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WILL ACCOUNTING STUDENTS CHOOSE A CAREER AS A PUBLIC ACCOUNTING? A CASE STUDY OUTCOME BY A META-ANALYSES

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ABSTRACT
The purpose of this study was to analyze and identify the results of previous studies related to career choice factors by accounting students. Meta-analysis method was used out of 87 scientific articles during 2005-2019 where 14 articles were designated as research samples. Factors of family and closest people, financial rewards, and job opportunities are considered as independent variables, and in contrast, career choice to become a public accountant are considered as dependent variables in this study. The results showed that family and closest people factors, financial rewards and job opportunities had a significant positive effect on career choice for accounting students. The outcomes obtained in this study will be useful for other researchers to identify the relationship between the factors of family and closest people, financial rewards, job opportunities, and career choice for future research.

Keywords: Career Choices, Public Accountant, Financial Rewards, Family, Job Opportunities

INTRODUCTION

Entering the global era, every profession is increasingly required to provide the best services and guarantees for their profession (Kirkpatrick et al., 2005). The emerging contours by the Fourth Industrial Revolution are rapidly becoming a lived reality to the new world for millions of services and thousands of professions all over the world (World Economic Forum, 2018). The fundamental pace of change in the thousands of professions enhanced further in every profession since the publication of the Fourth Industrial Revolution on this new labour market required policy reforms (World Economic Forum 2016). The inherent prospects for economic opportunity, governance, societal development and individual flourishing in the Fourth Industrial Revolution are thus enormous (Hirschi, 2018). However, the prospects crucially depend on the capability and capability of all concerned stakeholders to transformation in their respective professions, employment arrangements, labour market policies, and existing social contracts and business approaches (Jackson, 2016; World Economic Forum, 2018). A future of good work and catalysing positive outcomes for all will require bold leadership spirit in the respective profession from businesses (Goleman, 2017).

Over the past few years, the academics, think tanks, policy-makers and strategy consultants have debated on the questioned about the future works and how it might be, and future opportunities can be productively shaped for the benefit of economies and societies by providing business services and located resource strategies with solid leadership spirits (Burritt & Christ, 2016; Morrar et al., 2017; Xu et al, 2018; Schwab & Davis, 2018). The more the business sector develops, the more leadership role is needed in a corporate organization to enter in the future business, finance and marketing (World Economic Forum 2016). Each profession thus requires a leadership role with a solid leadership spirit and those should able to provide the right services (Grayson & Nelson, 2017). To recognize the relevant career development and to understand the importance of future opportunities, an employer needs to search for business professionals to minimise challenges in businesses (Chin et al., 2017).

The more business sector is developed, the more leader in the business is required. Equally, additional accounting role is essential in a corporate organization with the pace of business development, and more public accountant (e.g. who requires providing business services) is also required for quality reports to provide security for the financial sectors (Rianto et al., 2020). However, with amid increasing needs for public accountants recently, unfortunately, there has been a decline in the quality and quantity of accountants in various countries in recent years (Rianto et al., 2020). All over the world researchers are working to figure out the fundamental causes for a long time (Morrow, 1992). The accountant profession is considered to have experienced a crisis or a derivation in reputation for the last 3 (three) decades (Mbawuni, 2015). The International Academic Institute for Science and Technology states that Indonesia alone needs more than 200,000 public accountants, but in reality, currently there are only about 10,000. This need indicates that the problem of career selection by accounting students requires special attention, if allowed to continue, it will cause possible risks in the future (Aziz et al., 2017; Cahyadi et al., 2019). Several previous researchers conducted studies related to the career choice of accounting students to become public accountants in various countries such as Jackling's (2002) research in Australia; Myburgh (2005) in South Africa; Mustapha & Hassan (2015) in Malaysia; Ilham & Rosalina (2020) in Indonesia. Several other countries have also examined career choice factors of accounting students to become public accountants (Auyeung & Sands, 1997; Myburgh, 2005; Law, 2010; Ng et al., 2017; Hosseini & Khoeini, 2020).

The derivation in the number of the accounting profession was due to after taking education not all accounting students chose to become accountants (Widiatami & Cahyonowati, 2013). In recent research work, Mustapha & Hassan (2015) have revealed that only 28% are interested in continuing a career as an accountant. While research in Japan, there has been a decrease in the number of public accountants by more than 1.000 during 2005-2008 with the rate of recovery during subsequent years being much slower than expected (Sugahara & Boland, 2013). This has an impact on companies where they find it difficult to recruit public accountants for their companies (Churchman, 2013). The trend of decline in the number of students taking leaving certificate accounting is also noticeable (Byrne & Willis, 2003; Baxter & Kavanagh, 2012; Oler et al., 2019).

The accounting profession is a profession that specializes in accounting in carrying out activities that require accounting or related expertise (Indonesian Accounting Association, 2016). Accounting decision making in determining careers, of course, must be adjusted to the abilities and interests of the individuals concerned. Apart from internal learning factors, it is also influenced by external factors consisting of family and closest people, financial rewards and job opportunities factors. In a research study by Widyastuti & Pratiwi's (2013) shows that social factors, namely family and closest people, have a significant influence on learning decision making to determine their career. Family support or disapproval of career choices has a moderate effect. This is possible because of the differences in community culture and professional challenges felt by learners (Zeng et al., 2019). On the other hand, some families want to have the next generation to be like their group or maybe to develop their business. Therefore, they have high hopes for their offspring (Maree, 2020; Murphy, 2020).

Previous studies have shown that financial rewards have a significant influence on student career choices (Byrne et al., 2012; Cahyadi et al., 2019; Srirejeki et al., 2019; Susanti et al., 2019). In the minds of accounting students, they have great hopes, namely that there is a proper financial reward for them in the future. Research in America and Japan also shows that financial rewards have a positive effect on career choice (Sugahara et al., 2009), but unlike in Hong Kong (Law, 2010). Organizational culture also determines individuals to outsource their competence (De Long, 1997). Some organizations apply a learning culture, performance-based rewards, and information obtained which seem to motivate their employees to continue to do their best and ultimately increase organizational productivity (Wipulanusat et al., 2020). Thus, organizational support provides high hopes for individuals to achieve better job opportunities.

Several factors influence the career choices of accounting learners. At first, they chose to major in accounting because it had good prospects in the future, namely faster absorption of the labour market and hoped to get a large salary (Chan, 2012; Samsuri et al., 2016). Not only that, interest in accounting, conformity with abilities and encouragement from family and information obtained from the environment and closest people are also factors (Samsuri et al., 2016; Uyar et al., 2011). However, not a few students also choose career options outside the accounting field because the accounting profession does not provide guarantees for the future. More attractive career alternatives compared to the accounting profession, material difficulties in accounting, high-stress levels in accounting, inadequate numerical skills, decreased salary levels, lack of information regarding the recruitment of accountants, and the workload of an accountant affect the student mindset not to choosing a public accountant as the main career choice (Hashim & Embong, 2015; McDowall & Jackling, 2010; Uyar et al., 2011).

The differences are shown by previous research are not enough to justify the conclusion, and other factors are not explained to make a solid conclusion. There could be cultural issues or family demand influence a lot and therefore, students are reluctant to pay attention to financial rewards in determining their career choices. Several previous studies used quantitative and qualitative analysis include, "*Audit Quality, Corporate Governance, and Earnings Management*" by Lin & Hwang (2010), "*Education and Economic Growth: A Meta-Regression Analysis*" by Benos & Zotou (2014), "*A review of meta-analytic research in accounting*" by Khlif & Chalmers (2015), "*A meta-analysis approach for determinants of effective factors on audit quality*" by Salehi et al. (2019). Still, some factors are unknown for students to choose a career as a public accountant.

Following the references to previous studies, this study quantified unexplained relationship related to career choice factors in various countries particularly for Indonesia, Malaysia, Australia, Ghana, Turkey and Japan in summarizing a group of similar studies. Thus, the quantification of the unexplained relationship from the previous researches to identify the relationship between the factors of family and closest people, financial rewards, job opportunities, and career choice is the main contribution of this study.

RESEARCH METHOD

Meta-analysis:

Meta-analysis is a technique for analyzing and reviewing research results that are processed statistically based on the collection of research results using primary data (Hunter, et al, 1990). Meta-analysis is intended to examine more deeply the agency of research results caused by the increasing number of research replications or verifications, which often increases the variety of research results. This method includes accepting the findings of each study based on the effect size (D).

The most common meta-analysis conducted is reviewing the quantitative literature. According to Hunter & Schmidt (1990), using meta-analysis method findings of different "effect sizes" of any primary study can be reviewed quantitatively with the in-depth procedure. Any primary research can be analyzed reviews findings by meta-analysis usually to synthesize several studies. According to Hunter & Schmidt (1990), findings based on review studies can be analyzed using meta-analysis by correcting artefacts or research imperfections at least by 11 artefacts, namely:

1) Sampling error,
2) Measurement error in the dependent variable,
3) Measurement error in the independent variable,
4) The dichotomy of the dependent variable,
5) The dichotomy of independent variables,
6) Range variation in independent variables,

7) Attrition artefact,
8) Imperfect construct validity of the dependent variable,
9) The imperfection of construct validity on independent variables,
10) Error reporting or transcription, and
11) Variance caused by external factors.

Research approach:

This study uses a literature study research approach that uses statistical tools, namely meta-analysis with the method used by Hunter and Schmidt, (1990) known as the validity generalization technique. Validity generalization is a procedure for estimating the mean and variance of true validity before the meta-analysis integrates the effects between studies. This technique is more often used because researchers consider this technique is the most complete because apart from being able to be used to assess the effect size, it can be useful to study previous studies by making corrections including measurement errors and sampling errors (Hunter and Schmidt, 1990).

Research procedure:

The procedure used in this meta-analysis study refers to the procedure developed by Hunter & Schmidt (1990). The search for the results is carried out with the following steps or criteria:

1) Determine the problem to be investigated, namely the factors that influence career choices to become public accountants for accounting students,
2) Determine the period of research results that are used as data sources (e.g. articles used from 2005 to 2019 in the last 15 years),
3) Determine the suitability of the selected research report to oversee the content with the problem to be studied,
4) Focus especially on research methodologies such as type of research, place and time of research, problem of research, method, population, sample, sampling technique, data analysis technique and result,
5) Categorize each study,
6) Comparing all research results according to their categories,
7) Analyze techniques, data analysis and conclusions in each study, so that we can find out the disadvantages and advantages of previous studies, and
8) Conclude meta-analysis (e.g. research outcome) based on the steps indicated above.

Data types and sources:

This research is a quantitative study because it applies statistical methods and uses secondary data obtained from the results of similar empirical studies using primary data. Article searches are carried out by downloading articles through journal websites, namely google scholar, ProQuest, Ebsco, ScienceDirect, and Emerald. Data collection is done by searching for articles via electronic media using keywords factors affecting career choice became a public accountant for accounting students. The articles obtained came from the International Journal of Business and Management, Journal of Economics Business and Management, Journal Of Financial Reporting and Accounting, European Scientific Journal, International Journal Of Arts and Commerce, Journal of Educational and Social Research, American Journal of Business Education, and International Journal of Finance and Accounting.

Population and sample:

1) Population: the population of this study is consisting of 87 research articles.
2) Sample: A total of 14 articles from the year 2005 to 2019 are selected out of 87 population.The sampling technique used in this research is purposive sampling technique. All the stages, articles that have been downloaded are reviewed to filter out

samples that are quantitative research. Research articles that do not meet the requirements are excluded from the sample. Following are the sample criteria used duly:
1) Quantitative research articles,
2) Studies on the career choices for accounting students to become public accountants used as the dependent variable,
3) Studies carried out only by a meta-analysis,
4) Completeness of other research data, such as the number of samples and the number of observations presented.

Research variables:

This study uses two variables, namely the independent variable and the dependent variable that are addressed below:

1) Independent Variable or Independent Variable:
   The independent variable is the variable that affects or causes the change and the dependent variable is denoted by (X). The independent variables in this study are:
   X1: Factors of family and closest people,
   X2: Financial Reward Factors, and
   X3 : Job Opportunity F
   actor.
2) Dependent Variable or Bound Variable:
   The dependent variables in this study are:
   Y: Career Choice Factors (e.g. to become a public accountant for accounting department students).

Data analysis:

Data analysis carried out by using *Microsoft Excel and other related* computer programs, and statistical tools are known as SPSS. The data analysis stage which consists of:
1) Determine the criteria:
   First, we determine the criteria for obtaining articles to be tested, and collect overall results to ensure that there are no deficiencies in the meta-analysis procedure to be carried out, and then test the meta-analysis technique.
2) Meta-analysis statistical analysis:
   Because not all sample studies used in this study present the *Pearson* coefficient ($\bar{r}$), therefore, the following formula is used to convert these values into *r-statistics* as follows: *Statistics-t*; *Chi-square*; *r-statistical; value: P-value*:
3) The correlation coefficient (r):
   Accumulated the effect size and calculated the average correlation coefficient
4) Calculate and correct for error variance:The odds of estimating the population S^2_p
5) Determine the confidence interval:
   Next step is to determine a 95% confidence interval by using *z-statistic*
6) Perform homogeneity using the Chi-square
7) Analyze the difference in the correlation numbers
8) Test measurement error

RESEARCH HYPOTHESIS

This study used two stages to test the research hypothesis by following the study of Hunter dan Schmidt (2000) and the stages are:
1) Determination the relationship between each independent and dependent variable: to determine the relationship between each independent and dependent variable.
2) areas of acceptance or rejection of the hypothesis) the confidence interval
3) Determination of positive and negative values

This study uses a hypothesis that directly uses direction (e.g. the r-value ranges from -1 to +1, including 0). The greater the r-value (close to 1), the stronger the influence of the independent variable on the dependent. Conversely, the smaller the r-value or correlation (close to the number 0), the weaker the influence of the independent variable on the dependent. The value of 0 means that there is no effect of the independent variable on the dependent. If the correlation coefficient (r) is positive, then the two variables have a unidirectional relationship. Conversely, if the coefficient (r) is negative, then the two variables have an inverse or unidirectional relationship.

Tale 1. Effect Size ($\bar{r}$)

No.	Author	Article	EFFECT ($\bar{r}$) SIZE		
			KK	G	PK
1	Zakaria et al. (2012)	Accounting as a Choice of Academic Program		**0.0240 7722**	
2	Aziz et al. (2017)	Accounting Students' Perception And Their Intention To Become Professionally Qualified Accountants		**0.3764**	
3	Dinç (2008)	Meslek Seçiminde Etkili Faktörlerin İncelenmesi: Meslek Yüksek Okulu-Muhasebe Programı Öğrencileri Üzerine Bir Araştırma, *Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*,	**0.0545 3**	**0.158**	**0.1269**
4	Stephen & Zotorvie (2016)	Determinants of Career Choice among Students of Institute of Chartered Accountants (Ghana). European Scientific Journal	**0.769**	**0.771**	**0.72**
5	Wen et al. (2017)	Public accounting vs private accounting, career choice of accounting students in China		**0.0368**	
6	Odia & Ogiedu (2013)	Factors Affecting the Study of Accounting in Nigerian Universities, Journal of Educational and Social Research		**0.071**	
7	On et al. (2013)	Factors Affecting Job Selection Preferences Of Accounting Student In Malaysian Universities.		**0.332**	**0.5661**
8	Durgut & Pehlivan (2019)	Analysis Of Factors That Affect The Job Choice Of Accounting Students.		**0.658**	**0.703**
9	Umar & Bello (2019)	The Relationship between Accounting Students' Self-Efficacy Beliefs, Outcome expectations on Intention to Become Chartered Accountants. East African Scholars Journal of Economics, Business and Management.		**0.328**	**0.362**
10	Mustapha & Hassan (2015)	Accounting Students' Perception on Pursuing Professional Examination		**0.036**	**0.184**

Tale 1. Effect Size ($\overline{r}$) (Continued)

11	**Wen et al. (2015)**	**Understanding the Intentions of Accounting Students in China to Pursue Certified Public Accountant Designation**	**0.389**	**0.356**	
12	Azrinawati (2017)	Reasons To Choose Chartered Accountant As Profession		**0.696**	**0.696**
13	Schoenfeld et al. (2017)	Social cognitive career theory and the goal of becoming a certified public accountant		**0.3764**	
14	Harnovinsah (2017)	Career Decision of Accounting Students and Its Influencing Factors: A Study of University Accounting Students in DKI Jakarta, Indonesia			**0.815**

Source: Processed data

RESULTS AND DISCUSSION

Study Selection Overview

The number of studies that are relevant and meet the criteria was included in the analysis. Several studies on the other hand were excluded, especially those who did not display the *r* statistical value or the convertible statistical value such as the *t*-statistics, *p*-value and *f* value. To represent and standardize the findings from primary research, this study used an index of effect size. Effect size (*r*) shows the value of the relationship between the dependent and specific independent variables. The following Table 2 shows the result of the effect size of 14 articles with three variables studied, namely family and closest people, financial or salary valuations, and opportunities and work environment.

Once the calculation of the effect size is completed, the overall meta-analysis is estimated with a 95% confidence interval. This study duly estimated the values of ∑ **NI, R, S^2 r, S^2e S^2p, Sd** and **X2K-1** by the scope of general meta-analysis where main variables were family salary and job opportunities. To have a targeted aim it was important to quality a different contribution portion in the correlation of each variable. Table 3 shows the result of an overall meta-analysis based on the influence of family and closest people variables, financial rewards and job opportunities on career choices to become public accountants for accounting students

Results of the Meta-analysis of Family Variables and The Closest People

The study outcomes are observed based on the results of a hypothesis (e.g., considered as H-1) testing which was carried out in two stages are as follows: Stage-1: the $\bar{r}$ value of the family and closest people variables were found 0.285 which refers to the 95% confidence interval with acceptance limits or acceptance areas of 0.0006 < pxy < 1.116; and Stage-2: the value of the true population correlation (p) (after being corrected by measurement error) is 0.291 with a population variance of 0.097 and a standard deviation of 0.312. The values refer an acceptance area of 0.258 < pxy < 0.882 with a 95% confidence interval.

Therefore, it can be concluded that there is a significant positive relationship and influence that is quite strong between family factors and the closest people to the choice of career as a public accountant for accounting students. This provides evidence that family factors and closest people have a relationship and can directly influence the decision of accounting students to become public accountants.

Table 2. General Meta-analysis

GENERAL META-ANALYSIS	NI	K	R	S^2 r	S^2e	S^2p	Sd	95% Confidence Interval		X2K-1
								MIN	MAX	
Family	2182	4	0.28	0.311	0.006	0.305	0.5	0.006	1.116	805.93
Salary	5216	12	0.45	0.957	0.017	0.940	0.9	-0.082	1.873	7985.4
Job Opportuni	4578	8	0.61	0.493	0.005	0.487	0.7	0.507	1.911	5892.6

Source: Processed data

Furthermore, in the meta-analysis study, some aspects need to be studied further, especially about the causes of the differences in our the results compared to each article studied based on the 3 factors. Following on the results of the differences in sampling for family variables and closest people, it was found that the mean value of the S^2r variance was 0.311 and the correction of the sampling error was 0.0061. Thus, the corrected or actual variance was 0.305 with a standard deviation of 0.558. The results are based on a 95% confidence interval which is equal to 0.0006:1.116 with a sampling error of 0.1 %. Further calculated measurement error testing with the results of measurement error variance calculation on the combined mean or (S^2) is found at 0.038 with the impact of reliability for 1,2%. It can be seen that the percentage comparison of the measurement error variance (S^2) of 0.038 with the population correlation variance (S^2r): 0.311 is 1.2%. The outcome means the percentage or impact of the measurement error on the variables of family and closest people is greater than the impact of sampling error.

Therefore, the study results showed that the impact of the sampling error was smaller than the impact of measurement error on the variables of family and closest people and the value of the impact of the measurement error was 1,2%. Thus, there is one more analysis conducted to test whether the difference in the results of each research study is only due to sampling errors or other factors.

Accordingly, the difference in the correlation number using the test X^2 was tested with the results of $X^2_{K-1} > X^2_{0.05}$, and the value of X^2_{K-1} is 805.93 which is found greater than the value of $X^2_{0.05}$ of 201.48. The outcomes prove that the differences from each of the articles studied that discussed factors of family and closest people, are purely due to sampling errors or measurement errors. So the homogeneity test using chi-square in the meta-analysis was used to determine the possibility of variance between effect sizes, whether it was only due to sampling errors or other factors. Thus, it can be concluded that the differences (between our study and earlier studies) in the results of the 4 articles studied were due to sampling errors and measurement errors rather than other influencing factors. For that, it was not necessary to test the moderator variables.

Results of the calculation of meta-analysis of variable financial rewards or salaries:

The study outcomes are observed based on the results of a hypothesis (e.g. considered as H-2) testing which was carried out in two stages are as follows: Stage-1: the value of ȓ 0.457 found refers to the 95% confidence interval witthe acceptance limit or acceptance area of -0.082 < pxy < 1,873 and Stage-2: the value of the real population correlation (p) (after being corrected by the measurement error) is found 0.465 with a population variance of 0.128 and a standard deviation of 0.359. The values refer to the 95% confidence interval with an acceptance area of 0.238 < pxy < 1.168.

Thus, it can be concluded that there is a significant positive relationship and influence that is quite strong between financial reward or salary factors toward the career choice to become accountants public for accounting students. Furthermore, some aspects need to be studied further e.g. about the causes of differences in the results of each article studied on 3 factors or variables. Based on the results for family variables and the closest people, it was found that the mean value of the S^2r variance was 0.311 and the correction of the sampling error was 0.017. Therefore, the corrected or actual variance was 0.94 with a standard deviation of 0.97. The value estimated within the acceptance area of the 95% confidence interval which is equal to -0.082: 1.873 with the impact of the sampling error of 0.1%. Further, the estimated measurement error testing with the results of measurement error variance calculation on the combined mean or (S^2) is found at 0.108 with the impact of reliability for 1,1%. With a population correlation variant S^2r of 0.108 which has been known previously. Thus, it can be seen that the percentage comparison of the variance of measurement error (S^2) of 0.108 with the population correlation variance (S^2r): 0.311 is 1.2%. The value means the percentage or impact of measurement error financial reward or salary variable is greater than the impact of sampling error.

Furthermore, the results show that the impact of sampling error is smaller than the impact of measurement error on financial reward or salary variables, and the value of the impact of measurement error is 1.2%. Therefore, there is one more analysis conducted to test to justify the difference between our study values and results of each research articles compared. For this reason, the difference in the correlation number using the test (X^2) was tested with the results $X^2_{K-1} > X^2_{0.05}$, namely the value of X^2_{K-1} is 7985.42 found greater than the $X^2_{0.05}$ value of 665.42. The value means these results prove that the differences from each of the research articles studied that discuss the variable of financial reward or salary is due to sampling errors or measurement errors. Thus, the homogeneity test using chi-square in the meta-analysis was used to determine the possibility of variance between effect sizes, and whether it was only due to sampling errors or other factors. Finally, it can be concluded that the difference in the results of the 4 articles studied was due to sampling errors and measurement errors rather than other factors that influence study estimations. Therefore, it was not necessary to test the moderator variables.

Results of the calculation of meta- analysis of job opportunities variables

The study outcomes are observed based on the results of a hypothesis (e.g. considered as H-3) testing which was carried out in two stages are as follows: Stage-1: the value of $\bar{r}$ 0.617 found refers to the 95% confidence interval with the acceptance limit or acceptance area of 0.507 < pxy < 1.911, and Stage-2: the value of the real population correlation (p) (after being corrected by the measurement error) is 0.487 with a population variance of 0.125 and a standard deviation of 0.353. The values refer to the 95% confidence interval with an acceptance area of 0.0678 < pxy < 1.315.

Thus, it can be concluded that there is a significant positive relationship (e.g., influence) that is quite strong between the job opportunity factor and career choice. However, some aspects need to be studied further, especially about the causes of differences in the results of each study sampled.

Based on the results it was found that the average value of the S^2r variance was 0.493 and the correction of the sampling error was 0.005. However, the corrected or actual variance was equal to 0.487 with the sampling error of 0.1% and a standard deviation of 0.702. The acceptance area was equal to 0.507: 1.911 with the 95% confidence interval. Subsequently, the calculation of the measurement error test was carried out with the result of the measurement error variance by the combined *mean* or (S^2). The value found is 0.203 with a reliability impact of 4%. In contrast, with a previously known S^2r population correlation variant value of 0.493, it was observed that the percentage ratio variance of the measurement error (S^2) is 0.203 whereas the population correlation variance (S^2r) was 0.493. Thus, the percentage of measurement error for the opportunity and work environments is greater than 1.2% of sampling error.

Furthermore, additional results show that the impact of the sampling error is smaller than the impact of measurement error on the opportunity and work environment variables. The value of the impact of the measurement error is 4 %. Therefore, it was essential to be tested further analysis to test whether the differences in the results compared to others whether are only due to sampling errors or other factors are involved. Accordingly, the difference between the correlation test X^2 and X^2_{K-1} was tested further e.g. $X^2_{K-1} > X^2_{0.05}$. The value of X^2_{K-1} is found 5892.69 which is greater than the value of $X^2_{0.05}$ of 736.58. The results prove that the different outcomes from 4 selected articles are purely due to measurement errors. Thus, it is concluded that the differences in the results of 4 selected studied were due to either sampling errors or measurement errors than that of other influencing factors are involved. Therefore, it was not necessary to test the moderator variables.

STUDY IMPLICATION AND LIMITATIONS

This study aims to examine the factors that influence career choice for accounting students to become public accountants by using meta-analysis techniques. To understand the influencing factors for career choice, there are 3 issues studied, namely (i) family factors, (ii) financial rewards or salaries, and (iii) opportunities and work environment. These studies explored these 3 factors which most previous studies used to examine the career selection choices. According to the study findings, we identified the major outcomes which are: (1) family factors and the closest people have a significant positive relationship between factors and career choice that is strong enough to choose a career to become a public accountant, (2) financial reward or salary scales have a significant positive influence on career choice to become a public accountant, and (3) job opportunities have a significant positive relationship between factors and career choice that is enough to justify a career to become a public accountant. With these outcomes, it is obvious that overall findings from this study (e.g., with some exceptions) support most previous researchers' conducted studies related to the career choice for accounting students (Jackling, 2002; Myburgh, 2005; Uyar et al., 2011; Mustapha & Hassan, 2015; Samsuri et al., 2016; Ilham & Rosalina, 2020).

Additionally, it is identified that accounting students hope that there is a financial reward for them waiting in future and that reward influences on the career choice as addressed by Byrne et al. (2012), Cahyadi et al. (2019), Srirejeki et al. (2019), Susanti et al. (2019) in their earlier research findings. Similar findings are found in the case of America and Japan that financial rewards have a positive effect on career choice as addressed by Sugahara et al. (2009). It is obvious that not only interest in accounting influences on the career choice but also conformity with abilities and encouragement from family equally influence on the career choice as identified by recent studies by Uyar et al. (2011) and Samsuri et al. (2016). However, the tested results in some instances show varying conclusions in this study when compared to previous studies. To justify the varying conclusions, it was not necessary to test the internal factors which was done duly. The difference in the results may be due to other factors and conditions that cannot be explained within the study scope (Ahmed et al., 2013). It is assumed that every country has a different national culture and standard of living that affect every action and behaviour of its people in making decisions, options, choices, judgements among other factors including in determining the desired career.

However, it can be summarised that the main findings identified by the meta-analysis on a career choice is important as it will help researchers identify important independent variables or factors for future research. However, this study acknowledged the sampling errors and measurement errors as self-report data can suffer from recall bias and unintentional misrepresenting. Even though careful consideration of collecting articles was assured during the assessment, the respondents of those particular articles might have under-reported or over-reported on particular questions which could not be identified. This misrepresenting could influence the findings and conclusion. Although justifiable variables were analysed to meet the aim, the omission of some other variables might limit the outcomes and some of the usual suspects may occur in the assessments. The method with meta-analysis explored in this study can be further explained with in-depth phenomena for subsequent research, especially that related to career choices with the qualitative nature of the study scope. Consequently, future qualitative studies would also be useful in future to developing a better understanding of the issues omitted during the investigation by this study.

CONCLUSION

This study analyzed and identified the results of previous studies related to career choice factors by using accounting students. To have the desired outcomes a meta-analysis method is used following the references to the previous studies and quantified the unexplained relationship between the career choice factors. Data from various countries are utilised especially considering Indonesia, Malaysia, Australia, Ghana, Turkey and Japan in summarizing a group of similar studies. According to the study hypotheses, it is found that family and closest people factors, financial or salary rewards, and job opportunities have a significant positive effect on career choices regardless of other work environments. The quantification of the unexplained relationship from previous researches to identify the factors for a career choice is the main contribution of this study. The outcomes are explored in this study will be useful for other researchers for future research on a similar scope with deepening other factors.

REFERENCES

Ahmed, K., Chalmers, K., & Khlif, H. (2013). A Meta-analysis of IFRS Adoption Effects. *International Journal of Accounting*, *48*(2), 173–217. https://doi.org/10.1016/j.intacc.2013.04.002

Auyeung, P., & Sands, J. (1997). Factors influencing accounting students' career choice: a cross-cultural validation study. Accounting Education, 6(1), 13-23.

Aziz, D. A., Ibrahim, M. A., Sidik, M. H. J., & Tajuddin, M. (2017). Accounting Students ' Perception And Their Intention To Become Professionally. *Shs Web of Conferences*, *00008*, 1–17. https://doi.org/10.1051/shsconf/20173600008

Baxter, P., & Kavanagh, M. (2012). Stereotypes, students' perceptions and inherent creativity: further Australian evidence. Australasian Accounting, