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Construction of TVET Students' Career Profile Pathways

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Abstract: A lucrative career and meet the personality of the individual is the dream of every human being. Yet, the diversity of human personalities causes each individual to need a different career path to obtain a career that is in line with their personalities. This study was conducted to develop different career development pathways according to the profile of each individual. This qualitative study used Multiple Case Study with Delphi technique Interview Method as the data collection method. There were 15 informants who were graduated from TVETs background and have been successful in their careers. The results of the analysis using Thematic Analysis and Fuzzy Delphi have produced Seven (7) different career paths according to profile namely Opportunist Path, Aggressive Path, Systematic Path, Cognitive Path, Conventional Path, Roe Path and Roe-Supportive Path. All these Career Routes are then agreed by experts using Focused Group Discussion techniques consisting of lecturers and alumni of TVETs. These different paths can give a new dimension to students to make their own career planning based on their personalities.

Keywords: Career, career profile, career pathway, career planning

1. Introduction

The development of career pathways produced should be based on the uniqueness of patents of each individual to give a greater impact in their future career. Each student should be getting specific guidance based on their characteristics. This coincides with the recommendation of Super, Savickas and Super (1996) which stated that career planning and development is unique to each individual. Thus, every student is entitled to a career development guidance differently whether he is an opportunist, aggressive or conventional profile. An individual with prepared career planning means that he is ready to face the world of career after graduation and is able to make the right career decisions. Super recommended that the particular behaviors a person engage in to implement the self-concept vocationally are a function of the individual's stage of life development. He made the assumption that any given person possesses the potential for success and satisfaction in a variety of occupational setting (Osipow & Fitzgerald, 1996).

Studied by Nur Ayuni and Jamaluddin (2017) about the problems faced by students in the undergraduate level Universiti Putra Malaysia found that employment (mean score: 0.0746) was the most common problem faced by the undergraduate students. It was supported by Jailani, Adli, Amat, Othman, Neda Deylami and Abdul Rahim (2020) who found that the main problems faced by the pre-university college students are related to their future-vocational and educational, followed by adjustment to school work and other issues about live. The challenges of finding a job also a

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bitter test for graduates of Technical and Vocational Education Training (TVET) in today's globalized world. Those who are unprepared and do not have good career planning are always having trouble planning their career path. However, their career potential needs to be guided and planned to build their future careers (Rasul, Nor, Amat & Rauf, 2015). A well-planned career path is proven to be able to increase the career maturity for career decision. Even experts in career counselling insist that career development should be guided and should not be allowed to grow on its own (Super 1996; Holland 1997; Creed & Hughes 2012). They need a planned career path that is in line with their personalities. However, the diversity of personalities and personal profiles cause them a need of different forms of pathways to suit their personalities. This is important for them to plan the best future career planning in line with their personalities (Rasul, Nor, Amat & Rauf, 2016).

Thus, development of guidance and career paths in line with student's profile are very beneficial for future career coordination. These diverse career paths can also be used by counsellors at TVET Institution to guide their clients to formulate their own career paths and further build excellent careers in the future. The objectives of this study are to:

- i. To develop a career path based on profiles for TVET's students.
- ii. To confirm the Career Path based on profiles for TVET's students.

2. Research Methodology

2.1 Research Design

Research design is a method and technique used to obtain information to achieve the objectives of the study. It will be a guide for researchers to achieve the objectives of the study and answer the research questions conducted through a number of specific procedures. Merriam (2009) stated studies based on (1) human interpretation of their experiences, (2) how they build their world, (3) the contribution of their life experiences, are fundamental to qualitative research. Whereas if the study is made in a similar and separate system (bounded) then it is said to be a qualitative study by case study. Thus, the study on career development pathways for students can be categorized as a qualitative study by case study (multiple cases).

