

The Role of Handwriting Analysis in Obtaining Competence and Organizational Commitment

Catharina Dewi Wulansari¹, Fais bin Ahmad², Mariny Abdhul Ghani³

¹Othman Yeop Abdullah, Universiti Utara Malaysia

²College of Business, Universiti Utara Malaysia

³School of Social Development, Universiti Utara Malaysia

Abstract: This paper which is mainly based on empirical study attempts to focus on the facts of Hand Writing Analysis for employee selection. Handwriting analysis, is a scientific method in a standardized system of analyzing strokes. Handwriting analysis can give a good indication of a person's personality structure, their abilities, ability to grow and develop, and perhaps most importantly, their integrity. The importance in this paper is to know how handwriting analysis works. The research method was qualitative method. To analyzed the data, it was used Handwriting Wizard Software to detect lecturer competence. Beside that, researchers used Handwriting Personality Software to detect lecturer organizational commitments. Results from both software were then verified to Graphologist through interview. Furthermore, for the final analysis, Nvivo 11 was used. The result of the study shows that there are several types of handwriting which describe the competence and organizational commitment of the lecturer. It is also found that handwriting analysis can obtaining competence and organizational commitment. At the end of the study some suggestions are made to review the selection policies that will lead to higher employee retention and improved organizational performance.

Keywords: Selection, Hand Writing Analysis, Competence, Organizational Commitment

1. INTRODUCTION

Selection is the process by which organizations locate and attract individuals to fill job vacancies. Beside that, selection is the process by which companies decide who will or will not be allowed into organizations. An effective approach to selection can help an organization to maximize the competitive advantages by choosing the best pool of candidates quickly the goal of a recruitment and selection program is to attract highly qualified candidates and ensure person-job fit and cost efficiently (Kleiman, 2005). Inability in creating competitive advantage is one of many organizational failures in coping with the changing business environment. Inability in recognizing

internal potential leads to organization giving attention more to external potentials rather than to internal ones that, in turn, result in lack of long term competitive advantages. Organizational potentials can be utilized by integrating human resources strategies into corporate strategic. Better Human Resources strategies could be achieved through incorporating a bundle of human resource practices, in turn, will increase organizational performance and organizational competitiveness through better Human Resources outcomes. unsuccessful recruitment and selection can be a cause of the death of the business. Some organizations may give importance to various tests, while others may emphasize interviews and reference checks. There are diverse types of tests



available for using as tools for employee selection, such as, ability test, personality test, honesty, integrity test, etc. Through personality tests individual characteristics can be identified that are related to job success across organizations and occupations. Handwriting analysis is one of personality tests.

Handwriting examination or identification is frequently used in crime investigation, the prosecution and sentencing of criminal offenders. Handwriting analysis is now an accepted and increasingly used technique for assessment of people in organizations. Handwriting analysis is an effective and reliable indicator of personality and behavior, and so is a useful tool for many organizational processes, for example: recruitment, interviewing and selection, team-building, counselling, and career-planning. Handwriting analysis uses at least 300 different handwriting features in its investigative approach.

Many employers today, are asking prospective employees for a handwriting sample for analysis by a graphologist, to determine their suitability for a position. Handwriting is so individual that like fingerprints, it is highly unlikely that two people, even though taught the same copy by the same teacher, would produce identical hands. The use of Handwriting analysis in selection processes has become a popular tool in many human resources companies. In this research Handwriting analysis was used for lecturer selection process. Lecturers must have specific competencies and organizational commitments. So, in their selection must use a tool that able to detect competence and organizational commitment. This is the reason why this research tries to describe the role of handwriting analysis in detecting competencies and organizational commitments.

2. LITERATURE REVIEW

A. Selection

Selection is the process by which companies decide who will or will not be allowed into organizations (Noe et al, 2006). According to the goal of a recruitment and selection program is to attract highly qualified candidates and ensure person-job fit (Fisher, Schoenfeldt & Shawn, 2004, Kellman, 2005; Mathis & Jackson, 2005)

Selection is an important part of the activities of Human Resource Management. Especially for the procurement of employees, because the company, organization or institution must selectively select the employee so that the candidate can work well.

B. Handwriting Analysis

Handwriting analysis or Graphology is described as a scientific study and analysis of handwriting, or the art of interpreting character and personality from peculiarities in handwriting (Gardner, 1997). In the other hand Handwriting analysis is a method to predict personality of an author and to better understand the writer. (Prasad, Shitala, Vivek Kumar Singh and Akshay Sapre, 2010:25). The first serious treatise on handwriting analysis was written in 1622 by Camillo Baldo, an Italian physician and a Professor at the University of Bologna (Dennis, 2001). He wrote the first known book on graphology which was titled "How to Judge the Nature and the Character of a Person from his letter". He commented on the fact that all writers write differently and that no one can write like another. The modern version of graphology has its roots in the late nineteenth and early twentieth centuries. What we are studying here is a science that is at least 100 years old. The first known books on graphology date back to Spain in 1552.



Handwriting is a stable expression of an individual's various traits or tendencies, arrhythmic movement that reflects the writers' personality. Several scientific studies using electronic instruments have shown that writing movement is literally initiated, directed and controlled by the central nervous system, and that the movement impulse markedly differs from individual to individual. Even under tremendously different situations, different specimens generated by the same writers were remaining similar. Handwriting variables are constant over a long period of time, and have a high degree of internal consistency despite the intra-individual variability (Tao-ko Yang, 2004:1-2)

In the past, most of the studies in graphology were associated with the reliability and validity of graphology as a method for personality traits assessment. Today, graphology figures in a multitude of disciplines.

The graphologist will examine the shape and the direction of the script baseline, the angle of the script, the direction of the script tilt, the size of the words, the pressure, the height of the letters, and the widths and the spacing of the letters and words.

There are two methods in handwriting analysis, namely, the French approach and the German approach. The French approach is also called atomistic or the isolated trait method where the handwriting is broken down into its various components and examined separately. The German approach, also called holistic or gestalt approach, judges handwriting as a whole where one isolated element does not mean anything outside of the context of the complete picture. This approach analyses the sample in terms of the arrangement on the page, the form of the writing and also the movement. It gives an intuitive impression of the entire writing and is able to

make certain assumptions about the writer. Neither the holistic nor the isolated method is the "best", but when used in combination, it provides the most complete picture of the person's disposition. Today, professional graphologists use a combination of both methods (Lowe, 1999).

Spencer (2004) mentioned that effective recruitment and selection are strategically important to any firm. Recruiting and selecting the wrong candidates can have extensive negative cost implications, while effective processes can contribute to a reduction in turnover and therefore increase in productivity. An estimate from the 1980s suggested substantial and increasing use of graphology, with more than 3000 U.S. firms, and perhaps as many as 85% of European firms, using it (McCarthy, 1988; Rafaeli & Klimoski, 1983, cited in Steven L Thomas & Steve Vaught, 2001). In Israel, it is more wide spreadly used than any single personality test in the process of personnel selection (Ben-Shakhar, Bar-Hillel, Bilu, Ben-Abba & Flug, 1986).

