"Clustering by Employee Personality", Modern Working World Perspectives on Work Efficiency in the Organizations

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Abstract: - The purpose of this study is to classify the employees of a multinational company with Thai operations. A two-step cluster analysis technique is used in this quantitative study to analyze the data. Six variables are used to group individuals: gender, education level, type of international firm, personality, length of employment with the organization, and work efficiency. The research aims to help businesses build their human resource strategies, and several areas, including hiring, placement, and personal growth. This study distributed 446 questionnaire sets. Six clusters emerged from the two-step cluster analysis. Cluster 1 had the lowest work efficiency and the shortest work time, as characterized by Conscientiousness personality. Cluster 2, which was also characterized by Conscientiousness, had the highest work efficiency and moderate work duration of all groups. Cluster 3, which was distinguished by Emotional Stability, scored fourth in terms of job efficiency, and had a relatively long working time. Cluster 4 (Agreeableness) ranked fifth in work efficiency and had the longest work duration. Extraversion characterized Cluster 5, which ranked third in work efficiency and had a rather long work time. Finally, Cluster 6, which is defined by Openness to Experience, came in second in terms of work efficiency but had the lowest work length.

Key-Words: - Two-Step Cluster Analysis**,** Big five Personality Trait**s,** Work Efficiency, Conscientiousness, Emotional Stability, Agreeableness, Extraversion, and Open to Experience.

1 Introduction

Personality is the single most essential characteristic in terms of determining professional achievement. This is because personality is the result of several components that can be broadly classified into two groups: the components that are present from birth, such as physical appearance and brain abilities, and the components that are acquired later in life through socialization and environmental factors, such as family and culture, [1]. These categories can be further subdivided into several subcategories. Researchers, [2], discovered that identical twins who were brought up in the same family could yet have very different personalities. After that, people socialize the trait that includes three components: first, consistency; second, stability; and third, individual variances. According to these characteristics will not alter with age and will ultimately form the basis of a person's personality, [3]. According to the previous study of an individual's personality is the ultimate step that leads to that person's success and effectiveness in their profession, [4]. In addition, it may also be used to determine a person's job, level of education, and other factors. Psychologists have asserted that one's personality can be modified and cultivated into a form more suitable to the needs of a certain organization.

Many studies in the past, reveal to compare personality traits so clearly that conscientiousness and agreeableness will have higher efficiency in work efficiency than other types because of responsibility, ability, discipline, and working well

with others, [5], [6]. However, Openness to experience, Extraversion, and Emotional Stability personality can also be the average performance members of an organization, [7], [8]. Therefore, the relationship between the five personality components and the performance of employees in organizations has received attention. Moreover, researchers have discussed a variety of relationships, including linear, curvilinear, and other mathematical patterns, [9], [10]. This is because the connection between personality traits and employee performance in organizations has received a great deal of attention in recent years. On the other hand, the accuracy of performance prediction can be affected by a broad variety of criteria, such as a person's vocation, capability, and organizational commitment, to name just a few of these factors. This research has an advantage over previous ambiguous connection studies in that it groups employees based on basic fundamental variables that may affect performance in a variety of ways such as years' experience and education. The conclusions of these ambiguous relationship studies are inaccurate. If the person has a thorough understanding of current personality features, it may be highly helpful when it comes to managing human resources in a variety of aspects, such as recruitment, placement, and development. These are all areas in which managing human resources is important.

2 Research Objective

The purpose of this study is to group the personality of employees in multinational corporations with Thai subsidiaries to inform the development of human resource management policies within the organization.

3 Research Framework
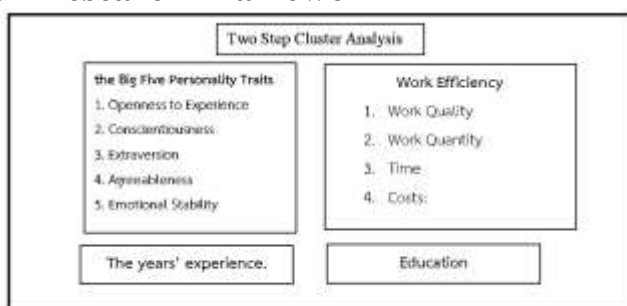
* The variables are considered, separate data into difference cluster

