various operations succeed and meet the company goals. Therefore, the management of the company should take into account about the ability of employees.

Emotional intelligence (EI) is the ability of a person to capture, realize, control and understand the emotions of self as well as others to handle interpersonal relationships. The various quotients in questions including intelligence quotient (IQ) are important for analyzing the employees' capabilities and their behaviors to perform a particular task. The IQ determines how bright the employees are and the level of their analytical skills. Lastly, adversity quotient (AQ) measures the ability of person to deal with the adversities in life. Therefore, IQ, EQ, and AQ are very important and have significant roles to increase the efficiency of job performance and work in the present day.

Align with this, the researcher was interested in studying the multiple intelligence of the IQ, EQ, and AQ of employee performance, aiming to obtain useful information for the company to understand employee behavior. In addition, the management can also apply this research to develop employee training, recruitment, adapt the work environment and reduce staff turnover.

Research Objectives

1. To study multiple intelligence including IQ, EQ, and AQ that are related to the job performance of employees in ABC Company located in Amata City Industrial Estate
2. To use the results of the study as a guideline for HRD to develop, train and improve work ability.

Hypotheses

With the objectives of studying multiple intelligence (IQ, EQ, and AQ) associated with the job performance of employees in ABC company located in Amata City Industrial Estate, thus far, the researcher set the hypotheses as follows:

Hypothesis 1: There is a positive relationship between IQ and Job performance.

Hypothesis 2: There is a positive relationship between EQ and Job performance.

Hypothesis 3: There is a positive relationship between AQ and Job performance

Scope of the Study

This research is quantitative research which defines the scope of the study as follows:

1. Scope of the Content: In this research study, IQ EQ and AQ affecting job performance was divided into two variables including independent and dependent variables. The independent variables included demographic factors (gender, age, education, working experience) and quotient (intelligence quotient, emotional quotient and adversity quotient). In the meantime, the dependent variables included job performance.

2. Scope of the Population: The population of this study consisted of 210 officers who worked in Automotive Company in Amata City Industrial Estate.