In short, the first stage began with a literature review to build a conceptual framework of the study. The emphasis of the literature review is on the aspects of high-income communities, public universities, careers and theories related to career development such as Super Theory, Gotfredson Theory and Krumboltz Theory. As a result of this literature review process, a conceptual framework of the study has been developed. In the second stage of the study, interview protocol questions for the first round Delphi technique study were constructed based on the conceptual framework of the study. The interview protocol questions were constructed with the purpose of the study and the conceptual framework of the study. Next, the process of refining the interview instrument items were done by four highly qualified individuals in the field of career education. Instruments were built with the help of individual or group expertise have a high level of validity and reliability. Comments and suggestions from all experts have been taken into account for the purpose of improving this interview protocol. A pilot study was conducted to further strengthen the questions contained in this interview protocol. Next, the selection of 15 respondents was done based on the criteria that have been set.

The first round of the Delphi technique began with a semi structured interview on all 15 informants who were selected. The findings of this study were used to produce a questionnaire for the second round of Delphi technique. Fuzzy Delphi analysis were conducted in the second round of Delphi Technique allows consensus among study participants to be obtained more quickly and accurately. This allowed the researcher to complete the Delphi technique in the second round after obtaining the consensus of the respondents of this study. The third stage of this study involved the construction of a career development path framework. The Focus Group Discussion (FGD) approach has been used to confirm the career development path of students that has been built. This approach is used because it is the best method to produce a solution to an issue together (Liamputtong 2010).

2.2 Sampling Technique

Purposive sampling was conducted to select informants where a total of 15 samples were selected based on criteria (1) TVET's Institutions graduates; (2) Have a gross income of more than RM5000 per month; and (3) Have a stable job whether in the form of business, private or public sector. Each informant was informed of the purpose of this study and they have filled in the consent form and have a freedom to withdraw at any time. The question of random sampling for qualitative study should not question because the result this study is not meant to be generalized towards a bigger universe. Especially for a case study, the data is meant to explain the phenomenon experience by the informants or participants of the study. The only challenge for the researcher is, to ensure that there are enough participants to help explain the phenomenon (saturated) (Ishak & Bakar 2014).

2.3 Data Collection Method

Overall, this qualitative study has used two approaches in collecting data which is the Semi Structured Interview and FGD.

2.3.1 Interview

For the interview, it was conducted using the Delphi Technique method and the study was done in two rounds. The main purpose of the Delphi Technique method is to obtain the profile and critical factors of success of graduates which will be an item to build a career path plan for students. This Delphi technique is a method used to obtain the consensus of experts acting as respondents (Linstone & Turoff, 2002). Delphi technique is used in this study because of its ability to obtain and refine the views and opinions of a group of experts on a particular issue. It is also considered as a method to obtain data in a structured manner based on the expertise of experts to produce something uniform (Mustapha & Darusalam, 2018). These two rounds of Delphi technique are briefly discussed as follows:

i. First Round

In the first round of Delphi technique, the researcher interviewed the informants based on the protocol questions that have been prepared to get ideas related to the profile, success factors of graduates and career path plans. Interviews had conducted to respondents consisting of graduates who have been successful either in the field of entrepreneurship or who are highly skilled workers. Mustapha and Darusalam (2018) describe the first round conducted as a strength to explore and understand the phenomenon of a study. The purpose is for the researcher to be able to jump into what is implied in the respondent through expression either orally or in writing. The data obtained was used as a basis to form a questionnaire instrument that will be used in the second-round session of the Delphi technique.

ii. Second Round

In the second round, the researcher sent a list in the form of statements (items) to be selected by each participant by hand. Each item is rearranged according to priority by each respondent. They were given two weeks to research and vote on item priorities. Item selection was made by Delphi technique participants where they were asked to select the top five item options. In this round, all the questionnaire items were analysed using Delphi Fuzzy Technique with Fuzzy Triangular Numbering and Defuzzification Process were used to see the agreement of the study participants. Fuzzy Triangle Numbering is intended to see the level of consensus for all appointed panels. Whereas, the Defuzzification Process is to determine the position of each variable and sub variable. In this process, there are two methods that can be used in determining the ranking and score for the items of each variable, using Average of Fuzzy Number and Fuzzy Evaluation.