4 Literature Review

4.1 Work Efficiency

Work can only be considered efficient if it is also effective. Consequently, efficiency and effectiveness are frequently inseparable. This implies that if work is ineffective, it will not be productive and will not accomplish its intended objectives. The previous study provided a four-point summary of the elements of efficacy, [11]. (1) Work Quality: This refers to the required high-quality work standard, which must be accurate, on-time, and error-free, [12]. The correlation between quality and quantity is also considered. Some employees may, for instance, spend an excessive quantity of time perfecting their work, resulting in below-average productivity. Other employees, on the other hand, may place a greater emphasis on meeting quantity requirements, resulting in a decline in work quality. (2) Work Quantity: This refers to the correct and anticipated quantity of work that the organization should produce, [13]. Depending on the requirements and contentment of the organization. By comparing the completed work to the anticipated workload, organizations must manage time proportionally to the quantity of work to achieve their objectives promptly and on schedule. (3) Time: The time devoted to work ought to be dedicated to applicable principles. Organizations should develop techniques for efficient work execution, ensuring the timely and error-free completion of tasks by comparing the actual time spent on work to the allotted time, [14]. It also entails taking into account issues of delay caused by external factors beyond the control of employees or planning and management inefficiencies. (4) Costs: When it comes to costs, businesses need to ensure that they have suitable expenses and charges that are in line with the advantages they receive. It is crucial to give top priority to the utilization of resources in the most cost-effective manner possible to minimize a variety of costs and maximize revenue and profits, [15]. This involves efficiency concerning either production costs or operational costs.

Therefore, the term "work efficiency" refers to the outcome of employees' work, performance within the context of the company. This performance is a reflection of the capabilities and readiness of people who make focused efforts in their work with orderliness, guidelines, and mutual relationships. The efficacy of an organization can also be measured by looking at how efficiently its employees do their jobs. They complete their task on schedule, efficiently, accurately, and to high

standards of quality, all while ensuring cost-effectiveness in operational expenses. They are a shining example of the organization's commitment to excellence.

4.2 The Theory of the Big Five Personality Traits

In the context of personality, means the overall characteristics of an individual and the expression of behavior that reveals the person's adaptability to the environment, in addition to the qualities that contribute to interpersonal relationships, [16], [17]. Examples of these characteristics include a person's level of self-esteem, their abilities, their level of motivation, their emotional reactions, and the accumulated personality traits that are the result of the experiences that they have had in their lifetime. Scholar can added to the definition of personality by stating that it is the total of all distinct behaviors that are exclusive to each individual, [18]. This definition is comparable to some academic one who defined personality as the sum of a person's psychological traits that have an impact on the numerous behaviors that they demonstrate, [19]. These include both personality traits that are visible from the outside and those that are visible from the inside of the object.

Every facet of the Big Five Personality Traits can be used to describe the aspects of an individual's personality that are most prevalent across a wide range of age groups and cultural standards. This applies to all of the components of the Big Five Personality Traits. The Big Five Personality Traits are a breakdown of an individual's personality into five separate components that were established, [20].

The examination of personality traits has led researchers to the discovery that the structure of personality traits is made up of five components that are, for the most part, universally applicable. The five-factor model of personality testing, more especially Costa and McCrae's Five-Factor Model, has recently gained widespread acceptance as a standard method of measurement. Specifically, the personality attribute associated with consciousness trait can predict an individual's success in employment, this is true both in Western culture, [21] , and in Thai society, [22]. According to human resource management, the recruitment, selection, training, and development of personnel are all areas in which the five components of personality traits play an essential and helpful role, [23]. As a result, it is possible to say that personality traits are important and advantageous. (1) The Openness to Experience personality trait is comprised of six sub-dimensions: Fantasy, Actions, Ideas, Aesthetics, Feelings, and