Handwriting analysis can play a significant role whenever it is useful to know something about human personality. It can be of use in personnel selection, compatibility analysis, career guidance, assisting lawyers and law enforcement agencies; enabling teachers to identify the strengths, weaknesses, aptitudes of students; supporting social workers and counsellors in identifying and dealing with their client's behaviors and personalities and diagnostic procedures in medical field.

An important study by Drory (1986) examined the relationship between graphology and job performance. Handwriting scripts of 60 employees were analyzed by a graphologist and rated on 13 related items. Supervisory assessments of on the job behavior were obtained using the same 13 jobs related items. The correlations

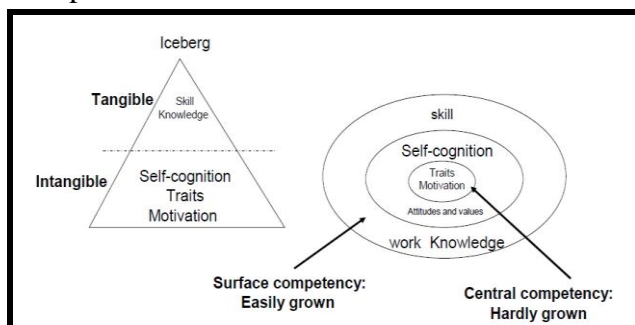
between the graphological ratings and the subjective assessment of performance were highly significant for 10 of these items. The use of graphology in recruitment processes has become a popular tool in many human resources companies.

The Big Five is generic model with five characteristics: Openness to change, Agreeableness, Conscientiousness, Extraversion and Neuroticism (also known as emotional stability). Of these five traits, only Conscientiousness, Extraversion and Neuroticism have been consistently associated with job performance. Unlike “Big Five” personality tests that measure broad job performance related traits, Holland’s Career Personality Theory is best known for matching personality types to different jobs. Holland’s Realistic, Investigative, Artistic, Social, Enterprising, and Conventional model is widely used for career counselling, fitting people with interests and compatibilities to over 1,300 jobs (Sarkar-Barney and Williams, 2003).

C. Competence

Competence is ability to apply or use knowledge, skills, abilities, behaviors, and five personal characteristics to successfully perform important work tasks, perform certain functions, or operate in specific roles or positions. (Dubois, 1993, dan Lucia & Lepsinger, 1999). L. Spencer & Spencer S. describes the work competence in the picture below

Figure 1: Iceberg Model And Central Surface Competencies



Sources: Spencer, L. & Spencer, S. (1993).
Competence at Work: Models for Superior Performance

D. Commitment

Meyer, Allen & Smith (1993) said that commitment is a psychological state that characterizes employees' relationships with organizations, and has implications for the decision to continue or terminate membership in the organization. According to Meyer, Allen & Smith (1997) there are three sets of beliefs that have been proven to have a strong and consistent relationship with commitment to the organization. The three-component work commitment model developed by Meyer, Allen & Smith (in Spector, 2000) consists of affective work commitments, continuous work commitments, and normative work commitments. The definition of each component of work commitment is as follows:

- Affective job commitment (commitment affective / psychological attachment of employees to their work). This commitment causes employees to stand on a job because they want it.
- The commitment of continuance occupational commitment, leads to the calculation of profit-loss in the employee in connection with his desire to retain or leave his job. That is, work commitments here are perceived as price perceptions to be paid if employees leave their jobs. This commitment causes employees to stand on a job because they need it.
- Normative occupational commitment (commitment) as a duty to stay in work. This commitment causes employees to stand on a job because they feel obliged to do so and based on a belief about what is right and related to moral issues.



3. METHODOLOGY

The research method was qualitative method. The data split into two groups. First group consisted of the lecturers selected by not using handwriting analysis (7 lecturers) and the second group consisted of the lecturers selected by using handwriting analysis (23 lectures). Handwriting image samples of different individuals are used in this research which is digitally collected by scanning the handwritings of 30 different lecturers. Then to analyzed the data, it was used Handwriting Wizard Software. Handwriting Wizard consists of nine handwriting characteristics. Each characteristic represents handwriting's uniqueness and element. Table 1 shows the nine characteristics for the Handwriting Wizard. (Siew Hock Ow, Kean Siang Teh and Li Yi Yee, 2005:95)

Table 1. Nine Handwriting Characteristics of the Handwriting Wizard

Characteristics	Handwriting Elements
1	Slant
2	Size
3	Stem of the lower case "d" and "t"
4	Lower case "o"
5	Random strokes
6	Humps of the letter "M" and "N"
7	How high the "t-bar" crosses the stem?
8	Shape of the lower loop or tail of the letter "y" and "g"
9	Margin and spacing

Siew Hock Ow, Kean Siang Teh and Li Yi Yee, 2005:95)

In this research, Handwriting Wizard Software used to detect lecturer competence. Beside that, researchers used Handwriting Personality Software to detect lecturer organizational commitments. Results from both software were then verified to Graphologist through interview.

Furthermore, for the final analysis, Nvivo 11 was used

4. RESULT

A. Types of Handwriting That Describe Competence And Commitment of the Good lecturer

In discussing the type of hand writing that describes the good competence and organizational commitment of a lecturers, the researchers did the following steps:

First step, the researcher determining the type of competence that the lecturer should have. from the literature concluded that the type of competence that lecturer should have are: Pedagogic Competencies (PC), Profesional Competencies (Pro C), Social Competencies (SC) and Personality Competencies (Per C).

Table 2. The Competence of Lecturer

Competence	Indicator
PC	Ability to design the learning
	Ability to Implement the Learning Process
	Ability to Assess Processes and Learning Outcomes
	Ability to Utilize Research Results to Improve Learning Quality
Pro C	Mastering learning materials widely and deeply
	Ability to Design, Implement, and Prepare Research Reports
	Ability to Develop and Disseminate Innovation
SC	Ability to Design, Implement, and Assess Community Service
	Ability to Appreciate Social Diversity and Environmental Conservation
	Giving an opinion Closely, Efficiently, and Clearly
	The Ability to Appreciate Others' Opinions
	Ability to Foster a Classroom



	Atmosphere
	Ability to Support the Participation of Society
Per C	Empathy Ability
	Participate positively in others
	Participate positively to yourself
	Genuine
	Goal-oriented

Based on existing theory, researcher tries to find the character that most suitable with indicator in table 2. The results showed that the type of handwriting that describes the good competence of lecturers as follows:

