

**THE MODEL OF RELATIONSHIP BETWEEN THE BIG-FIVE FACTORS AND
INTRINSIC MOTIVATION**

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ABSTRACT

This study is our preliminary study to ascertain a model of relationship between Big-five factors and intrinsic motivation. Our primary data is obtained by distributing questionnaires to respondents. A sample of 133 respondents who work as members of parliament in 4 districts in Aceh Province. The census method we use for the determination of sample members (all representatives are likely to be members of the sample). Statistical analysis tool Structural Equation Modeling (SEM) with software Analyze of Moment Structure (AMOS) we use to analyze primary data. The results of the analysis show that all dimensions of the Big-five factors are correlated with intrinsic motivation. Several other findings can be seen in conclusion from this study.

Keyword: Structural Equation Modeling, Analyze of Moment Structure

INTRODUCTION

Today human resources are increasingly important in a profit-oriented corporate organization. Production factors are important for the running of the wheels of the company, but the human resource factor in producing a product is far more important than any other factor. We must recognize that intelligent resources are the main asset for a company.

Human resources mean the people who work in the company and the contributions they generate with their skills, knowledge, and competencies (Dransfield 2000: 3) Taking care of people working within a company organization is closely related to a plan that will be created to help the company achieve its goals that they want. To improve the performance of the company must begin with the improvement of individual performance. Many aspects can be implemented to improve individual performance, especially those concerning behavioral aspects.

Big-five factors and intrinsic motivation can be well managed to improve company performance. For about 30 years, there has been a consensus among researchers on the basic factors that make up what we know as personalities (Goldbreg, 1990; McCrae & Costa, 1987). These factors are generally called Big-Five factors consisting of neuroticism, extroverted attitudes, openness, friendliness, and caution.

Employees who have an inner drive to do better and have sufficient creative power in accomplishing their work, actively participating in their tasks are intrinsic motivational traits (Deci, 1972). Amabile et al. (1996) suggests that an employee can have high and low intrinsic motivation.

Big-five factors have been studied by some researchers, perceptions of personalities among accountants (Holt et al., 2017) motivation as moderators of the relationship between personalities and academic performance (Viari, Rad & Torabi, 2012), research on the attribution of

personality with job involvement (Ongore, 2014). So far a study of the linkage between Big-five factors and intrinsic motivation has not been found.

Research on the nature can also be criticized to failure to see the nature in relation to leadership performance. This study emphasizes the identification of traits, but does not discuss how the nature of leadership influences their group and work. In an effort to discover the nature of universal leadership, researchers focused on the relationship between individual leadership traits and their intrinsic motivational tendencies.

LITERATURE REVIEW

Big-five factors

The term of Big-five factors has been used by analysts with various terms. Sometimes analysts use Big Five personality traits and five factor models (FFM) (Goldberg, 1993; Ongoro, 2014) Big five model (Mihaela et al., 2014). Big five (Darr & Kelloway, 2016). Big five factors (McCrae & Costa, 1987; Mitrofan & Ion, 2013). The concept of big-five factors originates in the personality of a person or personality, especially in performing duties as a member or employee within an organization. The aspect of openness in a person is a prominent personality in a person manifested in five major factors. Personality in five major factors is a large five-dimensional human personality portrayed by Allport and Cattell. Allport and Cattell assume that human beings are structured in five traits, but there is only one dominating dimension (Goldberg, 1993). Personality is the set of one's habits in behaving, cognition and emotional patterns of turbulent biological and environmental factors. Although experts have not agreed with the definition, but the concept put forward by experts in general oriented to the motivation to interact with their environment. The concept of personality that is based on the nature, then one can predict one's behavior. In addition, behavior-based approach defines personality through learning and habits. Nevertheless, in general, theories view personality as relatively stable (Cattell, 1947). Among researchers have agreed on the basic factors of individual personality. These factors are generally called Big-five factors.

