

## Career of horizontal education mismatch workers: Career competency, job crafting, and work engagement

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### ABSTRACT

Education is one of many factors that has the biggest impact toward unemployment rate due to the fact that there are mismatches between educational background and the intended job, and it is named horizontal education mismatch. The employee who is run into educational mismatch condition is seen less-competent, less-qualified, and less accomplished associated with company and work engagement which should be owned by every employee, both supervisors and subordinates. The purpose of this study was to test out that Job Crafting can play a role as a relation mediator between career competencies and work engagement toward employees which run into horizontal education mismatch. This was quantitative research; with purposive sampling method to recruit the respondent. The respondent of this research was people with age range 17-65 years old and using Process v3.5 by Hayes, The Simple Mediation Model No.4. Considering the phenomenon of Horizontal Education Mismatch which has an impact on competency and work engagement. The uniqueness of this research was to pay attention to the suitability of educational background with the current occupation, which indirectly affects the competence of workers. The results of this study were in accordance with the aims and expectations of the researchers. The results of this study indicated that job crafting plays a role as a mediator in the correlation between career competencies and work engagement. Hopefully, it will be able to meet the competency needs of employees to increase employee engagement with the company.

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## 1. INTRODUCTION

Education is one of the most expensive investments and is the best-selling investment among the public. The highest return on investment is obtained when the individual is in tune with his superior so that he can utilize and apply knowledge gained from previous education. Over the past two decades, research on the mismatch between previous education and the type of work currently occupied by worker has increased, in February 2019 the Central Statistics Agency said that 63% of 129.36 million workers experienced mismatch in Indonesia [1]. Education is one of the factors that most influencing toward the unemployment rate because of the large number of educational backgrounds that are not in accordance with the intended job, and if an individual gets a job that is not in accordance with the field of education they were in, Robst

explained this is called a horizontal education mismatch [2]. The problem of horizontal education mismatch has actually been going on for a long time, especially in Jakarta, which is the capital of the country that become the destination of prospective workers from the regions and very few people who are discussing this horizontal education mismatch due to the fact that people think that it is a common thing compared to if they had to be unemployed. In addition, education is very important because it can affect employee performance and work performance [3].

Education mismatch is divided into two types, the first is horizontal education mismatch, which is the difference between the educational background and the type of work occupied; and the second is vertical education mismatch, which is the difference between the level of education and the work that is occupied. The first is over education, where workers occupy a higher position or position than their education and the opposite is called under education [4]. However, this research only focuses on the horizontal education mismatch.

For workers who experience a horizontal education mismatch, it has several impacts on workers, such as high turnover of worker income and low job satisfaction [4]. Therefore workers who experience this horizontal education mismatch have a serious problem because workers have to learn new things, new cultures, and understand new knowledge that will make workers feel uncomfortable with their work while workers are currently required to fully contribute to the progress of the company by creating new ideas, increasing productivity and also directing all its potential to achieve company goals [4]. One potential explanation from previous research is that skills shortages are due to the fact that too many students choose the major they are interested in or want in comparison to labor market demand [5]. Workers who experience a horizontal education mismatch state that the dimension of intellectual competence has a correlation with work engagement in the vigor, which shows that if the employee's intellectual ability is high, then the worker also has a high vigor as well [6]. This worker is shown with a desire to try, has great energy while working, high resilience and does not give up easily when working and is persistent when facing problems [7], [8]. In addition to the vigor dimension, there is also a correlation with other dimensions, namely the dedication dimension, which shows a similar number of correlations which shows a sense of enthusiasm and also a feeling of pride in his work [4].