Table 3. Types of Lecturer Competencies and Type of Handwriting

PC	PRO C	SC	PER S	LECTURER'S COMPETENCIES
Leaning to The Right Writing	Leaning to The Right Writing	Leaning to The Right Writing	Leaning to The Right Writing	Leaning to The Right Writing
Upright Writing	Upright Writing	Upright Writing		Upright Writing
Ideal Size Writing	Ideal Size Writing	Ideal Size Writing	Ideal Size Writing	Ideal Size Writing
Medium Writing Pressure	Medium Writing Pressure	Medium Writing Pressure	Medium Writing Pressure	Medium Writing Pressure
			Emphasis on Important Points	Emphasis on Important Points
Zone Balance	Zone Balance	Zone Balance	Zone Balance	Zone Balance
Dominant Writing On the Upper Zone	Dominant Writing On the Upper Zone	Dominant Writing On the Upper Zone	Dominant Writing On the Upper Zone	Dominant Writing On the Upper Zone
Ideal Left and Right Margin	Ideal Left and Right Margin	Ideal Left and Right Margin	Ideal Left and Right Margin	Ideal Left and Right Margin
		Same Margin Level in Each Sides	Same Margin Level in Each Sides	Same Margin Level in Each Sides
			Wide Left Margin and Narrow Right Margin	Wide Left Margin and Narrow Right Margin
No Unique Letters	No Unique Letters	No Unique Letters	No Unique Letters	No Unique Letters
Writing the letter f cross Form	Writing the letter f cross Form			Writing the letter f cross Form
Writing the letter f Balanced	Writing the letter f Balanced	Writing the letter f Balanced	Writing the letter f Balanced	Writing the letter f Balanced

From the description above the types of writing that can detect the competencies of the lecturers are:

1. Leaning to The Right Writing;
2. Upright Writing;
3. Ideal Size;
4. Medium Pressure;
5. Emphasis on Important Points;
6. Balance Zone;
7. Dominant Writing on the Upper Zone;
8. Ideal Left and Right Margin;
9. Same Margin Level in Each Sides;
10. Wide Left Margin and Narrow Right Margin;
11. No Unique Letters;
12. Writing the letter f cross Form; and
13. Writing the letter f Balanced.



Then after being processed using the NVivo 11 program, the figures of handwriting that can detected the competencies of lecturer are:

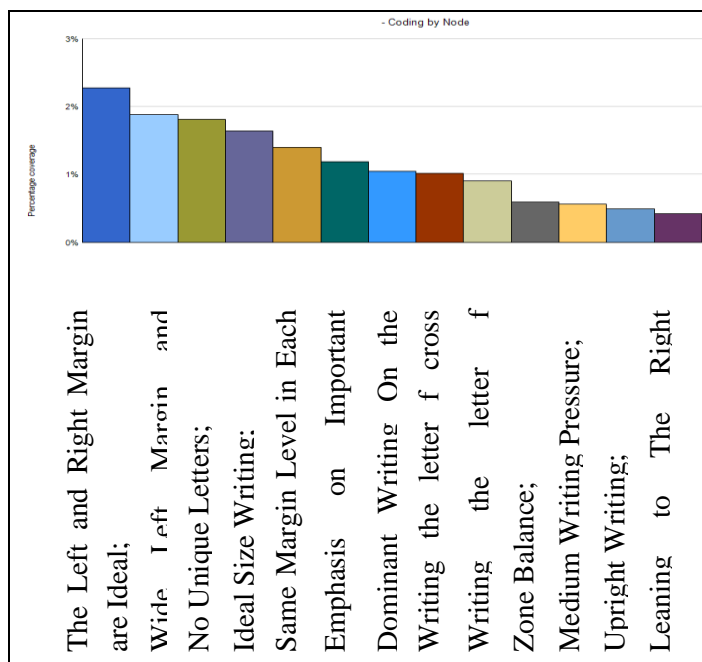


Figure 2. Figure of Competence Analysis of Lecturers

Based on the above picture, it appears that the highest rank that must be owned by lecturers related to the competencies are the type of handwriting with the left and right margin are ideal followed by wide left margin and narrow right margin and last is leaning right writing. Next, by analyzing the types of writing can be obtained the type of writing that describes lecturer competencies as contained in the table below:

Table 4. Handwriting Type That Describing Lecturers Commitment

AFFECTIVE COMMITMENT	CONTINUE COMMITMENT	NORMATIVE COMMITMENT	LECTURER'S COMMITMENT
Leaning to The Right Writing		Leaning to The Right Writing	Leaning to The Right Writing
	Upright Writing		Upright Writing
		Ideal Size	Ideal Size
Medium Pressure	Medium Pressure	Medium Pressure	Medium Pressure
Zone Balance	Zone Balance	Zone Balance	Zone Balance
		Dominant Writing on the Upper Zone	Dominant Writing on the Upper Zone
Ideal Left and Right Margin	Ideal Left and Right Margin	Ideal Left and Right Margin	Ideal Left and Right Margin
No Unique Letters	No Unique Letters	No Unique Letters	No Unique Letters

From the table above, concluded that the type of writing that describes a person who has a Lecturer Commitment is as follows:

1. Leaning to The Right Writing
2. Upright writing;
3. Ideal Size;
4. Medium Writing Pressure
5. Zone Balance;
6. Dominant Writing on the Upper Zone;
7. Ideal Left and Right Margin; and
8. No Unique Letters.

Then after processed using the program NVivo 11, then the graph of the type of writing that must

be owned related to Lecturer Commitment is as follows:

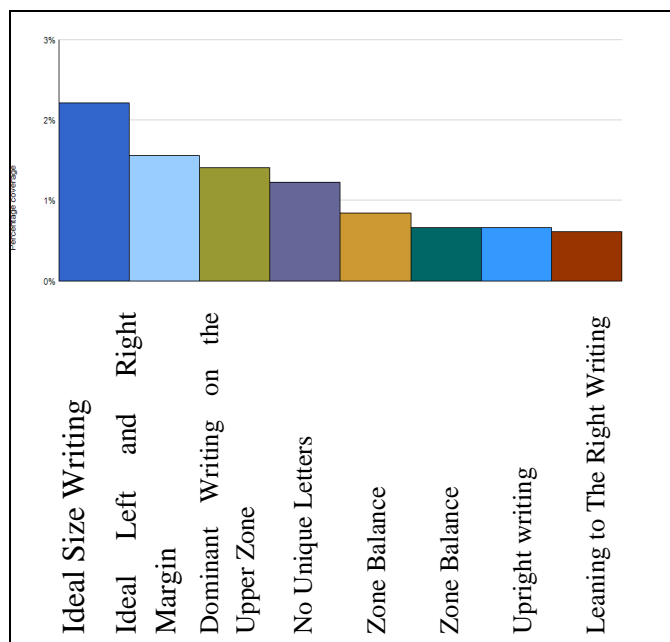


Figure 3. Analysis of the Lecturer Commitment

Based on the above picture, it is seen that the highest rank that must be owned in relation to the lecturer's commitment is the type of handwriting are ideal size writing, followed by ideal left and right margin and last is the type of handwriting that leaning to the right writing.