Table 1 - Big-five factors

| | |
|-------------------------------|--|
| <u>Openness to experience</u> | Openness to Experience Personality Dimension: where individuals are grouped on the basis of interest and desire to know something very high. Individuals like this are very creative and have high imagination. |
| Conscientiousness | Dimensional Conscientiousness: where the individual is very careful in addressing the problems that exist in the environment to stabilize a decision. The characteristics of these individuals tend to have high self-discipline, responsibility, diligence and focus on the goals to be achieved. |
| <u>Extraversion</u> | The Personality Dimension of Extraversion: where individuals tend to seek safe communication with others. Characteristics of people like this look friendly, gregarious, and a strong personality |
| Agreeableness | Agreeableness: where the nature of the individual who shows himself good. Characteristics of individuals like this have sympathetic, like to work together, and look happy and very caring. |

| | |
|-------------|--|
| Neuroticism | Neuroticism is an individual who is steadfast and patient from pressure. The characteristics of this individual have a stable emotion, can control themselves, easily adjust, do not like anger. |
|-------------|--|

Source: Goldberg, L. R. (1990). An alternative “description of personality” Thebig-five factor structure, Journal of Pesonality and Social Psykology, 59, 1216-1229.

Intrinsic Motivation

Intrinsic motivation is someone who has the initiative to creativity without the encouragement of others, at first the individual acts on the curiosity of the conditions faced which then arises the intention to learn it, however extrinsic motivation should not be ignored (Ryan & Deci, 2000).

Correspondingly, Carreira, (2005), says intrinsic motivation is the motivation associated with an activity performed by the individual for his or her pleasure in developing ideas. Intrinsic motivation comes from the individual's inner desire, whereas extrinsic motivation is caused by other causes such as praise, salary increases, gift giving or awards etc. (Vansteenkiste et al, 2005).

Vallerand (1997) divides intrinsic motivation into three types: (1) intrinsic motivation to know (IM-Knowledge), (2) intrinsic motivation toward achievement (IM Achievement), and (3) intrinsic motivation to experience stimulation (IM-Stimulation) . From the study of several studies, we think that there is no study linking big-five factors with intrinsic motivation. Because the study is also oriented individual behavior in achieving goals. They devote a lot of attention to innovate in running the organization's activities.

Hypothesis

- H1 there is a positive and significant correlation of intrinsic motivation and openness experience
- H2 there is a positive and significant correlation between intrinsic motivation and conscientiousness
- H3 there is a positive and significant relationship between intrinsic motivation and extraversion
- H4 there is a positive and significant relationship between intrinsic motivation and agreeableness
- H5 there is a positive and significant correlation between intrinsic motivation and neuroticism

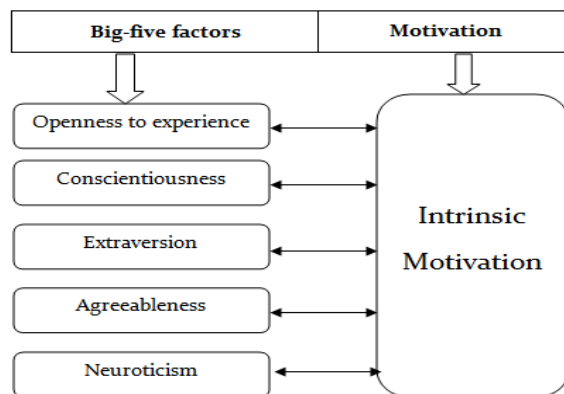


Figure 1- Research Model

METHODOLOGY

The number of samples is 133 parliament members in 4 districts in Aceh Province. To obtain primary data the researcher distributed questionnaires to respondents using census method (all parliamentarians have chance as respondent). Big-five factor variables are provided with five questions each.

The intrinsic motivation variable also provided five questions. All questions in the questionnaire using Likert scale, from "strongly disagree" = 1 to "strongly agree" = 5. Respondents chose the answers provided in accordance with those experienced by them.

Data were analyzed using SEM. First analyze the indicators that form a latent variable of the Big Five construct and intrinsic motivation constructs. If there are indicators that do not meet the requirements for the studied construct, then the indicator is removed (discarded). Second we analyze the variance between two different latent variables because in the analysis using SEM variance between the important variables are reviewed when two variabels show the value varies positively, it shows the two variables studied vary in the same direction.

Third we analyze the correlation where the correlation value is limited to -1 to +1, or with the "-" and "+" marks indicating the direction of the relationship of the two variables, while the value behind it indicates the closeness of the relationship between the two variables.

RESULT AND DISCUSSION

Tables 1, 2, 3, 4, and 5 are the result of regression weights that make up each variable. Table 1 shows that all the indicators both on the openness variable and intrinsic motivation variables can form latent variables at a significance level of ≤ 0.001 .

Table 3 shows that the indicator (manivest variable) is very weak in predicting the extraversion latent variable so as not to reach significance at the expected level (≤ 0.001), however the indicator can still form the extraversion variable.