Career competence includes aspects of expertise, insight and showing work attitudes in accordance with the context of the ability of workers [9], this statement is also in line with the Manpower Law No. 13 of 2003 imposed by the Indonesian government [10]. Career competencies in psychology will be adjusted through the formulation of the Indonesian Psychological Association and Directorate General of Higher Education code of ethics, and a person's competence is divided into two abilities, namely hard skills and soft skills. Hard skill concerns how tasks are practical, easy to understand, reviewed and measured or in other words technical abilities, whereas soft skills are when individuals combine one's skills which include non-academic skills and have three categories, namely personal, interpersonal and problem solving [11]. Career competencies are characteristics that underlie employees to do their jobs because they have causal factors that are focused on effectiveness and employee performance results [12]. Akkermans, Brenninkmeijer, Huibers, and Blonk [13] said that those that directly affect job performance such as insights, skills, abilities, or characteristics in individuals are called career competencies. The basics of knowledge and performance benchmarks that are in accordance with the provisions that serve to achieve a job or carry out a position in the company are an illustration of career competencies. The career competencies attribute itself is formed in categorical characteristics to be able to carry out work effectively.

Career competencies are an important element when doing certain jobs because you can find out a certain level in completing the job, therefore career competencies are needed to achieve employee career success [14]. Akkermans, *et al.* [14] stated that there are three dimensions, namely: reflective career competencies, which function to combine individual reflection and professional career of a person who is focused on creating long-term career awareness consisting of motivation and qualities, communicative career competencies are related about to the ability of workers to communicate with colleagues who aims to increase the chances of success in a person's career, which consists of networking and self-profiling and behavioral career competencies related to employee focus in shaping a career to determine the success of an employee's career, which consists of work exploration and career control. Career competencies have a correlation with work engagement, where workers can maximize their knowledge, skills, abilities, or individual characteristics as well as individual employee characteristics and will increase work engagement with workers, having positive feelings, and feeling satisfy while completing their work.

Mujasih and Ratnaningsih [15] stated that work engagement or can be called as employee engagement is the main character that must be carried by a worker, the quality and achievement of workers is usually related to work engagement. Therefore, work manager must be owned by every worker. Work engagement can result in someone who is feeling meaningful or useful and able to blend in with the organizational environment which aims to improve the ability to work within the company and workers who

are engaged with their work will strive to work and have loyalty to the company. As stated by Kahn in his research [16] that emotional, physical, cognitive and energetic work engagement is a form of correlation and involvement when workers with their work. Then another opinion that Work Engagement is important to determine the future of the organization according to Shuck and Wollard [17] and work engagement is worth maintaining because it is a major element in the company that encourages employees to always make improvements in work. Workers who have high Work Engagement will use their abilities to the fullest when they work [18]. If the company provides opportunities to apply the skills and knowledge they have while working, then that's when workers build to work engagement for the company [19]. This will improve the quality of responsibility and performance of workers in the workplace.

Workers will also dare to take various initiatives, develop new ideas and take opportunities. The workers will also be willing to help the organization such as mentoring and caring for colleagues. Salanova, Roma, and Bakker divided work engagement into three important dimensions, namely vigor, dedication, and absorption [20], [21]; 1) Vigor is characterized by high passion and strong mental and have a resilience when working, workers who have a desire to put forth effort at work, have high enthusiasm at work and persistence when facing obstacles at work. This vigor aspect will continue to be energetic and diligent for a long time so that it can complete the job by giving the best results and on time; 2) Dedication focuses on involving oneself who are strong in a job and feel the meaning in their work, obsessions, ideas - ideas, honors, and challenges. High dedication in workers can create a special meaning in every job, considering that the work being done is pride and a mission or challenge that must be completed properly; 3) Absorption of workers who live or in other words animate in their work will fully concentrate when doing their job, they will use their time very discipline and very professionally, workers who have a high appreciation will work on time and rest during break hours and even have difficulty separating themselves from their work, this worker also does not involve his personal problems when working. To balance the demands of resources in work, which means that work engagement will mutually influence career competencies, it requires job crafting. The importance of a balance between work and life is one way to avoid stress [22]. In addition, men are more prone to physical and emotional stress than women [23].