Conceptual Framework and Research Framework

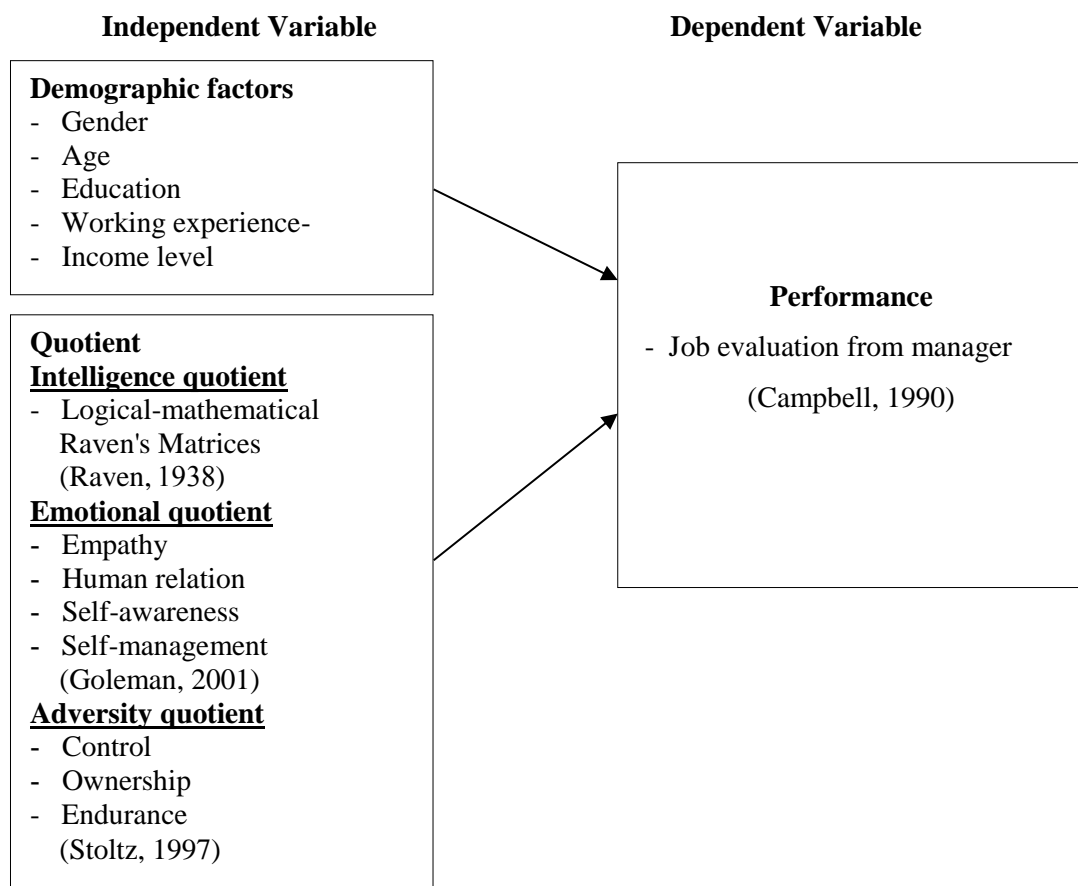


Figure 1 Conceptual Framework

Literature Review

1. Concepts and theories of intelligence quotient (IQ)

Intelligence can be defined as the ability to understand, plan, think, communicate, rationalize and comprehend. There are many understandable concepts which have been defined by academicians, however, it is not really enough to define it because the intelligence is the most complicated system by far. It is related directly to cognition, emotion and experience of a person

(Imlahi, 2015). In terms of meanings, the intelligence quotient, or IQ, is a score derived from one of several different standardized tests designed to assess relative intelligence. These standardized tests can be the Stanford-Binet Intelligence Scale and the Wechsler Adult Intelligence Scale (WAIS). In addition, the word “IQ” had been originally from the German term Intelligent-Quotient, termed by psychologist William Stern. (Oommen, 2014). Terman (1916) developed the original notion of IQ and proposed this scale for classifying IQ scores: Over 140 means “genius or near genius”; 120-140 means “very superior intelligence”; 110-119 means “superior intelligence”; 90-109 means “normal or average intelligence”; 80-89 means “dullness”; 70-79 means “borderline deficiency” and under 70 means “definite feeble-mindedness”. For importance of the intelligence quotient (IQ), it is very useful for analyzing the employees’ capabilities and their behaviors to perform a particular task.

2. Concepts and theories of emotional quotient (EQ)

Salovey and Mayer (1990) stated that Emotional Intelligence is increasingly relevant to organizational development and developing people, because the EQ principles provide a new way to understand and assess people's behaviors, management styles, attitudes, interpersonal skills, and potential. Goleman (1996) helped make the idea of Emotional Intelligence popular by presenting the concept of Emotion Intelligence as encapsulating four aspects including self-awareness, social awareness, self-management and relationship management. The self-awareness can include emotional self-awareness, accurate self-assessment and self-confidence. The social awareness can include empathy, service orientation and organizational awareness. The self-management can include self-control, trustworthiness, conscientiousness, adaptability, achievement drive and initiative. Lastly, the relationship management can include developing others, influence others, communication, conflict management, leadership, change catalyst, building bonds, and teamwork and collaboration. Recently, the emotional quotient has very important role in understanding the emotions of self as well as others to handle interpersonal relationships.

3. Concepts and theories of adversity quotient (AQ)

Adversity Quotient (AQ) is the understanding and measurement of human resilience and capacity to live, work and deal with unavoidable and undesirable circumstances like stress, adversity, trauma or tragedy. It entails remaining stable and maintaining our cool, equanimous, stable, harmonious yet human composure. It means maintaining a healthy level of physical and psychological functions even in the face of chaos. According to the AQ model, the three levels of adversity also show that positive change at all three levels starts with the individual, and works up, affecting the workplace, and ultimately society at large. In order to create change, one must have the relentless fortitude to climb through adversity. In that case, one must develop a sufficiently high AQ (Stoltz, 1997). The study by Stoltz (2000) advised that these skills can be applied to oneself, to

others, and to the organization. In additionally, Canivel (2010) added that the AQ is very important for a principal to succeed in their performance and practices in the organization.