Table 2 - The result of regression weight of openness variable and intrinsic motivation

| Variable | Estimate | S.E. | C.R. | P | Label |
|------------------------------|----------|-------|-------|-----|-------|
| op1 <-- Openness | 1.000 | | | | |
| op2 <-- Openness | 1.554 | 0.205 | 7.589 | *** | par_1 |
| op3 <-- Openness | 0.824 | 0.151 | 5.443 | *** | par_2 |
| op4 <-- Openness | 1.013 | 0.152 | 6.685 | *** | par_3 |
| op5 <-- Openness | 0.943 | 0.154 | 6.114 | *** | par_4 |
| in5 <-- Intrinsic_Motivation | 1.000 | | | | |
| in4 <-- Intrinsic_Motivation | 0.930 | 0.160 | 5.816 | *** | par_5 |
| in3 <-- Intrinsic_Motivation | 1.108 | 0.186 | 5.948 | *** | par_6 |
| in2 <-- Intrinsic_Motivation | 1.566 | 0.230 | 6.819 | *** | par_7 |
| in1 <-- Intrinsic_Motivation | 0.907 | 0.169 | 5.354 | *** | par_8 |

***Significantly different from zero at the 0,001 level (two-tailed).

Table 3 - The result of regression weight of conscientiousness and intrinsic motivation

| | Variable | Variable | Estimate | S.E. | C.R. | P | Label |
|-----|----------|----------------------|----------|-------|-------|-----|-------|
| cn1 | <--- | Conscientiousness | 1.000 | | | | |
| cn2 | <--- | Conscientiousness | 1.678 | 0.270 | 6.210 | *** | par_1 |
| cn3 | <--- | Conscientiousness | 1.037 | 0.211 | 4.911 | *** | par_2 |
| cn4 | <--- | Conscientiousness | 0.988 | 0.172 | 5.734 | *** | par_3 |
| cn5 | <--- | Conscientiousness | 1.026 | 0.243 | 4.224 | *** | par_4 |
| in5 | <--- | Intrinsic_Motivation | 1.000 | | | | |
| in4 | <--- | Intrinsic_Motivation | 0.998 | 0.176 | 5.662 | *** | par_5 |
| in3 | <--- | Intrinsic_Motivation | 1.169 | 0.204 | 5.720 | *** | par_6 |
| in2 | <--- | Intrinsic_Motivation | 1.613 | 0.246 | 6.557 | *** | par_7 |
| in1 | <--- | Intrinsic_Motivation | 0.972 | 0.186 | 5.233 | *** | par_8 |

***Significantly different from zero at the 0,001 level (two-tailed).

Table 3 shows the estimation (ex1), where as extraversion rises by 1, ex1 rises by 1. This regression weight is set at 1.000, unexpected and when Extraversion rises by 1, ex2 rises 3.217. The probability ratio of 2.566 with the absolute value is, 0.010. In other words, the regression weight for Extraversion in the ex2 prediction differs significantly from zero at the 0.01 (two-sided) level. As it is also for ex3, ex4, and ex5 calculations.

Table 4 - The result of regression weight of extraversion and intrinsic motivation

| | Variable | Estimate | S.E. | C.R. | P | Label | |
|-----|----------|----------------------|-------|-------|-------|-------|-------|
| ex1 | <--- | Extraversion | 1.000 | | | | |
| ex2 | <--- | Extraversion | 3.217 | 1.254 | 2.566 | 0.010 | par_1 |
| ex3 | <--- | Extraversion | 3.633 | 1.424 | 2.552 | 0.011 | par_2 |
| ex4 | <--- | Extraversion | 2,635 | 1.054 | 2.499 | 0.012 | par_3 |
| ex5 | <--- | Extraversion | 2.553 | 1.006 | 2.538 | 0.011 | par_4 |
| in5 | <--- | Intrinsic_Motivation | 1.000 | | | | |
| in4 | <--- | Intrinsic_Motivation | 1.005 | 0.180 | 5.570 | *** | par_5 |
| in3 | <--- | Intrinsic_Motivation | 1.160 | 0.208 | 5.580 | *** | par_6 |
| in2 | <--- | Intrinsic_Motivation | 1.691 | 0.259 | 6.536 | *** | par_7 |
| in1 | <--- | Intrinsic_Motivation | 0.955 | 0.189 | 5.061 | *** | par_8 |