2.3.2 Focus Group Discussion (FGD)

Focus Group Discussion (FGD) is used to validate the Student's Career Development Path. It is a verification technique using Triangulation on Method to test the consistency of information obtained at other times and use different qualitative methods. In this study, the findings obtained from the Delphi Technique study were discussed using FGD to see its suitability in the career development of students. FGD is an interview method for small groups where it is a qualitative research technique and is called Focus because of the form of questions posed (Liamputtong 2012). FGD is also suggested by Barbour (2007) for quantitative or qualitative studies such as interviews combined with FGD to produce more accurate and quality research findings.

2.4 Data Analysis

Data analysis methods were implemented in four stages (1) Individual career development profile (thematic analysis), (2) Career development indicators (thematic analysis), (3) Critical career development factors (Fuzzy Delphi) and (4) Career development framework (FGD analysis). This is because, these different study methodologies require different data and ways of analyzing to enable meaningful data. After interviews were completed, the data were transcript to have thematic analysis. This thematic analysis is conducted one by one but uses the same 6 phase thematic analysis procedure as proposed by Braun and Clark (2006) which includes (i) Familiarize with the data; (ii) Generate initial codes; (iii) Finding themes; (iv) Review the theme; (v) Define and name themes and (vi) Produce reports.

Using Nvivo 8.0 software, the researchers had run open coding to gain as much as code to select in selective coding process. There are 156 codes were found in open coding process. Once the open coding is completed, selective coding is done for the codes that are related to each theme and sub-theme for the informants. Through this selected coding process, researchers integrated the basic construction categories of individual career development profiles found from the open encoding process to form the desired career development profile. This selective encoding is done because this analysis is based on existing theoretical. So, the codes that have been proven in the theory are placed directly under the theme and sub-themes on the tree node in the Nvivo software.

Based on the concept of Career Decision Making by Super (1957) and Theory of Career Aspiration by Gottfredson (1981), a total of 8 themes have been released. For the first question of the study which is the profile of individual career development, thematic analysis was conducted individually to all 15 informants. This thematic analysis is a method of identifying, analysing and reporting patterns (themes) in qualitative data (Braun & Clarke 2006). The researcher chooses a deductive or theoretical approach that is tied to the theoretical of the study. Therefore, this study

adapts theoretical or deductive theme analysis because the researcher has coded based on existing theories and previous studies such as CDI model (Super et al 1996), Super career development theory (1977) and Gotfredson career aspiration theory (1981). The findings have discovered for career development from 15 individuals profile, seventy six (76) indicator and one hundred and thirty (130) critical success factors for community college students in career development.

Findings from the second round were analysed using the Fuzzy Delphi method. There are two (2) main points in this method (Fuzzy Triangle Numbering and the process of defuzzification). The numbering of Fuzzy Triangles (Triangular Fuzzy Numbers) consists of the average value of fuzzy numbers namely a1, a2 and a3 and it is always represented in the form (a1, a2, a3). a1 represents the minimum value, a2 represents the most reasonable value and a3 represents the maximum value. These three values in the Triangular Fuzzy Numbers can be represented in Figure 1 which shows the graph of the mean triangle against the triangular value.

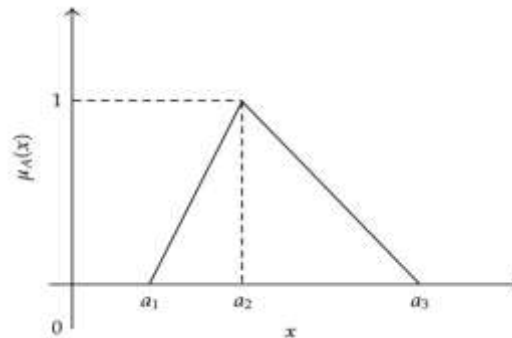


Fig. 1 - Triangular fuzzy numbers

The rationale for the use of these three numbers is to show that for each scale agreed in a fuzzy scale is not at a fixed value as in the Likert Scale (scale 1 to scale 5). For the fuzzy scale if the expert or respondent selects a value in the Likert scale in the questionnaire, when the data is translated into the Fuzzy scale, the translation for the selected scale will be broken down into three values namely minimum value (a1), most reasonable value (a2) or maximum value (a3). This shows that with the translation of data in the fuzzy scale is not at a single value. This is what distinguishes the use of fuzzy scales from Likert Scales.