4. Concepts and theories of job performance

Job performance represents behaviors employees engage in while at work which contribute to organizational goals. These behaviors are formally evaluated by an organization as part of an employee's responsibilities. In order to understand and ultimately predict job performance, it is important to be precise when defining the term. Job performance is about behaviors that are within the control of the employee and not about results (effectiveness), the costs involved in achieving results (productivity), the results that can be achieved in a period of time (efficiency), or the value an organization places on a given level of performance, effectiveness, productivity or efficiency (utility). Furthermore, Campbell's (1990) also added that the individual performance is a core concept within work and organizational psychology.

5. Relationship of multiple intelligent (IQ, EQ, and AQ) and job performance

Phoolka and Kaur (2012) found that a large number of people who have high IQs are not always successful. It means IQ is not enough to succeed. There must be something more and over and above IQ that is required for consistently successful people. Then came the idea of EQ (i.e., Emotional Quotient or Emotional Intelligence). EQ is the measure of how well you control your emotions, how will you empathize with others, your level of self-awareness, your control on your impulses, your persistence and how effectively you interact with others. Therefore, possessing high EQ with a high IQ can strengthen one's chances of success because to be successful one not only requires intellectual capabilities but also emotional abilities. AQ is something in addition to these two, it explains the reasons some people persist and keep on striving hard in tough situations while others who are high on IQ and are emotionally well-adjusted still fail and give up. AQ can be useful to predict performance, motivation, empowerment, creativity, productivity, learning, energy, hope, happiness, vitality, emotional health, physical health, persistence, resilience, attitude, longevity and response to change.

Research Methodology

This section is about the methodology used to study the factors influencing the decisions of employee to resign from their company. For research design, the study used a quantitative method with questionnaires for collecting data from a respondent group.

Samples of the Research

The population of the employee total was 800 employees in Automotive Company in Amata City Industrial Estate Rayong Province. This study focused on those only working in the

office. In sample calculation, the study used the Yamane (1967) with a 95% confidence level and sampling error at exceeded 5%. The result indicated the appropriate sample size as of 435 employees. However, the study reached only 210 employees to answer for the questionnaires.

Research Instrumentation

In this study, the researcher used quantitative research techniques to gather the data and also used other studies, theories, concepts, research, and documents to create the questionnaires. The questionnaires consist of the following parts.

Part 1. The demographic data includes gender and education level (nominal scales) and age, working experience, and income level (ordinal scales).

Part 2. Intelligence quotient (IQ) contains 36 questions of Advanced Progressive Matrices Test of Raven (1938) with time limited to 60 minutes. The assessment scores ratings are: 27-36 (very highly exceptional), 24-26 (high expert), 21-23 (expert), 19-20 (very high average), 17-18 (high average), 13-16 (middle average), 10-12 (low average), 6-9 (borderline low), 3-5 (low) and 0-2 (very low).

Part 3. Emotional Quotient (EQ) applied the concept and theory of Goleman (2001) and created 20 questions to test 4 EQ competencies including empathy (5 questions), human relation (5 questions), self-awareness (5 questions) and self-management (5 questions). The questions employed 5-point Likert scale.

Part 4. Adversity Quotient (AQ) applied concept and theory of Stoltz (1997) and created 18 questions to test 3 AQ competencies including Control (6 questions), Ownership (6 questions) and Endurance (6 questions). The questions employed 5-point Likert scale.

Part 5. Job performance included the opinion rated by superiors to their employees. The questions employed 5-point Likert scale.