Job Crafting is the ability to change the work done by workers on their own initiative in such a way as to suit the skills, abilities and preferences of workers in order to balance the demands of resources on the job as to increase job satisfaction [24]. Job crafting is an attempt by workers to rearrange their work and change their view of the work to be completed according to the abilities and needs of individual workers [25]. Job crafting is a step of changes in workers to adjust their desires when completing their work [26]. Tims, Bakker and Derks [24] explained that there are four dimensions of job crafting, that is: 1) Increasing Structural Job Resources, namely the achievement of improvement in workers by trying many opportunities to promote and increase worker growth by systematically increasing their power such as being responsible. Answer to superiors, let be more independent and seek resources; 2) Increasing Social Job Resources, namely evaluating the form of feedback and suggestions that can be made by superiors and subordinates as well as colleagues with the aim of increasing employee performance improvements; 3) Increasing challenging job demands where workers can expand their reach or make their job more challenging by having responsibilities, displaying abilities and initiatives aimed at eliminating boredom in work; 4) Decreasing hindering job demands, where workers are seen as a cause of stress that can hinder learning and goals attainment [27]. This study decided focus on expansive job crafting only, namely the first three dimensions that have been mentioned. The first three dimensions have the potential to foster mastery and personal growth [27].

Career competencies are related to work engagement and show that personal resources act as mediators in the motivational process, which means that job resources can activate personal resources or in other words, career competencies have a positive correlation with work engagement which can lead to the level of work engagement [14]. Savitri, Nuraini, and Mardhatillah [28] explained that one of the determining factors for improving the quality of employees is motivation. There is an impact of perceived competencies related to work engagement on horizontal education mismatch workers on the vigor dimension then on the dedication dimension. The study also explains that the intellectual dimension of career competencies has a major influence on work engagement. This is indicated by unidirectional results, namely if the intellectual career competencies of the horizontal education mismatch workers are high, the work engagement of the workers is also high [4].

It can be concluded that career competencies have a correlation with work engagement. Employees maximize their knowledge, skills, abilities, or individual characteristics as well as individual employee characteristics and will increase work engagement with employees who focus and have positive feelings and feel satisfied when completing their work. Akkermans and Tims [27] explained that career competencies can shape job crafting behavior as shown in the study, which states the value between perceived internal and perceived external employability that has been mediated by job crafting, which means that career

competencies allow workers to rearrange their jobs and change their views. Regarding the work to be completed, they adjust the abilities and needs of individual workers and career competencies are an important reference in job crafting which means that the worker is aware of the desires and commitments of workers, has goals and is able to relate well, has better readiness to arrange work and adjust according to the abilities of the workers.

Every worker has different behavior towards their job and one of the efforts that can be applied is to apply job crafting so that workers feel work engagement with their work and mention the results of their research that increasing job resources and increasing challenging job demands have a significant correlation and affect the percentage of work engagement. Based on all the factors mentioned, the last factor or personal resources related to the human feeling of the capacity within himself to be achieved in formulating and influencing his environment through positive self-evaluation, one example of personal resources is proactive behavior which is a portrait of job crafting [29].

According to the phenomena described above, the researcher realizes that work engagement, career competencies and job crafting are interrelated. If the previous research only discusses the correlation between career competencies and work engagement [14], then there is a uniqueness in this study. If the previous studies did not pay attention to the background or educational background and the work occupied or what is called the horizontal education mismatch, so in this study the researcher is going to focus on the suitability of the educational background with the work occupied by the subject or the one experienced a horizontal education mismatch whether it had a significant effect on competencies or not, and the researcher also saw that there was one more variable that could act as a mediator between careers, competencies and work engagement, namely job crafting. In accordance with what has been explained that job crafting is a mean for workers to feel work engagement with their work [30], because job crafting affects the percentage level of work engagement [29] and the formulation of the problem in this study are; 1) Is there a correlation between job crafting and work engagement?; 2) Is there a correlation between career competencies and job crafting?; 3) Is there a correlation between career competencies and work engagement?; and 4) Does job crafting act as a mediator for the correlation between career competencies and work engagement?