Defuzzification process is to determine the ranking for each variable and sub variable. The purpose of this process is to help the researcher see the level of need, importance and level of a certain variable and sub-variables required. This ranking process will help produce data as needed based on the consensus of experts who act as study respondents. The symbol for defuzzification is Amax. The formula used to determine the ranking is $A_{max} = 1/3 * (a1 + a2 + a3)$. In this process, there are two processes that can be used in determining the ranking and score of items in each variable. Researchers have used both Average of Fuzzy Number (Average Respons) and Fuzzy Evaluation. Three conditions have been used in considering the acceptance of each item that has been agreed by the expert whether the item is discarded or accepted based on the expert agreement. Researchers have used these three conditions in the study conducted based on the findings of the study. Conditions 1 and 2 are bound to each other because they are in the Triangular Fuzzy Numbers (Triangular Fuzzy Numbers) section, as is known in this section it serves as a process of looking at expert agreement on a particular construct and item only (Cheng & Lin, 2002).

For condition 3 it is located in the Defuzzification Process section which serves to see the value of the score to determine the position or priority (raking) of a construct or item. Condition 3 is also able to play a role in seeing whether a construct or item is accepted or rejected based on expert agreement by comparing the score value of Average of Fuzzy Number @ Average Response with the value of α - cut. The value of α - cut will be explained in detail in the description of condition 3.

a) Condition 1- Using the value of Threshold, d.

The threshold value (d) is generated using the following formula:

$$d(m, n) = \sqrt{1/3[(m1-n1)2 + (m2 - n2)2 + (m3 - n3)2]}$$

The interpretation of the data is based on the threshold value (d) where if the threshold value (d) is less than or equal to 0.2 then the item is accepted but if $d > 0.2$ more than 0.2 Item is rejected or even do a second round against the unanimous expert only.

b) Condition 2- Based on Traditional Delphi Method

Based on the Traditional Delphi Technique, if the expert group consensus is more than 75%, then each item is accepted for use in the study. If less than 75% then the item will be rejected or a second round will have to be done against the disagreement specialist.

c) Condition 3- Based on α - cut as Threshold value

The α - cut value is the median value between the fuzzy numbers (0-1), so the α - cut value is 0.5. The use of α - cut value can be used in the defuzzification process. If the Average of Fuzzy Number @ Average Response score is better than 0.5, it indicates that the construct or item being measured is accepted based on expert agreement. Figure 2 shows the position of the α - cut value in the fuzzy numbering.

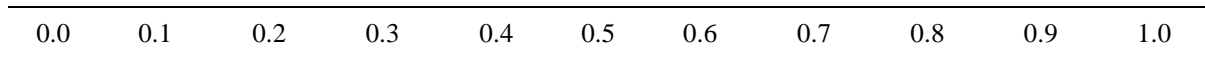


Fig. 2 - Position α - cut value in fuzzy numbering

2.5 Focus Group Discussion (FGD)

The FGD method has been implemented to develop a career path framework for higher learning institutions students. The FGD method is used because it is the best way to seek the approval of a panel of experts regarding a phenomenon, procedure, or issue (Liamputtong 2012). There is some debate about the method in analysing FGD data where some think it can be analysed just like other qualitative methods that are using thematic analysis. However, many people think that the analysis of FGD data is different from other qualitative methods. They felt that attention should be given to the dynamic aspects of interaction between panels in a group. This is the basis that makes group discussion something meaningful and unique compared to other methods in a qualitative approach (Barbour (2007).