Data Analysis

The researcher used SPSS (statistical package for the social science) for the statistical analysis. The analysis consisted of two parts including descriptive and inferential analysis. For the descriptive analysis, the researcher frequency, distribution and percentage to describe the demographic information (gender, age, education and working experience). For inferential analysis, Linear Regression Analysis was hired to test the relationship between the independent variables and dependent variables. The linear regression equation is $y = a + bx$

Results

1. Descriptive analysis

1.1 Study of demographic information of respondents

After studying about the demographic information of the respondents, the researcher can summarized the results as follows. Generally, this part represents the respondent's background for this research. The respondents are 57.1% male and 42.9% female. The highest frequency of respondent's age range is 25-30 years old, equivalent to 47.1% that is slightly higher than the second rank of 31-35 years old with a percentage of 21.9% for the rest, and the frequency percentage is small when compared to the above. The education level starts from Diploma, High vocational certificate until Master degree level. Most of the respondents are in the Bachelor degree range at 81%. Most of the respondents work in the current organization for 1-3 years equivalent to 46.2%. The monthly income level starts from below 30,000 Baht up to more than 70,000 Baht per month with the majority of monthly income levels below 30,000 Baht equivalent to 57.1% of the respondents.

1.2 Study of multiple intelligent (IQ, EQ, and AQ) and job performance

Table 1 Descriptive statistic of the factors which are related to change and development

Internal Factor	Opinion level		
	\bar{x}	SD	Interpretation
Intelligence Quotient	23.67	4.75	Very high
Emotional Quotient - Empathy	3.89	0.685	High
Emotional Quotient - Human relation	3.52	0.753	High
Emotional Quotient - Self-awareness	3.96	0.715	High
Emotional Quotient - Self-management	4.07	0.717	High
Adversity Quotient - Control	3.76	0.590	High
Adversity Quotient - Ownership	3.81	0.633	High
Adversity Quotient - Endurance	4.06	0.709	High
Job performance	4.00	0.761	High

From the Table 1, the finding indicated that all values from intelligence quotient, emotional quotient, adversity quotient and job performance are favorable. In terms of the intelligence quotient (IQ) created by Advanced Progressive Matrices Test, it was found that most respondents were rated in very high level with an average of 23.67. In terms of the emotional quotient (EQ), the finding indicated that most of the respondents had "high level" opinion with mean score as of 3.89, 3.52, 3.96 and 4.07. In terms of adversity quotient (AQ), the results indicated that most respondents had "high level" opinion with mean score as of 3.76, 3.81 and 4.06. Lastly, in terms of job performance,

the results indicated that most respondents had “high level” opinion with mean score as of 3.76, 3.81 and 4.06.

2. Inferential analysis

Table 2 The results of IQ, EQ, AQ related with job performance by using regression analysis

The effects of multiple IQ EQ AQ on employee performance	Unstandardized		Standardized	T	Sig.	Collinearity Statistics	
	B	SE	Beta			Tolerance	VIF
(Constant)	2.26	0.56		4.06	0.00		
IQ	0.07	0.01	0.42	6.26	0.00*	0.79	1.26
EQ - Empathy	-0.33	0.15	-0.18	-2.25	0.03*	0.57	1.76
EQ - Human relation	-0.18	0.12	-0.13	-1.51	0.13	0.52	1.93
EQ - Self-awareness	0.11	0.13	0.08	0.85	0.39	0.37	2.71
EQ - Self-management	0.44	0.14	0.34	3.24	0.00*	0.32	3.15
AQ - Control	0.12	0.20	0.06	0.61	0.54	0.32	3.11
AQ - Ownership	-0.27	0.18	-0.13	-1.49	0.14	0.45	2.20
AQ - Endurance	0.10	0.16	0.06	0.63	0.53	0.38	2.65
R = 0.539; R square = 0.290; Adjusted R square = 0.262; Durbin Watson = 1.483; F ratio 10.269							

From the Table 2, the regression analysis showed that the model had coefficient as of 0.539. The R square as of 0.290 which means that this model can be used to predict the job performance for 29.0%. The Durbin Watson was as of 1.483, meaning that the variables had autocorrelation. However, the Durbin Watson value was much closed to acceptance rate (1.5), the data can be taken to analyze the hypotheses with detail as follows:

Hypothesis 1: There is a positive relationship between IQ and job performance

H₀: There is no significant relationship between IQ and Job performance.

H₁: There is a positive relationship between IQ and Job performance.

