

MANUFACTURING EMPLOYEES' BIG FIVE PERSONALITY DIMENSIONS AND THEIR RELATIONSHIP TO JOB SATISFACTION

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Abstract

Earlier studies have indicated that employees' personalities influence their job satisfaction. Thus, this study aims to examine the relationship between the Big Five personality dimensions and job satisfaction in the manufacturing industry. This study also intends to determine which personality dimension is closely related to job satisfaction. 106 employees from the manufacturing industry in Muar, Johor were selected randomly to complete the Big Five personality questionnaire (NEO-FFI-3) and Minnesota Satisfaction Scale (MSQ). The result revealed that only extraversion, openness and conscientiousness are significantly correlated to employees' job satisfaction. Conscientiousness is the closest dimension related to job satisfaction. This quantitative study provides new empirical evidence and contributions to the manufacturing industry.

Keywords: *Big Five personality dimensions, Job satisfaction, Manufacturing employees*

Received: July 21, 2017

Accepted: October 10, 2017

Published: December 15, 2017

1.0 Introduction

Due to the expansion of global business, the demand for highly competent employees has increased. After the latest economic recession, the condition of economies has become uncertain and unpredictable (Cao, Hirschi & Deller, 2012). Thus, it is important for the manufacturing industry to have productive and loyal employees that can help improve the performance and increase the profitability of the industry. Individual personality has become one of the important criteria in the selection and recruitment of new employees. This is because employee personality may influence their attitudes towards the job and is thus related to job satisfaction and performance. Counterproductive behaviors of Malaysian employees including absenteeism, tardiness, and alcohol or drug use on the job can cause costly losses in productivity and performance of an organization (Raman, Sambasivan & Kumar, 2016). Negative work behavior and employees' personality might have further impact on the economy of the country. On the other hand, employees who are dissatisfied with their jobs are likely to have more complaints, suffer greater occupational stress and be less productive (Savery, 1988). Thus, organizations should be concerned about job satisfaction as it can influence work productivity, employee turnover and employee retention (Bigliardi et al., 2012).

Numerous studies have been conducted on the relationship between the Big Five personality dimensions and employees' job satisfaction (e.g. Avery, Smilie & Fife-Schaw, 2015). In a meta-analysis conducted by Judge, Heller & Mount (2002), neuroticism has the strongest correlation to job satisfaction, followed closely by conscientiousness and extraversion, while the other two dimensions displayed relatively weak correlations with job satisfaction. Furnham et al. (2002) found that personality does not have a strong or consistent impact on employees' levels of

job satisfaction. Different results were found in the research by Raja (2004), where agreeableness and extraversion reported higher job satisfaction, while conscientiousness, openness and neuroticism were not related to job satisfaction. Besides that, Furnham, Eracleous & Chamorro-Premuzic (2009) examined three aspects of job satisfaction, namely intrinsic, extrinsic and overall job satisfaction, and found that all three scores were positively correlated with conscientiousness. In another study, Bipp and Kleingeld (2011) showed that neuroticism has an indirect negative effect on job satisfaction. Lounsbury et al. (2014) found that the set of Big Five traits is highly correlated with career satisfaction. Moreover, Yang and Hwang (2014) found that extraversion has a significant positive influence on job satisfaction, but the other four traits have no significant effect. A more recent research by Loveland et al. (2015) indicated that extraversion is significantly related to job satisfaction.

A lot of studies on the Big Five personality dimensions and job satisfaction have been carried out in Western countries. However, little research has been conducted in Malaysia. In addition, most of those studies focused on the service sector and thus, research in the manufacturing industry is scarce. Thus, this study attempts to identify the relationship between the Big Five personality dimensions and job satisfaction among employees in Malaysia, particularly in the manufacturing industry. This study also intends to determine which personality dimension has the strongest relationship with job satisfaction. A thorough understanding of this relationship will provide insight to facilitate the improvement of organizations' performance and human resource maximization.

2.0 Literature Review

The Big Five personality dimensions are five broad domains or dimensions of personality that are used to describe human personality in psychology (Costa & McCrae, 1992). This approach is widely used by researchers to evaluate individual personalities. The Big Five or five-factor model (FFM) has become a dominant trait model in the past thirty years and is used as an explanatory model in psychology research and other literature about individual personality (e.g. Judge & Ilies, 2002; Smith & Canger, 2004). This model categorizes human personalities into five dimensions that can be used to describe a variety of human behaviors. These five personality dimensions include extraversion, agreeableness, conscientiousness, neuroticism and openness. The Big Five model is usually used to describe the structure of a personality in various organizational settings and different countries (Digman, 1990).