***Significantly different from zero at the 0.001 level (two-tailed).

Table 5 - The result of regression weight of agreeableness variable and intrinsic motivation

| | Variable | Estimate | S.E. | C.R. | P | Label |
|-----|---------------------------|----------|-------|-------|-----|-------|
| ag1 | <--- Agreeableness | 1.000 | | | | |
| ag2 | <--- Agreeableness | 2.261 | 0.352 | 6.423 | *** | par_1 |
| ag3 | <--- Agreeableness | 1.901 | 0.304 | 6.247 | *** | par_2 |
| ag4 | <--- Agreeableness | 1.712 | 0.276 | 6.201 | *** | par_3 |
| ag5 | <--- Agreeableness | 1.332 | 0.256 | 5.205 | *** | par_4 |
| in5 | <--- Intrinsic Motivation | 1.000 | | | | |
| in4 | <--- Intrinsic Motivation | 0.968 | 0.171 | 5.657 | *** | par_5 |
| in3 | <--- Intrinsic Motivation | 1.150 | 0.201 | 5.724 | *** | par_6 |
| in2 | <--- Intrinsic Motivation | 1.656 | 0.249 | 6.653 | *** | par_7 |
| in1 | <--- Intrinsic Motivation | 0.948 | 0.182 | 5.195 | *** | par_8 |

***Significantly different from zero at the 0,001 level (two-tailed).

Table 6 - The result of regression weight of neuroticism variable and intrinsic motivation

| | Variable | Estimate | S.E. | C.R. | P | Label |
|-----|---------------------------|----------|-------|-------|-----|-------|
| in5 | <--- Intrinsic_Motivation | 1.000 | | | | |
| in4 | <--- Intrinsic_Motivation | 1.003 | 0.180 | 5.560 | *** | par_1 |
| in3 | <--- Intrinsic_Motivation | 1.185 | 0.211 | 5.608 | *** | par_2 |
| in2 | <--- Intrinsic_Motivation | 1,663 | 0.256 | 6.491 | *** | par_3 |
| in1 | <--- Intrinsic_Motivation | 0.975 | 0.191 | 5.114 | *** | par_4 |
| ne2 | <--- Neuroticism | 1.000 | | | | |
| ne3 | <--- Neuroticism | 2.194 | 0.336 | 6.520 | *** | par_5 |
| ne4 | <--- Neuroticism | 1.896 | 0.297 | 6.381 | *** | par_6 |
| ne5 | <--- Neuroticism | 1.720 | 0.270 | 6.363 | *** | par_7 |

***Significantly different from zero at the 0,001 level (two-tailed).

Table 6 shows the results of the covariance analysis between exogenous latent variables, in which the covariance between extraversion and intrinsic motivation is estimated at 0.18; conscientiousness and intrinsic motivation of 0.172. Covariance extraversion and intrinsic motivation, covariance conscientiousness and intrinsic motivation are at the level of significance of 0.001 or ≤ 0.005 . The covariance between the extraversion and intrinsic motivation variables is -0.053 at the 0.031 level of significance or different from zero at the 0.05 (two-sided) level. The covariance between the variable of agreeableness and intrinsic motivation is obtained at -0.147 and -0.137 with significance level of 0.001 (two sides).

Table 7 - The result of estimates of covariances among exogenous variables.

| | | | Estimate | S.E. | C.R. | P | Label |
|----------------------|-----|----------------------|----------|-------|--------|-------|-------|
| Openness | <-> | Intrinsic_Motivation | 0.178 | 0.051 | 3.462 | *** | par_9 |
| Conscientiousness | <-> | Intrinsic_Motivation | 0.172 | 0.046 | 3.709 | *** | par_9 |
| Extraversion | <-> | Intrinsic_Motivation | -0.053 | 0.025 | -2.154 | 0.031 | par_9 |
| Agreeableness | <-> | Intrinsic_Motivation | -0.147 | 0.042 | -3.491 | *** | par_9 |
| Intrinsic_Motivation | <-> | Neuroticism | -0.137 | 0.041 | -3.379 | *** | par_8 |

***Significantly different from zero at the 0.001 level (two-tailed).

Table 7 estimates the correlation between exogenous variables. The correlation between the variables of openness and intrinsic motivation is estimated at 0.496 or both variables have a correlation of 49.6 %, this form of correlation shows weak because it does not reach 50 %. The conscientiousness and intrinsic motivation variables show stronger correlation compared with openness and intrinsic motivation, reaching 62.3 %. Correlation between extraversion variables and intrinsic motivation; neuroticism and intrinsic motivation are also very weak only reach (45.6) % and (49.1)%. While the correlation between the variable agreeableness and intrinsic motivation is strong in the negative position of (52.4) %.