Values. High scorers on this characteristic are characterized by having a vivid imagination, being dreamers immersed in the beauty of art, appreciating the value of different emotions, enjoying diversity, exploring new things, employing reasoning from a broad perspective, and being willing to examine different values. (2) Conscientiousness in terms of ethics and mindfulness is divided into six sub-facets, which are as follows: competence, achievement striving, deliberation, self-discipline, and order. Individuals who score highly in this area exhibit characteristics such as competence and efficiency, organization, a sense of responsibility, making attempts to achieve goals, focusing on finishing tasks, and thinking carefully before acting. (3) Extraversion is comprised of six sub-components: warmth, excitement seeking, activity, gregariousness, assertiveness, and positive emotions. Individuals with a high score in this dimension are friendly, sociable, approachable, enjoy socializing, seek stimulation, are assertive, and have a positive outlook on the world. They approach activities with vivacity and enthusiasm. (4) Agreeableness is made up of six element traits: modesty, altruism, compliance, trust, directness, and tender-mindedness. People who score high on agreeableness see others as honest, well-intentioned, real, willing to help others from the heart, willing to follow rules, polite, sympathetic, and open to change. (5) Emotional stability is a trait of calm people, who take a long time to get angry, are hard to upset, and do not get quickly overwhelmed by outside stimuli. They can deal well with stress and things that make them angry. They are strong when making decisions, and their coworkers trust them. People who do well in this area have a strong sense of security, don't get upset easily, and are trusted by their coworkers.

Personality traits are persistent qualities that explain distinctive behaviors of individuals and can be changed by learning and the environment. As a result, the differences that exist between people are a direct result of the distinct personality traits that each person possesses, [24].

5 Research Methodology

A questionnaire was used in this study to gather quantitative data. The companies chosen for the study were from a range of manufacturing-related industrial groups. The researcher established the selection criteria to make sure that the respondents filling out the questionnaires were full-time employees and had been employed by the company

for at least one year to find the appropriate respondents.

6 Instrument

Three sections make up the questionnaire: Part 1 of the survey asked respondents demographic questions, Part 2 gauged respondents' opinions of performance-related data, and Part 3 used the Big Five personality traits model to evaluate personality traits.

7 Testing for Validity and Reliability

Three experts advised using the index of item objective congruence (IOC) technique to assess validity. According to the standard every question on the questionnaire had an IOC value greater than 0.5, [25]. Using pre-existing software and the alpha coefficient (Cronbach's alpha), reliability testing was carried out. The alpha coefficients for the entire questionnaire and each variable were both higher than 0.70, [26], [27]. Before data collection, the questionnaire was additionally examined and approved by the King Mongkut's Institute of Technology Ladkrabang (KMITL) Human Research Ethics Committee.

8 Sample Size

The sample group for this research consists of the employees of a multinational corporation with branches in Thailand. Due to the lack of pertinent statistical data, the precise number of populations which is the selected group cannot be determined. By applying the formula devised by W.G. Cochran, with a confidence level of 95% and an error margin of 5% in case unknown population, [28]. It is possible to determine the size of the sample group. It is estimated that there was a total of 385 participants in the sample group. The inclusion of additional sample groups and the fulfillment of sample size thus, 115 additional questionnaires are included to ensure accurate data processing and reduce the likelihood of errors resulting from insufficient survey responses. This study distributed 600 questionnaires in total, and 446 complete questionnaire sets were collected.

9 Sampling Methods

This research employed a multi-stage sampling strategy for data collection and analysis. In the initial phase, a technique known as purposive sampling is employed. The researcher decided to concentrate on foreign companies with headquarters in the central and eastern industrial estates. Each of these companies must have more than 500 employees to be considered. In the second phase, the researchers employ a technique known as convenience sampling. Either the individuals who filled out the questionnaire were willing to cooperate with the researcher to expedite the data collection process, or they were selected by the researcher based on their availability through the personnel department.

10 Analysis Technique

Cluster analysis is a method for classifying data units, such as humans, animals, objects, organizations, and so on, into at least two distinct subgroups. This classification can be used to better understand the data. According to cluster analysis, [29], the goal of clustering is to either allocate units with diverse qualities to various groups or to group units that share similar or related traits. The Two-Step Cluster Analysis was utilized in this study, which offers several benefits, including the following: (1) It enables the automatic selection of the number of clusters. (2) It can be used with both categorical and continuous variables, and (3) It can handle a large number of cases (more than 200 cases). The following steps are an explanation of how the findings of the Two-Step Cluster Analysis are presented: (1) Use Schwarz's Bayesian Criterion (BIC) to determine the optimal number of clusters to use, to achieve the minimum amount of change possible in the BIC value. Alternately, the Ratio of Distance Measures can be utilized, to achieve the maximum possible value, to establish the appropriate number of clusters, [30]. (2) Present an account of how many clusters there are and how many people belong to each cluster. (3) Provide names to the clusters that correspond with the attribute of data that were discovered and describe the traits that are unique to each cluster. (4) present the overall quality of the model, [31].