Extraversion is one of the Big Five personality dimensions. It refers to characteristics such as being talkative, energetic, assertive, sociable and optimistic (Barrick & Mount, 1991). People who possess high levels of extraversion are called extraverts. Extraverts enjoy communicating and are active in social situations. For instance, extraverts are those who always participate in extracurricular activities and prefer outdoor activities (Gopaldas, 2012). Their social accomplishments will be better compared to those who possess low levels of extraversion, often referred to as introversion. Inversely, introversion leads people to avoid social activities and seldom interact with the environment. Past researchers found that introversion is associated with decreased social activity and a tendency to avoid stimulation (Mhlanga, 2012). Introverts' social skills tend to be weaker compared to extraverts. Extraverts will be more willing to try to accept challenges in life. Extraversion is linked with impulsive decision-making and engagement in risk-taking behaviors (Zhao & Seibert, 2006). In an organization, employees who are high in extraversion will communicate well with their colleagues and will be willing to accept new challenges, while those who are high in introversion will only focus on their work. If extraverts enter a new environment, they will take the initiative to open communications and build relationships with others. Therefore, extraversion leads individuals to be dominant in social interaction, and be more active and more positive in their thinking.

The second personality dimension is agreeableness, which is characterized by being altruistic, sympathetic, and helpful (Zhang, 2003). Individuals who are high in agreeableness will not be self-centred, as they will respect the opinions and suggestions of other people. They will consider other people's feelings, ideas and needs, and think about their points of view. Besides that, individuals who score high in agreeableness are friendly, helpful and cooperative. They can foster good relationships with their colleagues and lend a hand when others need their help. Highly agreeable individuals are normally amiable and less competitive with others. This means that they seldom engage in conflict and maintain good relationships with people. In contrast, individuals with low scores in agreeableness are self-centred, spiteful and jealous towards others (Digman, 1990). They are less respectful of other people's thinking, needs and suggestions, as they refuse to accept other people's opinions. Moreover, they are intolerant towards others and jealous of their accomplishments, as they are only focused on their own self-interest. In addition, they will compete with others in order to show their ability (Zweig & Webster, 2004). This type of person often causes conflicts and arguments with their co-workers in the workplace because they cannot work well with other people. Thus, agreeableness can reduce conflict among workers and contribute to a good working atmosphere.

The third personality dimension is conscientiousness, which is associated with the characteristics of being efficient, planning ahead, organized, responsible, reliable and achievement-oriented (Goldberg, 1990; McCrae & John, 1992). Individuals with high levels of conscientiousness will set a possible number of goals and strive to accomplish them. They will plan and organize resources such as time and money wisely in order to achieve the goals that have been set. They possess good time management skills and are ready for a variety of situations. Moreover, highly conscientiousness individuals are hardworking, action-oriented, well organized and responsible for their actions (Eswaran, Islam & Muhd Yusuf, 2011). In order to ensure that their goals can be realized, they will spend more time and effort on their tasks and duties. They will be responsible for all of their actions, whether these actions bring benefits or cause losses to the organization. Besides that, individuals who gain high scores in conscientiousness will be more focused, reliable and careful when carrying out their work (Migliore, 2011). As a result, their work is usually more reliable and high in quality compared to others who score low in conscientiousness. Individuals who are less conscientious will be distracted, casual and flexible when working. They will be relaxed and indolent towards their work. They cannot focus on their work as they are not committed towards it. Thus, conscientiousness leads to good task and goal accomplishment in an organization.

Neuroticism, negatively correlated to emotional stability, is one of the personality dimensions that are characterized by negative emotions. Individuals who score high in neuroticism are those who are less trusting, self-pitying, depressed, anxious, nervous, helpless and vulnerable (Costa & McCrae, 1988). They also tend to be self-guarded, are worried about what others think of them and have a negative self-view. They have low social interaction skills as they lack trust towards others. They tend to not interact with others and focus only on their work. They are also lacking in self-confidence and always expect failure when performing their work. They are unsure about their own ability and capability to carry out their tasks. This causes highly neurotic individuals to feel stressed and depressed in their work environment. They also worry about how other people think of them, leading them to be unable to perform their work freely. They may also get angry easily when something unfavorable happens. In comparison, emotionally stable individuals are able to control their negative emotions. They tend to be calm, consistent and relaxed (Eswaran, Islam & Muhd Yusuf, 2011). They are more able to cope with stress, anxiety and fear in several ways in order to perform their tasks better. They are more confident and positive in their thinking, believing that they can succeed in their work and life. In addition, they interact and communicate well with other people at work. Thus, neuroticism causes individuals to become emotional and stressed (Eswaran, Islam & Muhd Yusuf, 2011).