B. The role of Handwriting Analysis To Detect Competence of the Lecturer

From the interviews it was found that the average of those selected using handwriting analysis already had the functional position of Expert Assistant (Asisten Ahli, lowest position as lecturer) at the time of two years of work and the functional position of Lektor (Third position) during four years of work. This suggests that participants whose selection is analyzed by handwriting can already be detected by competence rather than with competencies held by participants not analyzed by handwriting analysis. If the competence of the lecturer selected by Using Handwriting Analysis and Not Using

Handwriting Analysis compared by using Nvivo 11 where the category of excellent is given mark 3, good category given mark 2 and poor is given mark 1 then it can be seen below

Table 5. Comparison of Selected Lecturers' Competencies Using Handwriting Analysis and Not Using Handwriting Analysis

	Selected Without Using Handwriting Analysis		Selected Using Handwriting Analysis	
	Mark	Category	Mark	Category
Pedagogic Competencies	1.783	Poor	2.218	Good
Professional Competencies	1.868	Poor	2.208	Good
Social Competencies	2.106	Good	2.224	Good
Personality Competencies	1.980	Poor	2.156	Good

The table shows that the average lecturers selected using handwriting analysis are higher than those not using handwriting analysis. Furthermore, the lecturer who has very good competence in the number seen from the graphics processed Nvivo 11 seen in the picture below:

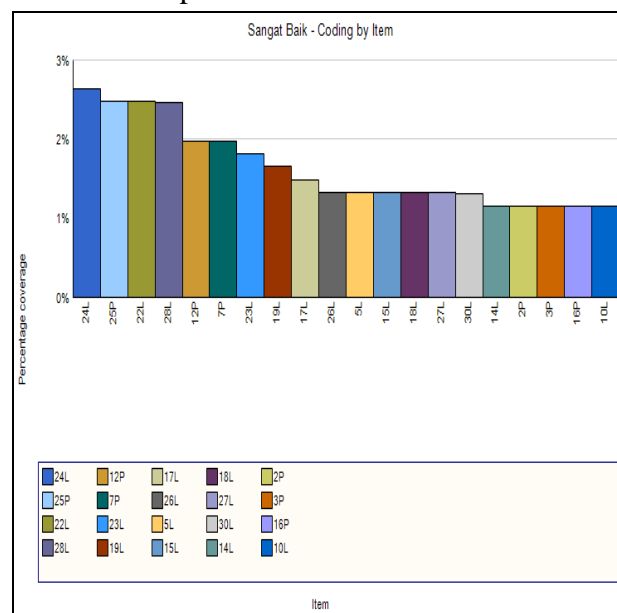


Figure 4. The Number of Excellent Competencies of the Lecturers

Based on the above description the highest ranked lecturer for excellent competence is owned by the lecturers selected using handwriting analysis when selected for work. That are respondent 24 L, 25 P, 22 L, 28L.

Likewise, the level of good competence of the lecturers, is owned by lecturers who has been selected using handwriting analysis when the selected work. They are 24 L, 25 P, 22 L, 28L. It is seen in the picture below.

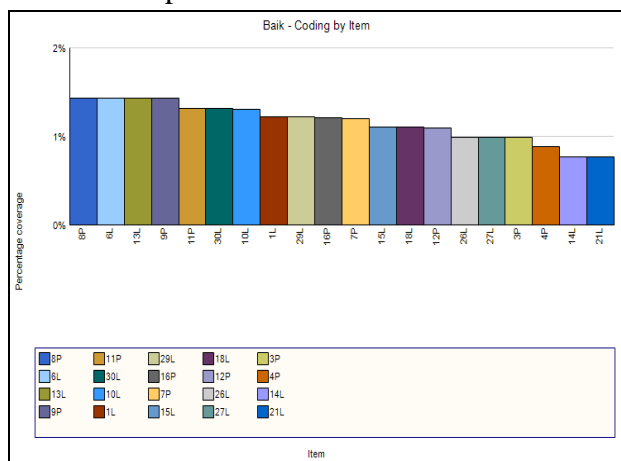


Figure 5. The Number of Good Competencies of Lecturers

While the highest rank of poor competence of the lecturer is the lecturer who selected without using handwriting analysis. They are 5 L, 2 P, 3P. It is seen in the figure below.

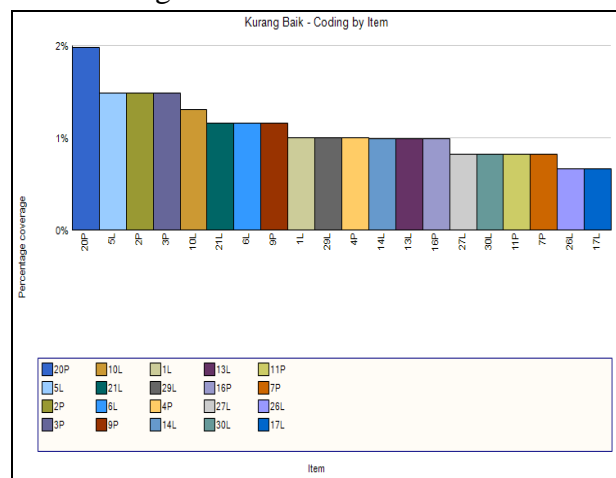


Figure 6. The Number of Unfavorable Competencies Lecturers

Then, to see the number of excellent competencies owned by a lecturer selected by using handwriting analysis can be seen in the following figure.

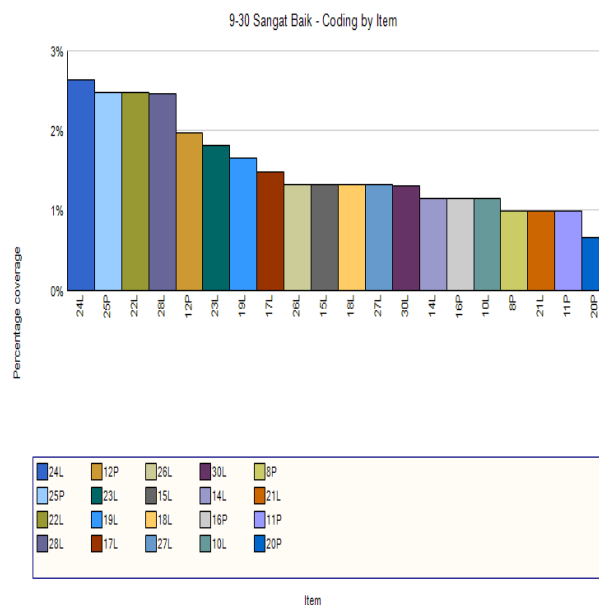


Figure 7. The Number of Excellent Competencies of Lecturers Selected by Handwriting Analysis

While the results of the number of good competencies owned by lecturers selected by using handwriting analysis can be seen in picture as follows.