Therefore, in this study, in addition to doing thematic analysis based on themes from previous rounds and coupled with emerging themes from FGD, researchers also looked at the interactions and social dynamics that occur in groups. As suggested by Macnaughtan and Myers (2004), it is crucial to look at patents that can show participants know what is being said, the relationship between moderators and participants, the relationship between participants and the topics and conversations that take place. Similarly, with repetition of emphasis, pause for a moment before continuing sentences and others that warm up the discussion and attract the audience to speak. Thus, when analysing transcripts, the researchers looked at the entire transcript, recalling the situations that occurred in the discussion and reviewing the form of interaction of the discussion participants. Recording transcripts can help the researchers to analyse the discussion where (1) All sentences should be transcribed using plain language (not short sentences); (2) Repeated words, incomplete or meaningless sentences such as uh uh, mm and the like should not be included; (3) Phrases or paragraphs that are difficult to understand need to be researched and their meaning reaffirmed; and (4) It is not necessary to state a paused conversation, a short sentence, a high or low tone of voice, a form of intonation except on conventional emphasis. These steps are to facilitate the transcription process and make it easy to read and understand. Other necessary features can be included as long as it does not distract the reader's attention or influence the reader's perception. The transcript process does not revolve around the question of choosing and or not choosing but between options for other purposes. However, Liamputtong (2012) reminded that the main purpose of FGD is more to generate ideas rather than seeking mutual agreement for each issue discussed. However, the agreement with the FGD panel will make it easier for the researcher to evaluate a matter or issue.

In this study, FGD members agreed with all six (6) main theme and twenty-seven (27) sub themes as a career development path framework and manage to build seven (7) pathways base on the profile of the informants. As with the Delphi Techniques interview, the analysis for FGD also uses code to represent the FGD panel. The code and sentence expressions from them have been used as a backup to accept or reject the critical factors that form the basis of the career development path of community college students. It will be supported by the form of panel interaction such as supporting, opposing, cynical or uncomfortable exhibited in this discussion.

3. Results and Discussions

The results from thematic analysis and Fuzzy Delphi Technique has shown that each of the graduate has a unique patent in their career development. It can be seen in the results of the analysis of the formation of individual profiles of the informants. The uniqueness of the profile results in their own patents in the profile of individual career development. The unique and positive profile that sets them apart from other graduates and helps their career development. Members of FGD agreed that the unique profiles found are opportunistic, aggressive, systematic, family orientation, cognitive and conventional.

3.1 Opportunist Profile

The opportunistic profile as found in two respondents and they have successfully become businessmen in the field of automotive and cleaning services. They are seen to be quite calm where they are not a spider even though at the beginning of their involvement as entrepreneurs is not really a success. They remain calm looking for opportunities and have a smart plan but flexible where they will not hesitate to change the planning plan if they see future opportunities. One of these respondents started a regular car workshop business but later turned it into a high-powered motorcycle workshop after seeing the prospect of high-powered motorcycle workshop. He continued to seek courses related to

high-powered motorcycles to be an expert in the field. They are more open and far-sighted where customer comments are used as a guide to be more successful. This positive character makes them able to shape their own vision in their dream career. Their ever-forward pattern of thinking gives them a difference compared to other individuals in planning their careers where problems are seen as opportunities openers rather than obstacles to success. Savickas (2000) asserts that the journey in the direction of a dream career is full of twists and turns and not all the same as described by traditional career theory. This scenario requires the wisdom and flexibility of individuals to overcome obstacles or take advantage of existing opportunities for the success of their future careers. Noah (2013) also stressed that students need to be good at seizing opportunities in their career planning because in this era of globalization, everyone needs to be quick in making decisions. This is supported by the study of Rasul et al. (2016) who stressed that graduates of an institution should be sensitive to the career opportunities available in the job market.

3.2 Aggressive Profile

The aggressive profile reflects the character of the two respondents in this study who are so quick in seizing the opportunities presented before them. These respondents have a very high self-confidence about their ability to compete in the job market. One of these informants was able to become a branch manager within 3 years where he started as a regular executive after graduation. He is very weak in English but still strives to master this language which is a major requirement in his career field. While another informant is a mechanic with specialist for BMW cars within 4 years after graduating from a community college despite starting with a very poor workshop without electricity and water supply. He cannot speak German but worked hard to understand it in order to master the BMW repair software purchased from Germany. All of these respondents are aggressive and dare to take the risk of failing in their career planning. They do not consider failure as a cover-up of opportunity but open up other opportunities for them. They emphasised that the courage to compete is the key to their success. They are not ashamed despite their shortcomings and have to compete with those who are much better. They are not easily satisfied with the achievements and always want to try something new and challenging. They are able to turn their weaknesses into strengths to compete and be ready to learn something new. Hall and Chandler (2005) asserted that an individual who dares to follow the career path they desire will be more efficient and happier with their job. In fact, Mohamad Sattar et al., (2016) in their study on the employability of graduates stressed that employers like to find aggressive individuals as their employees because they are usually brave and confident in doing something.

3.3 Systematic Character

Systematic character is the key to the success of the two informants of this study. They felt that every action must have a preliminary planning included in the effort to plan a future career. Every planning needs to be realized well even if it takes longer. They stressed; opportunity does not appear by chance but needs to be planned to get it. Both of these respondents have successfully developed several interconnected companies and they are able to make this company developed and competitive. They have far-sighted and different views than ordinary people. Planning is made taking into account current opportunities, risks and circumstances. They also have alternative plans in the event of failure in the future. Thus, they are ready to face failure because everything have been arranged in their planning and able to find answers to the failures faced. As a result, these two respondents are among the millionaire alumni. In fact, a study by Nor (2016) has found that alumni of higher education institution' alumni who have a systematic career planning are able to achieve success in their careers despite having low academic achievement while in school. This systematic planning is indeed recommended by Super (1996) who mentioned that career development should not be allowed to grow without systematic planning by just following the flow of time because it has the potential to fail to achieve what is dreamed.

3.4 Cognitive Profiles

Cognitive profiles place intelligence and mastery in the field of study as a factor of success in future careers. They felt focus on mastery in the field of study is the most important thing in career planning. This is because they think that high pinter and more efficient they are in their studies, it will make them easier to get jobs. They are focused and consistent with assignments, assessments, teaching and learning while in study. Everything that have nothing to do with studies such as working part time for them should be avoided. However, they are still involved in activities that are directly related to studies such as co-curricular activities and outdoor courses. They study hard and always see academic excellence as the main focus every semester. Therefore, it is not surprising that both of the informants had excellent academic achievement and were appointed as excellent student figures in their respective institutions. In fact, according to Baruch & Lavi-steiner (2015) the impact of academic achievement is very influential in a student's future career achievement. His research on a group of university students shows that the better a person's academic achievement the better the career they achieve when graduating compared to students with low academic achievement.

3.5 Conventional Profile

Both informants in this profile admitted that they only follow the rules of learning in their institutions without taking other initiatives to make their own career planning. They like to hide their feelings, do not like to share dreams or ambitions with anyone and are not imaginative. They only act according to the period of time deemed appropriate whether to make plans or make career decisions. Most of their career planning and exploration is done after graduation. Mostly, they have a relatively slow career awareness but have the desire to get a good future career. However, they are very persistent, resilient and able to work hard to get a dream career. They have to work harder than their fellow professors who are aggressive or opportunistic to compete in the job market after graduation. This is because they are a bit behind in terms of complete career information and they take longer as well as longer career paths to get high-income jobs. However, as a result of the hard work and perseverance shown, these respondents also managed to achieve their dream career despite facing various challenges. Holland (1976) also acknowledged that a conventional profiled individual is a structured and orderly person. Therefore, they are actually able to plan a career from the beginning if the institution where they study helps provide career planning pathways in their education system. This is supported by the study of Abdullah (2010) and Nor et al (2016) who stated that most low-achieving students only follow the flow of time in their career development. They need the help of the institutions they are studying to formulate their future career plans and most of them have the potential to succeed if guided properly.

3.6 Roe's Profile

Roe's term is taken from Anne Roe's career theory which places the family as the most important influence in the selection of individual careers. Informants who have this Roe profile make their family members either mother or father as role models. They feel their expertise in the field of career they are pursuing is something inherited from their family. Genetic background influences the formation of their interests, intelligence, attitudes and personalities which ultimately has influenced career choice. Therefore, they are so focused on succeeding in their field because they feel it is a biological heritage from the family. They are quite rigid with their career choices and will usually stay with their initial career choices until successful. The analysis found that individuals with Roe profile did not compromise in their career selection. This is because the influence of genetic factors and the development of this hierarchy of needs makes them very inclined to their original ambitions since in community college again and so focused on job selection. Noah (2013) states that the genetics and quality of early relationships with family greatly influence the development of interests which in turn influences individual career choices. This means that biological heritage, experiences related to relationships and interactions with significant individuals in one's life are important and can influence one's career choice (Sumari, Khalid & Razak, 2016).

3.7 Roe-supportive Profile

These profiles are almost identical to Roe's profile in terms of profile features, yet they do not have naturally inherited skills or abilities. However, they have a very supportive family and provide the necessary assistance to them to develop their careers whether financially, morally or counselling. These respondents described themselves as very lucky because their career path was facilitated with the help of their family. However, it still requires their determination to succeed in their careers because most of the assistance given is temporary at the beginning of their career. The combination of self-awareness and family support is very effective where these two informants managed to achieve their ambitions just a few months after graduating from college. They also managed to develop their careers and maintain their competitiveness after that despite facing various challenges and competition because they have a deep interest in their field. It is in line with Holland (1973) career selection theory which says that a career with personality will allow an individual to remain and be productive in his work. Both respondents chose a service-based career field namely construction contractor and bridal boutique. This is supported by Anne Roe's Career Choice theory (in Noah 2013) which states that individuals who come from families who are supportive, friendly and loving will usually choose a human-oriented job. In fact, a study by Nor (2016) has also found that a group of TVET students also tend towards the same career flow as their families if given encouragement.

4. Conclusions

This study has successfully achieved its objective to develop career path based on individual career development profile through Delphi technique interview method. A total of Seven (7) Different Career Routes for student guidance have been built namely (1) Opportunist; (2) Aggressive; (3) Systematic; (4) Cognitive; (5) Conventional; (6) Roe; and (7) Roe-Supportive. It is important for each student to be guided during their career planning base on personality to suit their career pathways. Providing different Career Routes according to these profiles and personalities will give students the freedom to experiment in fulfilling their career planning. Because each student has different learning experiences and career planning. This Career Path can also be used as a guide by counsellors to guide their clients to make a more systematic career planning.

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References

- Barbour, R. (2007) *Doing Focus Group*. London: Sage Publications
- Baruch, Y., & Lavi-Steiner, O. (2015). The career impact of management education from an average-ranked university: Human capital perspective. *The Career Development International*, 20(3), 218–237. <https://doi.org/10.1108/CDI-08-2014-0117>
- Braun, V. & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3 (2): 77-101
- Cheng, C.H. & Lin, Y. (2002). Evaluating the best main battle tank using fuzzy decision theory with linguistic criteria evaluation. *European Journal of Operating Research*, 142 (1), 74-86
- Creed, P.A. & Hughes, T. (2012). Career development strategies as moderators between career compromise and career outcomes in emerging adults. *Journal of Career Development*, 40 (2): 146-162
- Gotfredson, L.S. (2005). Applying Gotfredson's theory of circumscription and compromise in career guidance and counseling. Dlm. S.D. Brown & R.W. Lent (Pytg). *Career Development and Counseling: Putting Theory and Research to Work*, 71-100. New York: Wiley
- Hair, J. F., Anderson, R. E., Tatham, R. L., dan Black, W. C. (2010). *Multivariate data analysis seventh edition*. New York: Prentice Hall International Inc
- Hall, D.T. & Chandler, D.E. (2005). Psychological success, when the career is calling. *Journal of Organizational Behaviour*, 26 (2): 155-176
- Holland, J.L. (1973). *Making Vocational Choice: A Theory of Careers*. New Jersey: Prentice-Hall
- Ishak, N.M. & Bakar, A.B. (2014) Developing Sampling Frame for Case Study: Challenges and Conditions. *World Journal of Education* 4 (3) 29-35
- Jailani, O., Adli, A.H.T., Amat, M.A.C., Othman, S.M., Neda Deylami, Rahim, N.A. (2020). The Self-Perceived Problems among Malaysian Pre-university Students: Implications for College Counselling. *Asian Journal of University Education* 16 (3) 112-124
- Lent, R.W., Brown, S.D. & Hackett, G. (1996). Career development from a social cognitive perspective. Dlm. Brown, D. & Brooks, L. (Pytg). *Career Choice and Development 3rd edition*. 373-421. San Francisco: Jossey-Bass
- Liamputtong, P. (2012). *Focus Group Methodology: Principles and Practice*. London: Sage Pub
- Linstone, H.A & Turoff, M. (2002). Introduction. Dlm. A.L. Linstone & Turroff, M. (Pytg) *The Delphi Method: Technique and Application*. Mass: Addison-Wesley
- Macnaghten, P. & Myers, G. (2004). Focus Group. dlm Seale, C., Gobo, G., Gubrium, J.F. & Silverman, D. (Pytg) *Qualitative Research Practice*. London: Sage Publications
- Merriam, S.B. (2009). *Qualitative Research: A guide to design and implementation*. Revised and Expanded from Qualitative Research and Case Study Application in Education. San Francisco: Jossey-Bass
- Noah, SM. (2013). *Perkembangan Kerjaya: Teori dan Praktis*. Serdang: Penerbit UPM
- Nor, ARM (2016). Profil, Indikator, Faktor Kritikal Dan Model Perkembangan Kerjaya Berasaskan Komuniti Berpendapatan Tinggi Dalam Kalangan Lulusan Kolej Komuniti. Tesis PhD. Fakulti Pendidikan UKM
- Mustapha, R. & Darusalam, G. (2018). *Aplikasi Kaedah Fuzzy Delphi dalam Penyelidikan Sains Sosial*. Kuala Lumpur: Penerbit UM
- Nur Ayuni, M. T., & Jamaluddin, A. (2017). Permasalahan Diri Dalam Kalangan Pelajar Bachelar Pendidikan Di Fakulti Pengajian Pendidikan, Universiti Putra Malaysia. *Jurnal Psikologi Dan Kaunseling*. Kementerian Pendidikan Malaysia, 8, 225-248
- Osipow, S.H. & Fitzgerald, L.F. (1996) *Theories of Career Development 4th Edition*. Boston: Ally and Bacon
- Rasul, M.S., Nor, ARM., Amat, S. & Rauf, RAA, (2015). Exploring Critical Factors of Self Concept among High Income Community College Graduates. *International Education Studies* 8(12): 43-55

- Rasul, M.S., Nor, ARM., Amat, S. & Rauf, RAA. (2016). *Alumni Cemerlang Kolej Komuniti*. Bangi, Selangor: Penerbit Universiti Kebangsaan Malaysia
- Savickas, M.L. (2000). Assessing career decision making. Dlm C.E. Watkins & V. Campbell (Pytg) *Testing and assessment in counseling practice*. Mahweh, NJ: Erlbaum
- Sumari, M., Khalid, NM. & Razak, NAA. (2016). *Teori dan Amalan Kaunseling Kerjaya*. Kuala Lumpur: Penerbit UM
- Super, D.E. (1971). *The Psychology of Career*. New York: Harper & Row
- Super, D.E., Savickas, M.L. & Super, C.M. (1996). The life-span, life-space approach to careers. Dlm Brown, D., Brooks, L. & Associates (Eds) *Career Choice and Development*. San Francisco: Jossey-Bass
- Talib, J. (2013). *Kajian keberkesanan Modul Merancang Kerjaya terhadap pelajar kolej komuniti KPTM*. Tesis PhD. Fakulti Pendidikan UKM