The last of the Big Five personality dimensions is openness or openness to experiences. It refers to characteristics such as being imaginative, broad-minded, intelligent, curious and artistic (Goldberg, 1990). Individuals with high scores in openness will possess broad intellectual curiosity. They will behave favorably towards learning, as they are curious about what is happening in their surroundings. They prefer to learn new knowledge, techniques and experience from others. Besides that, they are willing to consider and accept new ideas, suggestions and opinions from others. They are more able to generate new ideas and seek new opportunities by using their creative imagination. In contrast, a low score in openness refers to a narrow intellectual focus and a preference for familiarity (Bhatti et al., 2014). Individuals who are low in openness are normally resistant to change as they prefer to behave in traditional ways. They are also restricted to narrow, insensitive and rigid thinking (Zweig & Webster, 2004), and thus are unable to generate creative ideas. People of this type will not improve their thinking as they refuse to accept new ideas and knowledge. Therefore, individuals who score high in openness always improve their intellectual abilities in order to better compete in the world today.

According to Cranny et al. (1992), job satisfaction may be defined as an employee's affective reactions to a job by comparing desired and actual outcomes. Employees' self-assessed integral satisfaction level of the job is the most straightforward way to measure job satisfaction. Satisfaction is generated when certain needs or desires are fulfilled, such as receiving rewards from a job (Porter & Lawler, 1968). Employees will feel satisfied towards their job when they compare their own qualifications to the reward earned from the job and find that the outcome is fair.

Yang & Hwang (2014) described job satisfaction as employees' psychological perception of their job and is related to how employees feel about the job. Hoppock (1935) defined job satisfaction as employees' feeling of satisfaction towards their working environment and the job itself, both psychologically and physiologically. Weiss et al. (1967) proposed that satisfaction can be categorized into three main classes, namely intrinsic, extrinsic and total satisfaction. Intrinsic satisfaction is created through the job itself and includes aspects such as responsibility, achievement, development and recognition, while extrinsic satisfaction has no direct connection with the job and is determined by factors such as a good working environment, a harmonious relationship, welfare, promotion and so forth. It is consistent with the motivator-hygiene theory proposed by Herzberg et al. (1959) which identifies factors that cause job satisfaction or dissatisfaction. Motivators are defined as intrinsic factors that satisfy people's psychological needs and are related to self-fulfilment, while hygiene factors are defined as extrinsic factors that are related to work conditions.

3.0 Methodology

3.1 Respondents

For this study, random sampling was used based on Krejcie & Morgan's (1970) table to determine the sample size. Random samples are samples in which each unit in the population has an equal chance of being selected (Moore & McCabe, 2006). In this study, the targeted population was 130 employees in the manufacturing industry in Muar, Johor. A total of 106 respondents were chosen randomly from that population. There were 56 male (52.8%) and 50 female (47.2%) participants involved in this research. Among these 106 respondents, 36 were Malays, 50 were Chinese, and 20 were Indian. Thus, the highest percentage of the total respondents (47.2%) was Chinese, while the lowest percentage (18.9%) was Indian. Malay employees represented 34% of the total respondents. With regard to job position, 57 of the 106 respondents were officers (53.8%), 38 were production operators (35.8%), 4 were security staff (3.8%) and 7 were trainers (6.6%).

3.2 Instrumentation

This study was carried out using a survey method and the tool used for gathering data was a questionnaire made up of three sections. The first section in the questionnaire gathered respondents' demographic information, while the second section gathered data on the Big Five personality traits using the NEO-FFI-3 with 12 items per dimension, and the third section involved employees' self-assessment of job satisfaction. The NEO Five-Factor Inventory (NEO-FFI-3) developed by Costa & McCrae, (1989) was used in the present study. It contains only 60 of the 240 questions in the NEO-PI-Rs. 12 questions for each domain that had the highest correlation with that specific factor using an analytical approach were selected from the NEO-PI. The 60-item NEO-FFI was developed to provide a concise instrument to measure the Big Five personality dimensions (Costa & McCrae, 1988). It utilizes a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). An example item is "I prefer jobs that let me work alone without being bothered by other people". After the pre-test, nine items were deleted and there were 51 items altogether. The Cronbach Alpha value for this instrument is 0.817, which is considered good in terms of internal consistency according to George and Mallery (2003). In addition, it provides researchers with a tool that takes significantly less time to complete (typically 10-15 minutes) compared to the NEO-PI-R (45 to 60 minutes).