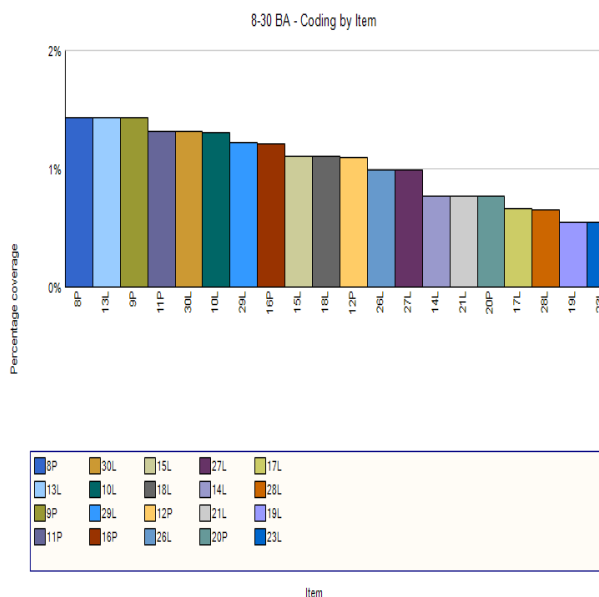


Figure 8. The Number of Good Competencies of Lecturers Selected by Handwriting Analysis

For the number of poor competencies owned by the lecturers selected by using handwriting analysis can be seen in picture as follows.

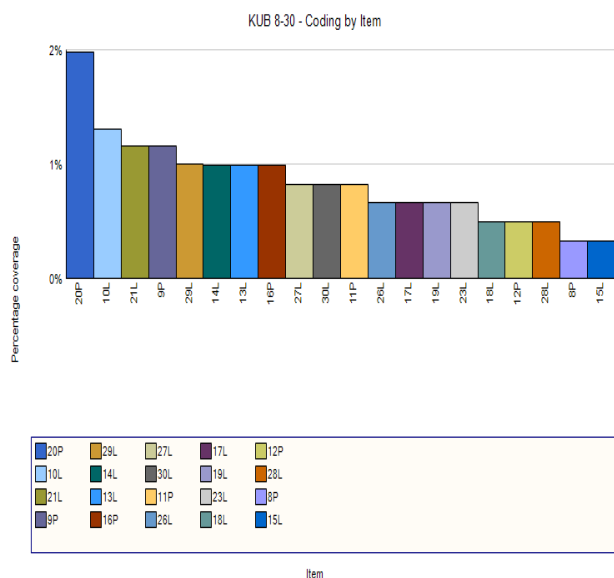


Figure 9. The Number of Poor Competencies of Lecturers Selected by Handwriting Analysis

As for the number of excellent competencies owned by lecturers who are selected by not using handwriting analysis are as follows.

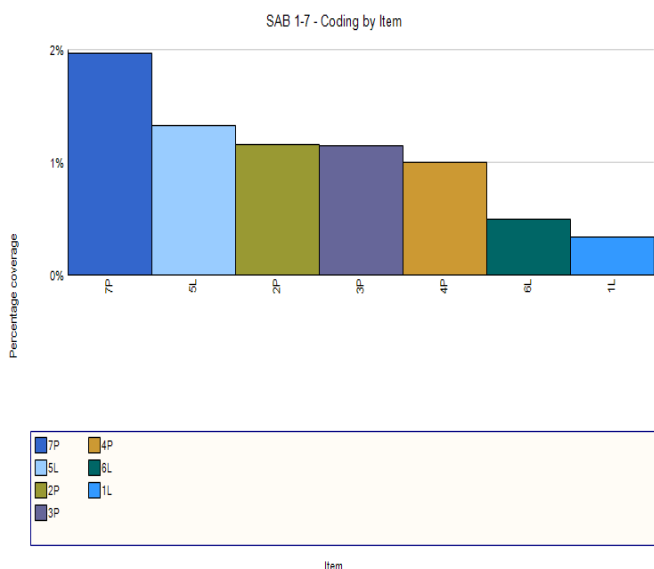


Figure 10. The Number of Excellent Competencies of Lecturers Selected Without Handwriting Analysis

Below is the number of Good Competencies of Lecturers Selected by Handwriting Analysis.

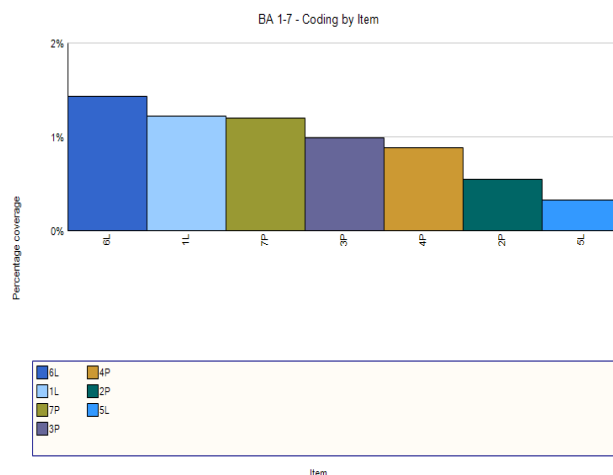


Figure 11. The Number of Good Competencies of Lecturers Selected Without Handwriting Analysis While the Number of Poor Competence of Lecturers Selected without Handwriting Analysis

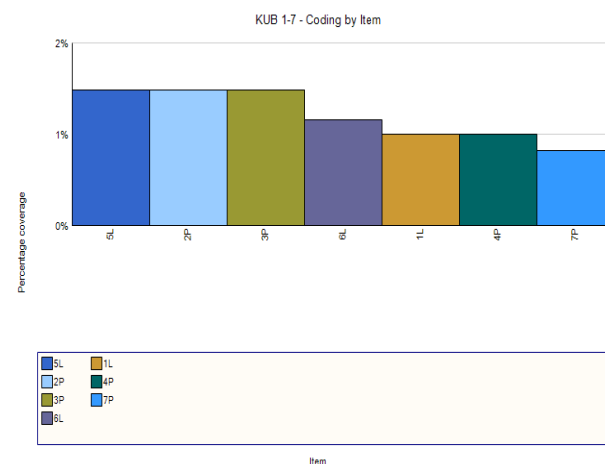


Figure 12. Number of Poor Competencies of Lecturers Selected by Handwriting Analysis

The above description shows that in human resources management, the concept of individual competence is used extensively (eg Boyatzis, 1982, Schroder, 1989, Burgoyne, 1993). Many authors said that competence, refer to a set of skills a person must have to be able to do a certain job satisfactorily. Competence becomes human capital that lead to productivity. Competence is the ability to apply and use knowledge, skills, abilities, behaviors, and personal characteristics to triumphantly perform important tasks, certain

functions, or perform various roles or positions. This productivity improvement is done selection of labor. Thus, it is seen that the excellent competence is owned by most lecturers whose selection uses handwriting analysis and the poor competence is owned by most lecturers whose selection process does not use handwriting. From the graph illustrated that the excellent competence is more owned by lecturers whose selection uses handwriting with a significant comparison, good competence is more possessed by lecturers whose selection uses handwriting, and poor competence is more owned by lecturers whose selection does not use writing hand.