11 Research Findings

11.1 Data analysis Results

Analysis of data in demography was accomplished using descriptive statistics and their respective analyses. This can be divided into two parts, which are as follows: 1. An examination of the frequency and percentage values, 2. the calculation of the

mean and standard deviation, and 3. Inferential statistics were also applied to the problem of analyzing the results of Two-Step Cluster Analysis in the second stage of the analysis.

Table 1. Descriptive statistics of the sample

Demographic Data	Frequency	(%)
Gender		
Male	202	(45.3%)
Female	244	(54.7%)
Education		
Below bachelor's degree	64	(14.3%)
Bachelor's degree	244	(54.7%)
Master's degree	138	(30.9%)
Others	2	(0.0%)
Type of multinational company		
U.S.A	91	(20.4%)
Japan	132	(29.6%)
Thai	223	(50.0%)
Personality trait		
1. Extraversion	58	(13.0%)
2. Agreeableness	56	(12.6%)
3. Conscientiousness	254	(57.0%)
4. Emotional Stability	54	(12.1%)
5. Openness to experience	24	(5.4%)
Total	446	(100%)

Table 1 shows that 54.7% of the sample is made up of females, which is more than half. 54.7% of them graduated with a bachelor's degree, and the highest number, 50.0%, work for Thai companies. This study reveals the personality traits of the sample, most of the people in the study group are conscientious, extraverted, agreeable, emotionally stable, and open to experiences respectively.

Table 2. Mean, Standard deviation, Skewness, and Kurtosis

Variables	Mean	SD	SK	KUR
Work Efficiency				
1. Work Quality	3.28	0.69	0.04	0.02
2. Work Quantity	3.26	0.69	-0.12	0.32
3. Time	3.46	0.74	0.04	2.75
4. Cost	3.40	0.71	-0.13	-0.05
The years' experience	5.19	4.45	2.27	10.06

Table 2 shows that among the variables affecting work efficiency, time has the greatest average value (3.46), followed by cost variables (3.40), work quality variable (3.28), and work quantity variables (3.26). 5.19 years is the average years' experience, and the standard deviation is 4.45 years.

The first step of analysis is to find how many clusters should be. Clustering Criterion, this selection determines how the automatic clustering algorithm determines the number of clusters. Either the Bayesian Information Criterion can be specified.

Table 3. Schwarz's Bayesian Criterion and Ratio of Distance Measures

Number of Clusters	Schwarz's Bayesian Criterion (BIC)	BIC Change	Ratio of BIC Changes	Ratio of Distance Measures
1	1468.556			
2	893.611	-574.946	1	2.252
3	658.7	-234.911	0.409	1.777
4	542.473	-116.227	0.202	1.519
5	478.436	-64.037	0.111	1.007
6	415.1	-63.336	0.11	2.553
7	412.552	-2.548	0.004	1.513
8	423.27	10.718	-0.019	1
9	433.99	10.72	-0.019	1.595
10	454.363	20.373	-0.035	1.274
11	478.226	23.863	-0.042	1.113
12	503.383	25.157	-0.044	1.114

Table 3 shows that there are significant changes in the values of Schwarz's Bayesian Criterion Changes and the Ratio of BIC Changes up until 6 groups. Meanwhile, the Ratio of BIC Changes shows small changes until not significant. In addition, the Ratio of Distance Measures is the largest value (2.553) when there are 6 clusters. So, we can conclude that 6 clusters are the best fit for this model.
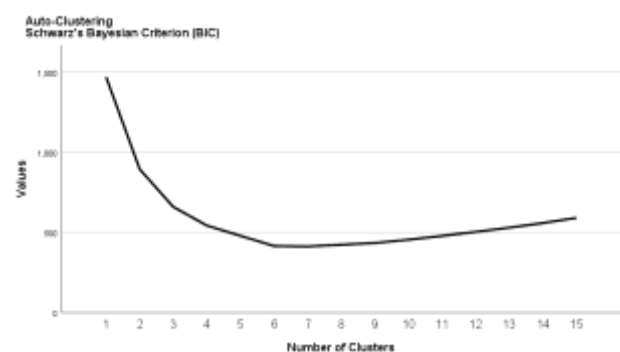

Fig. 1: Schwarz's Bayesian Criterion crosstab with the number of clusters

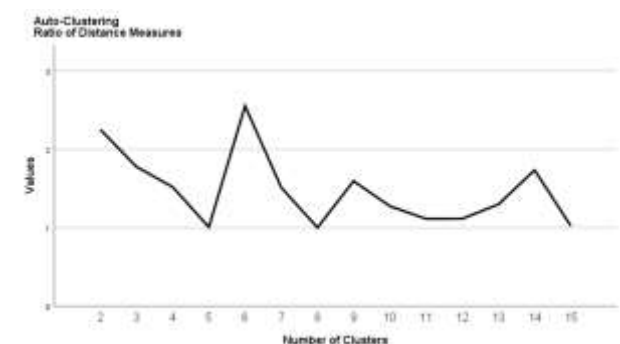Figure 1 shows the lowest point of Schwarz's Bayesian criterion value located at the 6th cluster.

Fig. 2: Ratio of distance measures graph crosstab with the number of clusters

Figure 2 indicate that 6th cluster is maximizing distance between clusters thus all cluster would be distinctness.

The second step of analysis is to clarify the number of cases which indicate the number of member in each cluster.

Table 4. Clusters distribution shows the number of cases in each cluster

Cluster	N	% of Combined	% of Total
1	140	31.40%	31.40%
2	114	25.60%	25.60%
3	54	12.10%	12.10%
4	56	12.60%	12.60%
5	58	13.00%	13.00%
6	24	5.40%	5.40%
Combined	446	100.00%	100.00%

Table 4 was sorted cluster, it was determined that cluster 1 contains 140 cases, representing 31.40% of the total. Cluster 2 is composed of 114 cases or 25.60% of the total. Cluster 3 has 54 instances or 12.10% of the total. Cluster 4 consists of 56 instances, or 12.60% of total cases. Cluster 5 consists of 58 instances, representing 13.01% of all instances. Finally, cluster 6 consists of 24 cases, or 5.40% of the total.

The third step of analysis is to find the attribute or characteristic of the cluster and try to describe the distinctness of each cluster clearly.

Table 5. Frequencies of each personality and cluster in the form of cross-tabulation

Cluster	Personalities Type				
	Extraversion Frequency	Agreeableness Frequency	Conscientiousness Frequency	Emotional Stability Frequency	Openness to Experience Frequency
1	0	0	140	0	0
2	0	0	114	0	0
3	0	0	0	54	0
4	0	56	0	0	0
5	58	0	0	0	0
6	0	0	0	0	24
Combined	58	56	254	54	24

Table 5 reveals that cluster 1 possesses a conscientious personality, whereas cluster 2 possesses a conscientious personality that is like cluster 1 in terms of proportion. Cluster 3 demonstrates emotional stability, cluster 4 demonstrates agreeableness, cluster 5 demonstrates extraversion, and cluster 6 demonstrates openness to experience. The cluster frequency table by personality further clarifies the properties of the clusters.

Table 6. Mean and standard deviation of work efficiency and years' experience in the form of cross-tabulation

Cluster	Work Efficiency		Years' experience	
	Mean (Rank)	Std. Deviation	Mean (Rank)	Std. Deviation
Conscientiousness (L)	3.106 (6)	0.45289	5.285 (5)	4.34201
Conscientiousness (H)	4.208 (1)	0.32586	6.912 (4)	4.36105
Emotional Stability	3.326 (4)	0.5456	7.037 (3)	5.99674
Agreeableness	3.276 (5)	0.64468	8.928 (1)	9.06513
Extraversion	3.652 (3)	0.66655	7.137 (2)	6.82988
Openness to Experience	3.856 (2)	0.70465	4.666 (6)	2.89928
Combined	3.5474	0.67495	6.5785	5.75155

According to Table 6, Cluster 1, which consists of people with a conscientious personality type, has the lowest work efficiency and a relatively short work length. Cluster 2, on the other hand, is distinguished by a trait known as conscientiousness. Members of this cluster have the highest work efficiency and a somewhat long work length. Cluster 3, which is distinguished by emotional stability, comes in at fourth rank in terms of job efficiency and has a comparatively extended work time. Cluster 4, which is distinguished by agreeableness, is in fifth place in terms of work efficiency and has the most drawn-out work schedule. Cluster 5, which is characterized by extraversion, ranks third in job efficiency and has a rather lengthy work duration. Cluster 6, which is characterized by openness to Experience, is in second place in terms of work efficiency but has the shortest work duration of all the clusters.

Table 7. Frequencies of education and cluster in the form of cross-tabulation

Cluster	Education				Total
	Below bachelor's degree	Bachelor's degree	Master's degree	Other	
Conscientiousness (L)	24	78	38	0	140
Conscientiousness (H)	2	64	48	0	114
Emotional Stability	6	32	14	2	54
Agreeableness	10	30	16	0	56
Extraversion	14	30	14	0	58
Openness to Experience	8	10	6	0	24
Total	64	244	136	2	446

L=Low work efficiency
H=High work efficiency

Table 7 reports that cluster 1, which contains individuals with the conscientiousness personality type, has a proportion of individuals with lower levels of education than cluster 2, which also contains with the same conscientiousness personality type. Regarding other clusters, there is no significant difference in education level distribution.

Table 8. Comparing mean of conscientiousness personality between cluster **1** and cluster 2 by Independent Samples t-test

	Levene's Test		t-test for Equality of Means			Cluster 1	Cluster 2
	F	Sig.	t	df	Sig. (2-tailed)	Mean	Mean
Equal variances assumed	0.396	0.53	-4.087	252	0.00	12.785	13.536

*The dependent variable is work efficiency

Table 8 reveals the difference in work efficiency and also demonstrates that there is no significant difference between the variances of the two groups based on the results of the Levene test. The next process is an independent sample t-test, which was used to assess the level of the conscientiousness personality trait. Despite this, it was observed that cluster 1 and cluster 2 had different work efficiency at the significant level of 0.05; moreover, the statistical analysis discovered that cluster 2 had a substantially higher level of work efficiency than cluster 1.

The fourth step of analysis is to illustrate the quality of analysis from an overall perspective.

Fig. 3: Model summary the result form

Figure 3 the result form program present that two-step algorithm is applied. The input is personality traits and work efficacy, in contrast the output unveils 6 clusters.

Fig. 4: The quality of two-step Cluster Analysis

Figure 4 Based on the results of the analysis, one can conclude that the clustering was of high quality. This indicates that individuals with similar characteristics (similarity) were clustered together; meanwhile, the same characteristics were sorted into the appropriate categories.

12 Summaries of Research Findings and Discussion Results

Six distinct personality clusters can be derived from research data. Because Conscientiousness personality types are more appealing to organizations than other personality types, clusters 1 and 2 are particularly significant. This is because they take a lot of responsibility seriously, are dependable, trustworthy, and perform the duties they are given. Conscientiousness can be further broken down into two different sorts, though. Additionally,

data for other personality types are intriguing and compatible with existing hypotheses.

1.) Cluster 1, According to previous research, [32], [33], [34], people with a conscientiousness personality in this cluster should be more productive at work than people with other personality types but in this study they have the lowest work efficiency and the shortest average work hours. Furthermore, they have less schooling than people in cluster 2, who also have a conscientious personality. These results are in line with studies, [35], [36] that suggest conscientiousness personality types do not always need to perform at the highest levels at work. The effectiveness of work is influenced by a variety of elements, including job qualities, organizational commitment, and organizational culture, according to more recent applied psychological research, [37].

2.) Cluster 2 possesses the conscientiousness personality trait, which is consistent with the theory that individuals in this group have high abilities, are organized, and responsible, and endeavor for performance and efficiency at work. They exhibit self-discipline and high productivity, and their other characteristics include an average work tenure and higher levels of education than cluster 1. This suggests that individuals in this group possess knowledge and skills and may not consider changing jobs due to their advanced work experience, which is consistent with the previous research, [38], [39], who found that individuals with high conscientiousness tend to perform well at work, demonstrating a linear relationship. In addition, researchers, [40], [41], [42], discovered that people with excessively high levels of conscientiousness tend towards perfectionism, which can lead to increased stress and decreased performance, demonstrating a curvilinear relationship.

3.) Cluster 3 has an emotional stability personality trait that is consistent with the theory that individuals in this group have a tranquil demeanor, stress resilience, emotional stability, and a high level of composure. They are resilient to tension, prefer tranquility, and possess a solid sense of stability. They have moderate work performance and can work for extended periods in an organization. According to academic studies, [43], [44], the emotional stability personality trait is a predictor of excellent performance and contributes to professional success. In addition, some investigation, [45], discovered that white-collar office workers with the emotional stability personality trait are more patient and dedicated to

the organization than office workers with other personality traits.

4.) Cluster 4 has the personality trait of agreeableness, which is consistent with the theory. that individuals in this group are trustworthy, well-intentioned, sincere, wholehearted in their willingness to help others, enjoy teamwork, harmony, compliance, politeness, and gentle-heartedness, and have relatively low work efficiency, possibly due to their proclivity to help others and long tenure with the organization. This is congruent with research, [46], which shows that people with agreeableness tend to be workaholics, acting as mediators and indirectly impacting job output. Individuals with high degrees of agreeableness, in conclusion, are better suited for collaboration than gauging individual work efficiency.

5.) Cluster 5 has the extraversion personality trait, which is consistent with the theory that people in this group enjoy activities, seek excitement, have positive emotions, are warm, enjoy being with others, express themselves directly, have relatively high work efficiency, and stay in the organization for a relatively long time. According to research, [47], extraversion is predictive of good work efficiency. This may be attributed to the fact that people in this group are social and interchange ideas, making them strongly related to people and organizational culture. Extraversion, according to the study, [48], can contribute to individual isolation and loss of interest in work (burnout), resulting in low work efficiency.

6.) Cluster 6 members have the personality trait of openness to experience, which is consistent with the theory that members of this cluster value diversity, trying new things, being rational, having a broad perspective, being imaginative, appreciating art and beauty, being open, and working efficiently. They do, however, change occupations frequently, maybe because individuals of this group enjoy challenges and are continually growing. They have a low attachment to the organization, which is congruent with the findings, [49], discovered that those with openness to experience have good work efficacy, similar to those with conscientiousness, and are not typically older. Moreover, some research found, [50], these people are also more creative than other personality types.

13 Recommendations and Implementation

When describing the relationship between personality traits and job success, there may be other factors, both personal and behavioral, that act as mediators or moderators and cannot be ignored. When talking about how personality traits affect job success, the relationship may not always be straight. Some studies have shown that the relationship may not be a straight line. But this study shows that personality traits can affect how well an employee does their job, depending on what those traits are.

Meanwhile, this is the clue for HR department to recruit new coming employee or improve work efficacy of employee after personality test. This study propose the guideline to optimize work performance, first priority is consciousness type with high education background, second is openness to experience type, the third is extraversion type, the forth is emotional stability type, the fifth is agreeableness, and the last personality is consciousness type with low education. Consequently, the following suggestions are put forward:

1.) The subsequent research ought to investigate the personalities of workers in addition to the job patterns that can affect one another. This is because different employees will have varied personalities, and as a result, they will need to use diverse techniques in human resource management to produce good job outcomes and increase employee performance. Because the manager is aware of the features of the five distinct types of personality, it is feasible to leverage and strengthen the strengths of their employees according to the requirements of individuals whose personalities are different.

2.) It is an excellent decision to look for strategies to modify the employees' personalities. Over the long term, it is also beneficial thought to implement these ways of thinking into the day-to-day activities of the organization. This is because one's personality is imprinted and requires significant effort to alter. There have been many studies that have focused on the difficulties associated with altering one's personality, [51], [52], [53]. As a result, businesses need to explain and set up reward and punishment systems that are in line with the behaviors they want their employees to exhibit. Instead of raising employees' stress levels in the hopes of coaxing them to better levels of performance, it is preferable to implement techniques that will, over time, positively change their personalities.

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- Krit Jarinto has organized and executed the research model, carried out the literature review, and presented the research conclusion.
- Laddawan Ridsomboon has preparation, creation and/or presentation of the published work by those from the original research group, specifically critical review, commentary or revision.

Conflict of Interest
The authors have no conflicts of interest to declare.