In this study, the Minnesota Satisfaction Scale (MSQ) was employed to measure job satisfaction among employees in the manufacturing factory. The MSQ (Weiss et al., 1967) is a 20-item paper-and-pencil inventory of the degree to which vocational needs and values are satisfied by one's job. It employs a five-point Likert-type scale ranging from 1 (very dissatisfied) to 5 (very satisfied). A sample item is "The chance to do something that makes use of my abilities". Based on George and Mallery (2003), the instrument is deemed good because its Cronbach alpha value is 0.852.

Initially, the researcher sought consent from the human resource manager to conduct the research in the manufacturing industry by showing the approval letter from the university. Then, the researcher started to distribute the questionnaires and collect the data. Pre-testing was conducted with ten employees in a different manufacturing industry from the sample to test the suitability of the questionnaire. In light of this pre-testing, major corrective actions were undertaken, including deleting nine items from the section on Big Five dimensions and three items from the job satisfaction section. After pre-testing, the questionnaire was distributed to employees in the manufacturing industry.

3.2 Data Analysis

The data collected in this study were analyzed using the Statistical Package for Social Science (SPSS) version 22.0. SPSS is a type of software that helps in managing and analyzing large numbers of data by creating fast and accurate results in the form of tables and graphical charts. Descriptive analysis was used to describe the data and characteristics of the population or phenomenon being studied (Neuman, 2012). It is able to demonstrate the average number, standard deviation, percentage and ranking, including graphical reports in the form of charts, graphs and tables. The data generated were used to examine the demographic characteristics of employees in the manufacturing industries involved in this study. Correlation was used for inferential statistics to determine the relationship between the Big Five personality dimensions and job satisfaction.

4.0 Results and Discussions

Correlation is the term used to measure the strength of relationships between variables (Rubin, 2010). Moreover, it is a statistical technique to determine the relationship between independent variables and dependent variables. Since the data

gathered in the present study were not normally distributed, the researcher was required to use Spearman's rho correlation test to achieve the objectives of the study. If the significance value is below 0.01, it means that the two variables are related, but if the significance value is more than 0.01, the two variables are unrelated. The strength of the correlation coefficient value was measured according to Bryman and Cramer (2005): 0.91 - 1.00 (very strong); 0.71 - 0.90 (strong); 0.51 - 0.70 (moderate); 0.31 - 0.50 (weak) and 0.01 - 0.30 (very weak).

Table 1: Correlation Analysis

		Neuroticism	Extraversion	Openness	Agreeableness	Conscientiousness	Job Satisfaction	
Spearman's rho	Neuroticism	Correlation Coefficient	1.000	-.165	.008	-.151	.016	-.017
		Sig. (2-tailed)		.000	.936	.122	.874	.862
		Correlation Coefficient	-.165	1.000	.688*	.406**	-.188	.232*
	Extraversion	Sig. (2-tailed)	.000		.000	.000	.053	.017
		Correlation Coefficient	.008	.688**	1.000	.338**	-.247*	.199*
	Openness	Sig. (2-tailed)	.936	.000		.000	.011	.041
		Correlation Coefficient	-.151	.406**	.338*	1.000	-.086	.104
	Agreeableness	Sig. (2-tailed)	.122	.000	.000		.383	.288
		Correlation Coefficient	.016	-.188	.247*	-.086	1.000	.381**
	Conscientiousness	Sig. (2-tailed)	.874	.053	.011	.383		.000

From Table 1, for the correlation between neuroticism and job satisfaction, the value of Spearman's rho is $r = -0.017$ (1.7%). The correlation coefficient shows that there is a very weak negative relationship between neuroticism and job satisfaction. Besides that, the value of Spearman's rho for the correlation between extraversion and job satisfaction is $r = 0.232$ (23.2%). This correlation coefficient shows that there is a very weak relationship between extraversion and job satisfaction. Furthermore, the value of Spearman's rho for the correlation between openness and job satisfaction is $r = 0.199$ (19.9%). The correlation coefficient shows that there is a very weak relationship between openness and job satisfaction. Moreover, the value of Spearman's rho is $r = 0.104$ (10.4%) for the correlation between agreeableness and job satisfaction. The correlation coefficient shows that there is a very weak relationship between agreeableness and job satisfaction. On the other hand, the significance of the correlation between conscientiousness and

job satisfaction was $0.000 < 0.01$. This indicates a significant correlation. The value of Spearman's rho is $r = 0.381$ (38.1%). This shows that there is a weak relationship between conscientiousness and job satisfaction. Thus, among the Big Five personality dimensions, conscientiousness is most closely related to job satisfaction.