C. The role of Handwriting Analysis To Detect Organizational of the Lecturer

After handwritten analysis based on handwriting characteristics for each participant, it can be illustrated that the lecturers selected by using handwriting analysis showed a better commitment than the selected lecturers that did not use the handwriting. If the competence of the lecturer selected by Using Handwriting Analysis and Not Using Handwriting Analysis compared by using Nvivo 11 where the category of excellent is given mark 3, good category given mark 2 and poor is given mark 1 then it can be seen in schedule at below this.

Table 6. Comparison of Selected Lecturers' Commitment by Using Handwriting Analysis and Without Handwriting Analysis

	Selected Without Handwriting Analysis		Selected with Handwriting Analysis	
	Mark	Category	Mark	Category
Affective Commitment	1.777	Poor	2.568	Good
Continue Commitment	1.625	Poor	2.737	Good
Normative Commitment	2	Good	3.213	Good

Furthermore, then the lecturer with a number of excellent commitment can be seen from the graphics processed Nvivo 11 as below.

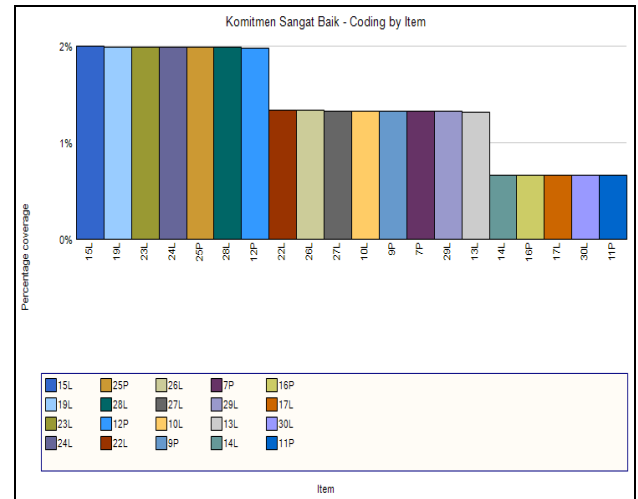


Figure 13. Number of Excellent Commitment of the Lecturers

From that point of view, there is a excellent commitment that owned by 15L, 19L, 23L, 24L, 25P, 28L, and 12P lecturers with the composition of all commitments are excellent. This shows all lecturers who have a commitment that in all indicators are excellent, are owned by lecturers that are selected by handwriting analysis.

Furthermore, the results of the Nvivo 11 data processing seen in the figure below.

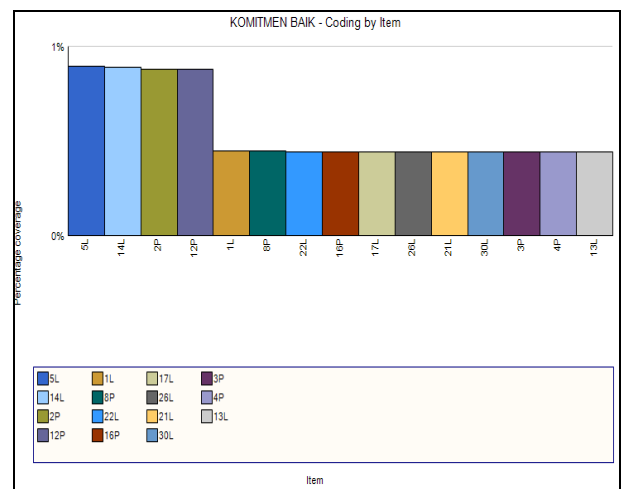


Figure 14. The Number of Good Commitment of the All Lecturers

Furthermore, from these results also, it appears that the poor commitment owned by lecturer 6L with all the composition of commitments are considered poor. This shows that lecturers who have a commitment that the third indicator is poor is a lecturer who did not selected by using handwriting analysis. It can be seen in the Figure below.

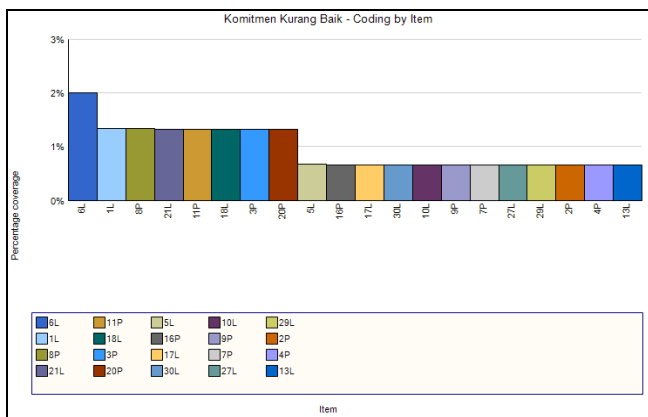


Figure 15. The Number of Unfavorable Commitment of the Lecturers

Then, to see the results of competencies owned by selected lecturers using handwriting analysis, it can be seen in the graph as follows.

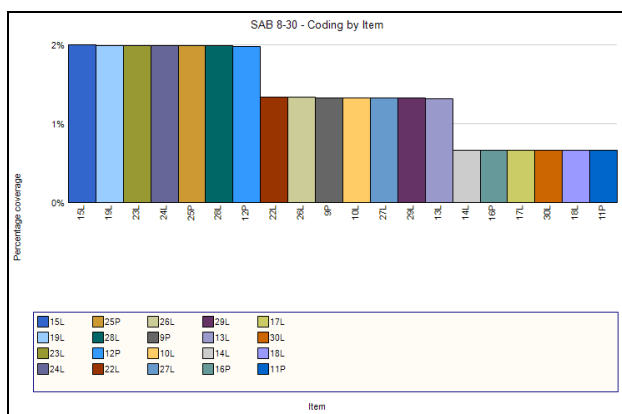


Figure 16. The Number of Excellent Commitment Lecturers Selected by Handwriting Analysis

As said by Greenberg and Baron (1995: 216) which mentions that there are five important factors affecting the existence of worker organization's commitments, they are: Job

Characteristics, the nature of the Acceptable Benefit, the Presence of Alternative Employment Opportunities, the Treatment of Newcomers in the Organization (treatment of newcomer), as well as the Personal Characteristics (Nur'Aeni, 2010: 55-56). Regarding the latter factor of personal characteristics, it can be detected using handwriting analysis.

Similarly, the results of data processing Nvivo 11 to the amount of commitment of both lecturers selected by handwriting analysis in picture below.

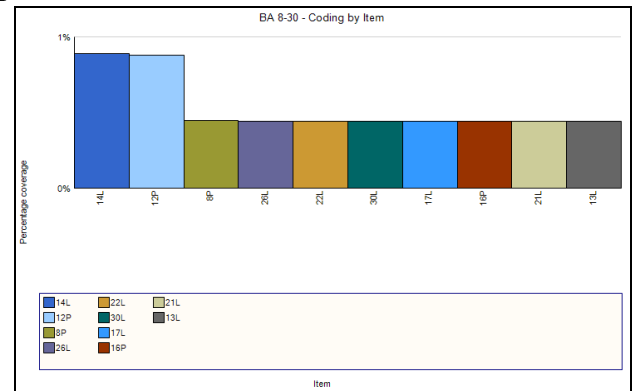


Figure 17. The Number of Good Commitment of the Lecturers Selected by Handwriting Analysis

While the results of data processing Nvivo 11 to the number of poor commitment of lecturers selected by handwriting analysis contained in the picture below.

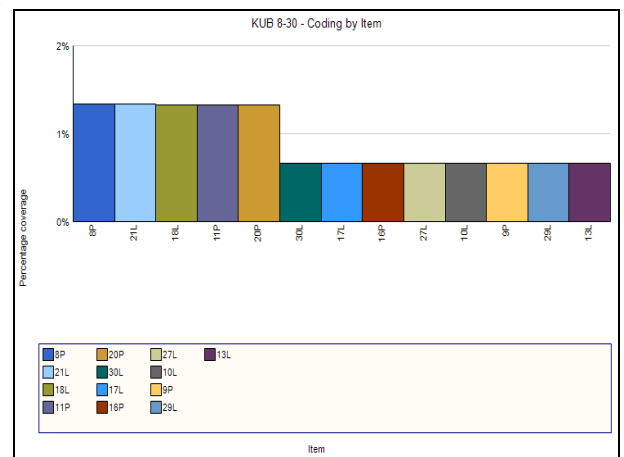


Figure 18. The Number of Unfavorable Commitment of the Lecturers Selected by Handwriting Analysis

Then, to see the results of the commitment of the lecturers selected by not using handwriting analysis, can be seen in the graph as follows.

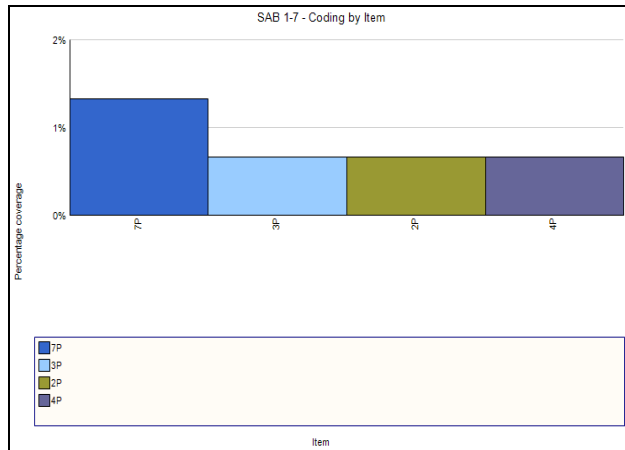


Figure 19. The Number of Excellent Commitments of the Lecturers Have Selected Without Handwriting Analysis

As for the results of data if NVivo 11 for the amount of good commitment of the lecturers are selected not with handwriting analysis seen in the rajah below.

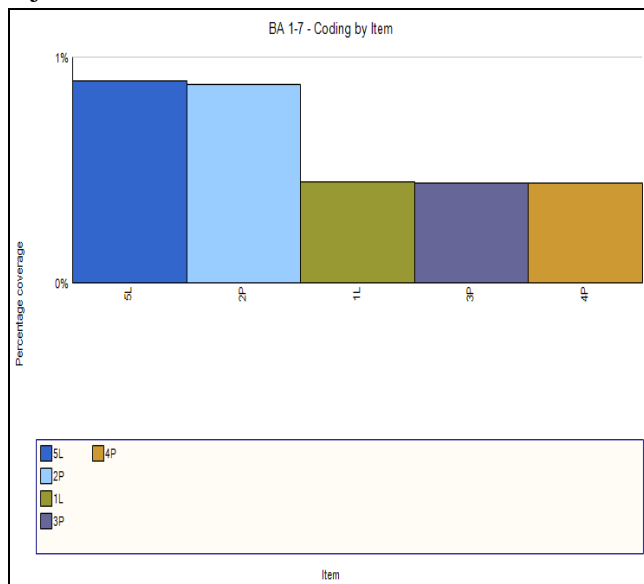


Figure 20. The Number of Good Commitments of the Lecturers Have Selected Without Handwriting Analysis

For the results of data if NVivo 11 for the number of unfavorable commitments owned lecturers are

selected not with handwriting analysis seen in the picture below

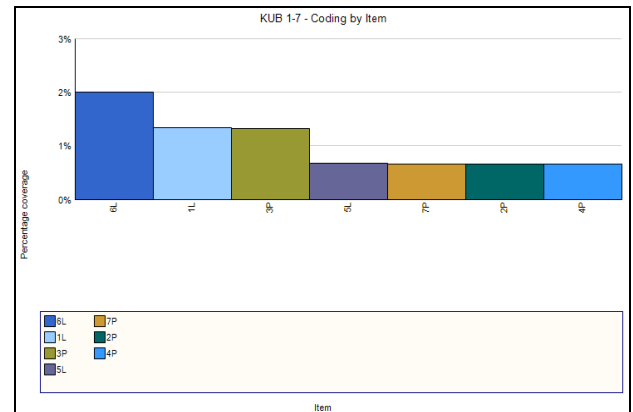


Figure 21. The Number of Bad Commitments of the Lecturers Have Selected Without Handwriting Analysis

Thus, seen that the lecturer who has an excellent commitment is owned by most of lecturers whose selection uses handwriting analysis and lecturers who have a poor commitment owned by lecturers whose selection process did not use handwriting analysis. From the graph illustrated that excellent commitment is mostly owned by lecturers whose selection uses handwriting with significant comparison, good commitment more possessed by lecturers whose selection uses handwriting, and poor commitment possessed by lecturers whose selection does not use writing hand.

It is generally accepted that employee commitment to an organization can have various forms of measurement. From the aspect of the form of a commitment, Morgan and Hunt 1994 cited by Wetzels, Martin (1998: 409) states that commitment is essentially a statement of one's thoughts in relation to another, such a commitment is called an affective commitment. The second form of commitment is "calculative commitment" that is the commitment that arises from a person's cognitive evaluation, as a result of profit-loss, loss-win, computation, benefit or sacrifice. A commitment calculative (calculative



commitment) will persist, when the internal costs are still relatively lower than the relatively lower internal costs compared with external costs. Meanwhile, Jacobsen based on the results of research conducted by Porter (1983), Steers (1987) and Meyer (1991) divide commitments into two slightly different parts with: affective commitment or attitudinal commitment and "behavioral commitment "(Jacobsen, 2000: 188). In reviewing this commitment is used handwriting analysis.

Based on the results of handwriting analysis above, it can be concluded that the role of handwriting analysis is very large. The results of handwriting analysis are very helpful in terms to know the extent of commitment that is owned by the lecturer. If based on existing participants' data, participants who do not do handwriting analysis cannot develop their functional positions. In addition, with the analysis of handwriting can be known also the characteristics of each participant where of course this will be very useful when done in the process of acceptance of new prospective workers. The use of handwriting analysis in terms of accuracy has considerable accuracy because under very different situations, two different specimens produced by the same author remain the same (Harvey, 1934, cited in Leung, 1997). Handwriting analysis variables are constant over a prolonged period of time, and have a high degree of internal consistency despite the intra-individual variability (Wallner & Norlen, 1973; Wing & Nimmo-Smith, 1987, cited in Leung, 1997).

According to Meyer, Stanley, Herscovitch, & Topolnytsky, (2002), commitment is often used to describe an emotionally and intellectually attached feeling to one's activities which includes the relationship between individuals and individuals, individuals with groups, and

individuals with organizations the results show that commitment can also be detected through handwriting analysis. In relation to the results of the analysis of the researchers then obtained the picture that in general, lecturer that selected using handwriting analysis in two years on average have obtained the functional position of expert assistant. Some even have reached the Lektor while the lecturer that selected without using handwriting analysis, in average only reached the functional position of assistant experts after 10 years. After that, they still cannot have promotion to next functional position. It's just that in the 20L participants who have analyzed his handwriting turned out to have a commitment that is poor, but still accepted. After 32 years of work concerned still occupy the functional position of the head lecturer and has not been able to achieve the functional positions of professor. While other participants who were selected using handwriting analysis and categorized very well proved to have gained a functional position of professor in the 12th year concerned work. This clearly proves that handwriting analysis is capable of detecting lecturer commitment.

5. CONCLUSION

The results showed that **first**, there are types of writing that describes good competence of the lecturers. **Second**, there are types of hand writing that describes good organizational commitment of the lecturers. **Third**, there are the roles of handwriting analysis in gaining competence and organizational commitment. This is evidenced by the significant differences between the lecturers that selected using handwriting analysis and the lecturers that selected by not using handwriting. The lecturers that selected using handwriting have better competence and organizational commitment



than those selected by not using handwriting analysis. This is proofed by the lecturers that selected by handwriting analysis capable of achieving high functional positions in a relatively brief period than the others that selected by not using handwriting analysis. Therefore, it is proposed that in the future handwriting analysis will used for selection in order to gain the expected competence and organizational commitment so as to achieve good performance.

REFERENCES

1. Ben-Shakhar, G., Bar-Hillel, M., Bilu, Y., Ben-Abba, E., & Flug, A. 1986. Can Graphology Predict Occupational Success? Two Empirical Studies And Some Methodological Ruminations. *Journal of Applied Psychology*, 71. 645-653.
2. Bertonecelj, A. & Kovac, D. (2008). A Conceptual Model of Individual Competency Components As One of The Predictors of Success In Mergers and Acquisitions. *Zb. rad. Ekon. fak. Rij*, 26(2), 215-237.
3. Clark, P. (2002). Recruitment and Selection Practices in a Selected Organisation. *Journal of Management Practice*, 4(1), 166-177.
4. Coleman, Alice., Proceeding of the sixth symposium On Graphology, 1999, 1-20
5. Compton, R. L., Nankervis, A. R., & Compton, B. (1998). *Effective Recruitment and Selection Practices*. Australia: CCH.
6. Dennis PH: 2001, Some Preliminary Questions. In: *Handwriting Analysis: An Adventure in Self-discovery*. Ist Edn.; Arora's Bookworld, Ambala, 3-13.
7. Ellstrom, P. E. (1997). The many meanings of occupational competence and qualification. *Journal of European Industrial Training*, 21(6/7), 266-273.
8. Fisher, C. D., Schoenfeldt, L. F. & Shaw, J. B. (2004) *Human Resources Management*, New Delhi: Biztantra.
9. Gardner, H. 1997. Is there a moral intelligence? In M. Runco (Ed.), *The creativity research handbook*. Cresskill, NJ: Hampton Press.
10. Hock Ow, Siew, Kean Siang Teh & Li Yi Yee.. (2005) *An Overview on the Use of Graphology as a Tool for Career Guidance*. CMU. Journal, 95.oehler
11. Hoffmann, T. (1999). The meanings of competency. *Journal of European Industrial Training*, 23, 275-85.
12. Kamath, Vikram, Nikhil Ramaswamy, P. Navin Karanth, Vijay Desai and S. M. Kulkarni. 2011. *Development Of An Automated Handwriting Analysis System*. ARPN Journal of Engineering and Applied Sciences. VOL. 6, NO.9.
13. Kleiman, L. S. (2005) *Human Resources Management: A Managerial Tool for Competitive Advantage*. 2nd ed. New Delhi: Biztantra.
14. Kumar, R., Vijay Manikrao Athawale, & Shankar Chakraborty. (2010). *Facility Location Selection Using the Uta Method*. *The Iup Journal of Operations Management*, 9(4).
15. Lowe, S.R. 1999. *The Complete Idiot's Guide to Handwriting Analysis*. New York: Alpha Books.
16. Mathis, R. & Jackson, J. (2008). *Human Resources Management*, 12th Ed. Mason, OH: Thomson South-Western College Publishing.



17. McCarthy, M. 1988. Handwriting analysis as personnel tool. Wall Street Journal, August 25 Edition 17.
18. Noe, R. A., Hollenbeck, J. R., Gerhart, B., & Wright, P. M. (2006). Fundamentals of Human Resource Management. McGraw Hill Higher Education.
19. Prasad, S., Singh, V.K., & Sapre, A. (2010) Handwriting Analysis based on Segmentation Method for Prediction of Human Personality using Support Vector Machine, International Journal of Computer Applications (0975 – 8887) Vol.8– No.12, October 2010, 25.
20. Rafaeli, A., and R. J. Klimoski. 1983. Predicting Sales Success Through Handwriting Analysis: An Evaluation of the Effects of Training and Handwriting Sample Content. Journal of Applied Psychology 68: 212–217
21. River: The Broad Strokes: Basic Techniques I. In: Handwriting Analysis : Change Your Handwriting-Change Your Life. 1st Edn.; River Books, New Delhi, 2003; 3-15.
22. Roy, N King, Derek J. Koehler. 2000. Illusory Correlations in Graphological Inference. Journal of Experimental Psychology.
23. Spencer, M.S., 1994. Economic theory, cost accounting and the theory of constraints: an examination of relationships and problems. International Journal of Production Research 32 (2), 299–308.
24. Tao-ko Yang, Henry S. R. Kao, Handwriting Analysis based on Segmentation Method for Prediction of Human Personality using Support Vector Machine, National Central University