Table 8 - The result of estimates of correlations among exogenous variables.

| Variable | | Variable | Estimate |
|-------------------|------|----------------------|----------|
| Openness | <--> | Intrinsic_Motivation | 0.496 |
| Conscientiousness | <--> | Intrinsic_Motivation | 0.623 |
| Extraversion | <--> | Intrinsic_Motivation | -0.456 |
| Agreeableness | <--> | Intrinsic_Motivation | -0.524 |
| Neuroticism | <--> | Intrinsic_Motivation | -0.491 |

CONCLUSION

Based on the results of the analysis we have described above, then the conclusion can be taken that there is a correlation between the variables Big Five factors (openness, conscientiousness, extraversion, agreeableness and neuroticism) and intrinsic motivation variables. From these findings, Hypothesis (H1, H2, H3, H4 and H5) can be accepted. We also found a weak correlation between intrinsic motivation and Big-Five factors (openness, extraversion, and neuroticism). In addition, we found also that the negative correlation between intrinsic motivation and Big-five factors (extraversion: agreeableness; and neuroticism).

REFERENCE

- Amabile, T. M., R Conti., H. Coon, J. Lazenby, & M. Herron. (1996). Assessing the work environment for creativity, *Academy of Management Journal*, 1154–1184.
- Carreira, J. M. (2005). New framework of intrinsic/extrinsic an integrative/instrumental motivation in second language acquisition, *The Keiain Journal of International Studies*, 16, 39-64.
- Cattell, R. B. (1947). Confirmation and clarification of primary personality factors. *Psychometrika*, 12, 197-220.
- Darr, W., & Kelloway, K. (2016). Sifting the big five: examining the criterion-related validity of facets", *Journal of Organizational Effectiveness: People and Performance*, 3(1) 1-52.
- Deci, E. L. (1972). The Effects of contingent and noncontingent rewards and controls on intrinsic motivation, *Organizational Behavior and Human Performance*, 217-229.
- Dransfield, R. (2000). *Human resource management*. Guilford. Heinemann Educational Publisher.

- Goldberg, L. R. (1990). An alternative “description of personality” The big-five factor structure, *Journal of Personality and Social Psychology*, 59, 1216-1229.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist*, 48, 26-34.
- Holt, T., Lisa A. Burke Smalley, L. A. B., & Jones, C. (2017). An Empirical Investigation Of Student Career Interests In Auditing Using The Big Five Model Of Personality, 20, 1-31.
- McCrae, R. R., & Costa, P. T. (1987). Validation of the five-factors model of personality across instruments and observers, *Journal of Personality and Social Psychology*, 52, 81-90.
- Mihaela, R., Georgeta, M., Radu, P., & Alexandra, R. (2014). Cerebral Dominance and the Superfactors of the Big Five Model in Junior Handball Players, ICSPEK 2013, Procedia - *Social and Behavioral Sciences*, 117, 226-231.
- Mitrofan, N., & Ion, A. (2013). Predictors of Academic Performance. The Relation between the Big Five Factors and Academic Performance, Procedia - *Social and Behavioral Sciences* 78, 125-129.
- Ongore, O. (2014). A Study Of Relationship Between Personality Traits And Job Engagement, (WCLTA 2013), Procedia - *Social and Behavioral Sciences*, 141, 1315-1319.
- Ryan, R. M. & Deci, E. L. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being, *American Psychologist*, 55 (1), 68-78.
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. *San Diego, CA: Academic Press*, 29, 271-360.
- Viari, A. H., Rad, A. T., & Torabi, S. S. (2012). The effect of personality traits on academic performance: The mediating role of academic motivation, 4th International Conference of Cognitive Science (ICCS 2011), Procedia - *Social and Behavioral Sciences*, 32, 367-371.
- Vansteenkiste, M., Simons, J., Lens, W., Soenens, B., & Matos, L. (2005). Examining the motivational impact of intrinsic versus extrinsic goal framing and autonomy-supportive versus internally controlling communication style on early adolescents' academic achievement. *Child Development*, 76 (2), 483-501.