The first goal of the present study is to identify the relationship between each Big Five personality dimensions with job satisfaction among employees in the manufacturing industry. The results revealed that all the dimensions of the Big Five personality model were associated with job satisfaction. Nevertheless, the correlations were very weak, except for conscientiousness, which has a weak correlation with job satisfaction. In other words, extraversion, agreeableness, conscientiousness, neuroticism and openness are related to job satisfaction among employees in the manufacturing industry. With regard to neuroticism, it has a weak negative relationship with job satisfaction, in keeping with the findings of Judge, Heller and Mount (2002). According to Yang and Hwang (2014), employees' neuroticism will negatively affect their job satisfaction, as the employees will be constantly stressed, anxious and lacking in confidence. Pertaining to extraversion, it has a very weak correlation with job satisfaction, similar to the findings of Raja (2004) and Lounsbury et al. (2012). Extraverted employees are likely to feel satisfied towards their jobs because they can build good relationships with co-workers and get more opportunities to practice arousal (Judge, Heller & Mount, 2002).

Openness was found to have a very weak correlation with job satisfaction in this sample of employees from the manufacturing industry. This is in agreement with the findings of Judge, Heller and Mount (2002). Openness can help employees create job satisfaction through their wide interests and imaginative personality (Yang & Hwang, 2014). Agreeableness is also very weakly correlated with job satisfaction, supporting the findings of Judge, Heller and Mount (2002). McCrae and Costa (1991) believed that individuals who score highly in agreeableness are friendly and approachable, and are thus more likely to fulfil their social needs in their jobs. Meanwhile, conscientiousness has a weak correlation with job satisfaction, as in the findings reported by Lounsbury et al. (2012). Conscientiousness leads to better job satisfaction because employees who score highly on this trait are deeply involved in their work, thus leading to greater chances of obtaining work-related rewards (Yang & Hwang, 2014).

On the other hand, the second goal of the present study is to determine the dimension of the Big Five personality model that is most closely related to job satisfaction. According to the results obtained, conscientiousness is the dimension that has the strongest relationship with employees' job satisfaction, supporting the findings reported by Furnham, Eracleous and Chamorro-Premuzic (2009). This might be because conscientious people are more likely to receive higher rewards because of their efficiency in work, consequently increasing their job satisfaction. This trait is considered to be a significant predictor of satisfaction across jobs (Furnham, Eracleous & Chamorro-Premuzic, 2009). Conscientiousness signifies a capable and trustworthy worker. The conscientious employee persists until the task is completed (Eswaran, Islam & Muhd Yusuf, 2011).

5.0 Conclusions

The design characteristics of this study and its findings contribute to an improved understanding of the Big Five personality dimensions and their relation to job satisfaction. Understanding the relationship between the Big Five personality dimensions and job satisfaction provides key insights that will enable organizations to influence their hiring profile, the alignment of employees in the field and their efforts to satisfy employees. These improvements to human resource management in the manufacturing industry will affect organizations' overall performance and long-term viability. They will also contribute to the improvement of performance and economic status in Malaysia. Finally, it is also anticipated that the results of this study will help to provide guidance and information for future research to this area.

Based on the results of this study, several recommendations can be made. Firstly, the level of job satisfaction among employees should be considered by the employer. Attention

should be paid to employees' satisfaction since it may affect their productivity and performance and have an impact on the organization. Thus, employers need to make efforts to ensure that employees are satisfied in various aspects. Secondly, future researchers should include other aspects, such as job scope, salary and working conditions, in the investigations of employees' job satisfaction. This is because job satisfaction of employees is not only related to their personality but is also influenced by various aspects of the work itself. In addition, future research should be conducted in different contexts, such as in different industries, and the mediating role of factors such as job scope should be considered in relation to job satisfaction. Furthermore, a wide range of respondents from different industries should be involved in future studies. Meanwhile, this study hopes to provide insights that will allow organizations to influence their hiring profiles, the alignment of employees in the field and their approach to employees' satisfaction, and to serve as a reference for future studies

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