## 2. RESEARCH METHOD

This research used a quantitative method in the form of numbers and then analyzed statistically. The quantitative research method aims to examine the population and sample according to predetermined characteristics, then collect data and analyze statistical data which aims to evaluate the confirmed hypothesis to be explored and then draw conclusions. In this study, data was obtained from filling out questionnaires that were filled in by respondents online via Google Forms. Researchers got a total of 385 respondents, but there were only 367 respondents who matched the characteristics and domicile desired by the researcher, namely in the Jakarta area and according to the characteristics, namely respondents who experienced Horizontal Education Mismatch. The subjects in this study were described based on age, gender, education level, type of position, occupation and marital status. The variables to be used are independent variables or independent variables, namely career competencies and the dependent variable or dependent variable, namely work engagement. This research design using purposive sampling. Subjects in the study were aged 17–65 years and used the simple mediation model technique.

This measurement tool for career competencies uses a measuring tool that has been developed by Akkermans, Brenninkmeijer, Huibers, and Blonk [13] which is called the career competencies questioner or (CCQ) and in this study the career competencies are measured by twenty one question items based on three dimensions of career competencies, namely the reflective, communicative and behavioral career competencies, each of which contains seven questions items per dimension. This work engagement measuring tool uses a measuring tool developed by Schaufeli and Bakker called the Utrecht Work Engagement Scale or (UWES), the work engagement variable was measured by 17 questions items based on three aspects of work engagement, namely vigor, dedication and absorption [17]. While the job crafting measuring tool uses a measuring tool that has been developed by Tims, Bakker, and Derks [24] with a measuring tool called a job crafting questionnaire (JCQ) insisting 21 items, but in this study the job crafting variable was measured by fifteen questions items based on the three dimensions expansive of job crafting only same as the previous research [27], namely increasing social job resources, increasing structural job resources, and increasing challenging job demands; for the details can be seen in Table 1.

Table 1. Blueprint measuring instrument

Construct	Dimensions	Item favorable	Total	Sample of item
Career competencies	Reflective	1,2,3,4,5,6,7	7	I know what I like in my work
	Communicative	8,9,10,11,12,13,14	7	I know a lot of people within my work who can help me with my career
	Behavioral	15,16,17,18,19,20,21	7	I know how to find out what my options are for becoming further educated
Work engagement	Vigor	1,4,8,12,15,17	6	At my work, I feel bursting with energy
	Dedication	2,5,7,10,13	5	I find the work that I do full of meaning and purpose
	Absorption	3,6,9,11,14,16	6	Time flies when I am working
Job crafting	Increasing structural resources	1,2,3,4,5	5	In the current condition, I try to float my abilities
	Increasing social job resources	6,7,8,9,10	5	English translation. I ask my boss to guide me
	Challenging job demands	11,12,13,14,15	5	English translation. If there is an interesting project, I will offer to get involved

The validity test in the study was carried out on the three measuring instruments that had been tested by previous research and carried out back translation from English to Indonesian properly and correctly so that it made it easier for respondents to fill out the questionnaire, and the measuring instrument in this study used content validity through the assessment of the experts in their fields or expert judgment. While the reliability test in this study is tested by calculating the Cronbach Alpha ( $\alpha$ ) and McDonald's values, an instrument is declared reliable if it has ( $\alpha$ ) above .60 [31]. Table 2 shows the reliability testing used JAMONI v1.6 and showed the reliability coefficient on the career competencies variable at Cronbach alpha ( $\alpha$ ) .898 and McDonald's .917, on the work engagement variable Cronbach Alpha ( $\alpha$ ) .883 and McDonald's .903 and on the job crafting variable Cronbach Alpha ( $\alpha$ ) .841 and McDonald's .856.

Table 2. Reliability test

Variable	Cronbach ( $\alpha$ )	McDonald's
x	.898	.917
y	.883	.903
m	.841	.856

### 3. RESULTS

#### 3.1. Descriptive analysis

The total number of respondents was 367 people, there were 188 people (51%) male respondents and 179 people (51%) who were female and of the total number of respondents were 367 people, and on demographic factors based on age there were 55 people (15%) of respondents aged 17-22 years, 279 people (76%) aged 23-45 years and 33 people (9%) aged 46-65 years. Then, at the education level in this study there were 150 people (41%) respondents with a high school/vocational education level, 48 people (13%) respondents with a diploma education level, 162 people (44%) respondents with an undergraduate education level and as many as 7 people (2%) respondents with S2 education level with 162 people (44%). In terms of marital status, the total number of respondents with a single or unmarried marital status was 198 people (54%) of respondents with married status, and as many as 7 people (2%) of respondents with a widow or widowed marriage status. The total number of respondents as many as 367 people, the results obtained based on the field of work are 55 people (15%) of respondents who work in the Industrial sector, 18 (5%) of respondents who work in the Commercial sector, as many as 70 people (19%) of respondents who work for Service sector, as many as 11 (3%) respondents who work in the field of education, as many as 7 people (2%) respondents who work in the field of ASN Government, and as many as 147 (40%) respondents who work in the field of telecommunications. Whereas in the types of positions there were 4 (1%) respondents with Director & Ekselon 1 types, 18 people (5%) respondents with Manager, Foreman & Ekselon 2 positions, as many as 22 people (6%) respondents with Assistant Manager & Ekselon 3, there are 26 people (7%) of respondents with the types of positions of Supervisor, Officer & Ekselon 4, there are 172 people (47%) respondents with the types of positions Staff & Tamtama, as many as 88 people (24%) respondents with the types of Operators & NCO positions, there are 15 people (4%) of respondents with the type of position as Entrepreneur, and there are 22 people (6%) of respondents with the Leader type position.

The results show at Table 3, that the hypothetical minimum value of career competencies is above 21, while the hypothetical maximum value is below 105. Then the hypothetical minimum standard deviation value of career competencies is 14 and has a mean career competencies of 63. Meanwhile, the hypothetical minimum value of work engagement is above than 17, while the hypothetical maximum value is below 85. Then the hypothetical standard deviation value of work engagement is 11 and has the mean value of work engagement that is 51. In the last variable, job crafting, the value of the descriptive analysis results shows that the hypothetical minimum value of job crafting is above 15, while the maximum hypothetical value is below 75. Then the hypothetical standard deviation value of job crafting is 10 and has a middle value of job crafting which is 45.

Table 3. The result of descriptive analysis

Variable	XMin	XMax	SD	Mean
x	21	105	14	63
y	17	85	11	51
m	15	75	10	45

Hypothetical Categorization Analysis of Career Competencies, it can be stated that there are no respondents who are in the range 21-49 which is a low hypothetical categorization. The number then in the moderate hypothetical categorization, there are 73 respondents in the 50-77 value range (20%). Then the respondents who are in the high categorization with a value range of 78-105 are 294 (80%). In the work engagement variable, it can be stated that there are no respondents who are in the value range 17-40 which is a low hypothetical categorization. The number then in the moderate hypothetical categorization, there are respondents who are in the range of values 41-62 with 111 (30%). Then the respondents who are in the high categorization with a value range of 63-85 are 256 (70%). While the results of the analysis on the job crafting variable h can be stated that there are no respondents who are in the value range 15-35 which is a low hypothetical categorization. The number then in the moderate hypothetical categorization, there are 284 respondents in the 36-55 value range (23%). Then the respondents who are in the high categorization with a value range of 56-75 are 367 (77%).

**3.2. The simple model meditation**

Processing Mediation regression analysis in this study used The Simple Model Mediation Process V3.5 Procedure for SPSS by Andrew F. Hayes which aims to determine the role of M or as a mediator in the correlation between X or the independent variable with Y or the dependent variable. The results of the analysis summary are the model feasibility test value/the F value, the regression coefficient/t value, the determination coefficient value, and the regression equation as well as the mediation results through the single M intervening, namely job crafting. Processing mediation regression analysis in this study using The Simple Model Mediation Process V3.5 Procedure for SPSS by Andrew F. Hayes. The results summary show in Table 4 while the results model of the mediation regression analysis model no. 4 are presented in Figure 1.

Table 4. Summary of simple model mediation

Antecedent	Consequent				JC	WE		
	Coeff.	SE	p	Coeff.		SE	P	
X (CC)	a	0.509	0.288	<.001	c'	0.160	0.415	0.001
M (JC)	-	-	-	-	b	0.639	0.067	<.001
Constan		17.126	2.477	<.001		14.274	3.409	<.001
		R <sup>2</sup> = 0.461				R <sup>2</sup> = 0.416		
		F (1.365) = 312.613, p = <.001				F (2.364) = 129.927, p = <.001		

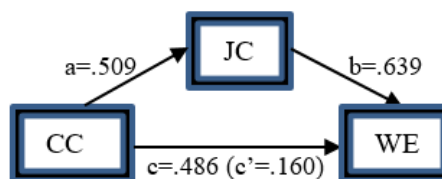


Figure 1. The simple model mediation

Figure 1 shows Path *a* is a form of direct correlation between CC and JC, path *b* is a form of direct correlation between JC and WE, path *c*' is a form of direct correlation between CC and WE. It can be seen that the value of the value of the direct correlation between CC and JC shown by path *a*, namely .509 ( $R=.679$  and  $R^2=.4613$ ;  $p<.001$ ), these results indicate that there is a strong enough correlation between the two, and the analysis results show that 46.13% of job crafting is influenced by CC and significant between CC and JC. In this study, it indicates that workers who have high career competencies will also have high scores in job crafting because workers who experience a horizontal education mismatch make improvements in workers by trying many opportunities aimed at advancing the company by exploring workers' abilities and being able to find opportunities in his work and actively influence in the learning process and determine goals and how to fulfill them.

The value of the direct correlation between JC and WE is shown by path *b*, namely .639 ( $R=.645$  and  $R^2=.4165$ ;  $p<.001$ ), these results indicate that there is a strong enough correlation between the two variables, and the results. The analysis shows that 41.65% of WE is influenced by job crafting and is significant between JC and WE. This research indicates that workers who have high JC values will also have high scores on work engagement because workers who experience a horizontal education mismatch make their jobs more challenging by having responsibilities and showing abilities and having initiative when working, accompanied by having High morale and strong mental resiliency at work, persistent when facing obstacles in work so that they are able to complete work by giving the best results and on time.

The direct correlation between CC and WE is indicated by path *c*', namely .160 ( $R=.5229$  and  $R^2=.2734$ ;  $p<.001$ ), these results indicate that there is a strong enough correlation between the two variables, and the analysis results show that 27.34% work engagement is influenced by CC and is significant between CC and work engagement. This is indicated by workers who experience a horizontal education mismatch lack of communication to convey knowledge, skills, both internal and external to a worker due to differences in discussion of knowledge between workers who do not and those who experience horizontal education mismatch because of workers who experience horizontal education. Education mismatch is a lack of animosity in their work and lack of full concentration when doing their assignments, always thinking about when the time for breaks will come and cannot separate personal problems from their work.

Based on the mediation model above, the indirect correlation between CC and WE mediated by JC or path *c* is .486 (LLCI confidence interval=.2389; confidence interval ULCI=.4159), from these results it shows that there is a positive correlation. and significant between CC and WE mediated by JC, meaning that workers who experience a horizontal education mismatch will still be able to feel engaged in their work when carrying out their work is done by trying hard and have advantages over basic situations including insight, skills and attitudes are channeled through workers being able to restructure their work in such a way as to suit workers' skills, abilities and preferences.

There is a correlation between JC and WE based on a correlation matrix between dimensions as shown in Table 5. It can be concluded that the correlation between job crafting variables has three main dimensions, namely the dimensions of increasing structural job resources, social job resources and challenging job demands, while the variable Y or work engagement is has three main dimensions, namely vigor, dedication, and absorption. In this study, it has the highest and significant value indicated by the correlation value between dimensions of increasing challenging job resources with vigor having a value of  $R=.610$  ( $p<.001$ ). This is marked by workers who experience a horizontal education mismatch which makes their work more challenging by having responsibility and demonstrating abilities and having initiative when working, and accompanied by having high enthusiasm and strong mental reliance when working, persistent when facing obstacles in work so as to be able to complete the job by giving the best results and on time.

Table 5. Correlation matrix between dimension

	TCC_RE	TCC_CO	TCC_BE	WE_V	WE_D	WE_A
WE_V	.472**	.394**	.563**	-	-	-
WE_D	.540**	.474**	.568**	-	-	-
WE_A	.240**	.167**	.253**	-	-	-
TJC_ST	.515**	.389**	.594**	.466**	.462**	.282**
TJC_SC	.418**	.424**	.446**	.435**	.511**	.277**
TJC_C	.457**	.434**	.525**	.610**	.553**	.436**

\*\* . Correlation is significant at the 0.01 level (2-tailed).

As displayed in Table 5, there is a correlation between CC and JC. In the correlation matrix between dimensions, it can be concluded that the correlation between JC variables has three main dimensions, namely the dimensions of increasing structural job resources, social job resources and challenging job demands,

while variable X or career competencies are has three main dimensions, namely reflective, communicative and behavioral. The correlation between CC and JC is positive and significant, indicated by the correlation value between the dimensions of increasing structural job resources and behavioral, which has a value of  $R=.594$  ( $p<.001$ ). This is indicated by workers who experience a horizontal education mismatch making improvements in workers by trying many opportunities aimed at advancing the company by exploring workers' abilities and being able to find opportunities in their work, and workers also actively influence in the learning process and determine goals and ways to fulfill it.

In this study, the correlation between career competencies and work engagement is very weak, there is a positive correlation between career competencies and work engagement on the correlation matrix between the dimensions of the correlation between variable X or career competencies which has three main dimensions, namely reflective career competencies, communicative career competencies and behavioral. Career competencies, while the Y variable or work engagement has three main dimensions, namely vigor, dedication, and absorption. Career competencies with work engagement show a positive but insignificant correlation, indicated by the correlation value between the dimensions of communicative career competencies and absorption has a value of  $R=.167$  ( $p<.001$ ). This is indicated by workers who experience a horizontal education mismatch lack of communication to convey knowledge, skills both internal and external to a worker, due to differences in discussion of knowledge between workers who do not and those who experience horizontal education mismatch with a lack of animating in their work and lack of full concentration when doing assignments, always thinking about when the time for breaks and cannot separate personal problems from their work.

However, after further review, it turns out that workers who have the ability to make improvements in workers can be shown by trying many opportunities aimed at advancing the company with high morale and strong mental reliance when working, persistent when facing obstacles in work so that they are able completing work by giving the best results and on time and interpreting the work, and considering that the work being done is pride and a mission or challenge that must be completed properly with the correlation value between the behavioral and vigor dimensions having a value of  $R=.563$  ( $p<.001$ ), and dedication has a value of  $R=.568$  ( $p<.001$ ).

#### 4. DISCUSSION

The results of this study indicated that job crafting plays a role as a mediator in the correlation between career competencies and work engagement. The result of this study describe that without JC as a mediator, there is still a correlation between CC and WE, but the correlation is very weak even though the correlation is significant, but when CC through to JC first the effect is stronger to WE. In other words, employees who use their abilities and initiatives when working or job creations and understand the values of career competencies or the ability of a worker to carry out a job by trying hard and also have advantages over basic situations including insight, skills, and attitudes. Employee engagement will also increase. Engagement must be owned by all employees, both leaders and subordinates, who must strive to be able to have engagement, achievement, enthusiasm for their work, enthusiasm, and productivity [32]. In addition, the productive age of workers is 18-40 years old [33].

In this study, the correlation between CC and WE is very weak, there is a positive correlation between CC and WE, which shows a positive but insignificant correlation as indicated by the correlation value between the dimensions of communicative career competencies and absorption. This is indicated by workers who experience a horizontal education mismatch lack of communication to convey knowledge, skills both internal and external to a worker, due to differences in discussion of knowledge between workers who do not and those who experience horizontal education mismatch with a lack of animating in their work and lack of full concentration when doing assignments, always thinking about when the time for breaks will arrive and cannot separate personal problems from work. The results of this study are consistent with previous research which obtained the lowest correlation value on the absorption dimension compared to other work engagement dimensions on the career competencies dimension. This study also states that if the career competencies of employees are low, the work engagement of these employees will also be low, and vice versa [4]. Companies need to pay attention to organizational aspects so that employees are more productive and loyal [34].

There is a correlation between JC and WE based on a correlation matrix between dimensions. In this study, it has the highest and significant value indicated by the correlation value between dimensions of increasing challenging job resources with vigor. Job crafting is a way for workers to rearrange their work and change their view of the work to be completed according to the abilities and needs of individual workers [25]. Meanwhile, work engagement is able to have an impact that someone will feel meaningful or useful and can blend in the organizational environment so that it has the goal of increasing the ability to work within the company and workers who are engaged with their work will strive hard at work and have loyalty to the



company [2], [35]. Work engagement has an important contribution to employee performance [36]. The results of the correlation matrix between these dimensions indicate that the ability of workers to make their jobs more challenging by having responsibilities, shows abilities and initiatives aimed at getting rid of boredom at work very well and tends to have good energy and mental resilience as well. This is marked by workers who experience a horizontal education mismatch which makes their work more challenging by having responsibility and demonstrating abilities and having initiative when working, and accompanied by having high enthusiasm and strong mental reliance when working, persistent when facing obstacles in work so as to be able to complete the job by giving the best results and at the right time [37].

Referring to the J-DR theory, the correlation between WE and JC can be seen from job resources and personal resources because it is a predictor of work engagement, which means that to create a sense of work engagement, workers need to balance job resources and job demand owned by workers, and reduce work pressure [36]. Proactive behavior by employees is the key for employees to be able to balance job demand and job resources in their work [24]. Behavior which is the way workers rearrange their work and change their view of the work to be completed according to the abilities and needs of individual workers is called job crafting [25].

Tims, Bakker, and Derks [24] defined job crafting as the ability to change the work done by workers on their own initiative in such a way as to suit the skills, abilities and preferences of workers in order to balance the demands of resources in work so as to increase job satisfaction. Tims, *et al.* [26] argued that every worker has different attitudes towards their work and one effort that can be implemented is to implement job crafting so that workers feel work engagement with their work. This study are in line with previous research which suggests that workers who have a high level of job crafting have a high level of work engagement because workers prefer a challenging job with responsibilities, in order to show abilities and initiatives aimed at getting rid of boredom in work that shows there is a positive correlation based on job crafting on work engagement [38].

There is a correlation between CC and JC in the correlation matrix between dimensions. It can be concluded that the correlation between career competencies and job crafting is positive and significant, indicated by the correlation value between dimensions of increasing structural job resources and behavioral. This is indicated by workers who experience a horizontal education mismatch making improvements in workers by trying many opportunities aimed at advancing the company by exploring workers' abilities and being able to seek opportunities in their work, and workers also actively influence in the learning process and determine goals and ways fulfill it [37]. These results indicate that the ability of workers to focus when working in forming a career to determine the success of the worker's career itself is formed in the categorical characteristics to be able to carry out work effectively. Furthermore, companies need to know the level of change readiness in their workers [39].

This study are in line with previous research which states that the CC dimension has a positive and significant correlation with the JC dimension because it allows workers to rearrange their work and change their views on the work to be completed according to the individual abilities and needs of employees and career competencies to become an important reference in job crafting which means that workers are aware of the desires and commitments of workers, have goals and are able to relate well to have better readiness to arrange work and adjust according to the abilities of workers [27].

## 5. CONCLUSION

This study was conducted according to expectations. The conclusion can be drawn that there are correlations between job crafting and work engagement, career competencies and job crafting, career competencies and work engagement. Job crafting serves as a mediator of the correlation between career competencies and work engagement. For horizontal education mismatch workers, it can provide benefits including increasing the effectiveness of the employee performance in each company. Also, to maximize career competencies with job crafting which aims to be able to foster engagement with where they work, by continuing to learn through various platforms. The platforms are reading books, participating in webinars and attending workshops aims to deepen the skills possessed by workers and be able to compete and survive in their workplace so that they become professional workers and are needed in the company.

Business owners and developers or organizations are able to implement the values of career competencies, work engagement and job crafting the by creating training and workshops related to career competencies in work and entering job crafting information. So that it can increase the effectiveness of the performance of the workers in each company.

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