From the Table 1, the findings indicate that the IQ has a direct positive relationship with job performance at a significant value as of 0.00, less than 0.05, then reject H₀ and fail to reject H₁.

Hypothesis 2: There is a positive relationship between EQ (empathy, human relation, self-awareness and self-management) and Job performance

H₀: There is no significant relationship between EQ (empathy, human relation, self-awareness and self-management) and Job performance.

H₁: There is a positive relationship between EQ (empathy, human relation, self-awareness and self-management) and Job performance.

From the Table 2, the findings indicate that the EQ in terms of empathy and self-management have a direct positive relationship with job performance at a significant value as of

0.03 and 0.00, less than 0.05. In the meantime, the EQ in terms of human relation and self-awareness have no a direct positive relationship with job performance at a significant value as of 0.13 and 0.39, higher than 0.05. Therefore, the hypothesis then reject H_0 and fail to reject H_1 .

Hypothesis 3: There is a significant relationship between AQ (Control, Ownership and Endurance) and Job performance

H_0 : There is no significant relationship between AQ (Control, Ownership and Endurance) and Job performance.

H_1 : There is a positive relationship between AQ (Control, Ownership and Endurance) and Job performance

From the Table 2, the findings indicate that AQ in terms of control, ownership and endurance has no relationship with job performance at a significant value as of 0.54, 0.14 and 0.53, higher than 0.05, then fail to reject H_0 and reject H_1 .

Discussion and Recommendation

1. Discussion

After the studying the effects of multiple intelligent (IQ, EQ, and AQ) on employee performance by using a case of ABC Automotive Co., Ltd., the researcher can discuss the relevance remarkably referring the studied hypotheses. The detail are below.

1. There is a positive relationship between IQ and Job performance

The result of the positive relationship between IQ and Job performance shows that if the employee has high IQ score they will also get a high job performance (Gardner, 1987). He argued that these intelligences are relatively distinct from each other and that each person who has developed it may increase the success of work. This affects the growth and profitability of the company.

2. There is a positive relationship between EQ and Job performance

The result of positive relationship between EQ and Job performance expresses that if the employee has a high EQ score they will also get a high job performance (Goleman, 1996). Emotional Intelligence is increasingly relevant to organizational development and developing people, because the EQ principles provide a new way to understand and assess people's behaviours, management styles, attitudes, interpersonal skills, and potential. Emotional Intelligence is an important consideration in human resources planning, job profiling, recruitment interviewing and selection, management development, customer relations and customer service.

3. There is no significant relationship between AQ and Job performance

Although the study had a negative relationship between AQ and Job Performance, this may come from the variable of demographic factors and the rating from the manager level but there are numerous research studies asserting that there is a positive relationship (Canivel, 2010).

This result shows the AQ factor cannot determine job performance but it involves another important factor. Stoltz (1997) found that AQ can be measured and enhances the effectiveness of teams, relationships, families, organizations, communities, cultures, and societies making it one of the most important tools that can be relied upon to develop and improve the performance of human resources and can influence job performance. Lopes, Salovey and Strauss (2003) also suggested that social support was involved in the AQ and academic Performance.

2. Recommendations

This part is categorized into two parts which are recommendations for the implications and recommendations for future research.

2.1 Recommendations from implications

This study proved that IQ and EQ are the factors that can have an impact on employee performance. This result is beneficial to help companies concentrate on employee's ability and attitude. The outcome defines that if the employee has a high level of IQ and EQ, it can create good performance and also make the company successful.

The result of AQ from this study is not a factor that impacts the employee performance, but the human research department may look into incorporating AQ in their working environment, in order to improve the hiring process and the employees' state of mind in handling difficulties in the different fields of work which finally will be able to help develop organizational performance.

2.2 Recommendations for future research

1) Research should be done for more factors such as the environment and stress from work that affects job performance.

2) Research should be continued on more variables of IQ, EQ, and AQ, for example, more IQ tests, EQ and AQ of how employees react when facing a big problem.

3) Research should be continued to specify the factors that relate directly to job performance.

4) Research should be expanded for a sample group to different occupations because the sample group has different IQs, EQs, and AQs for different situations that may have different results.

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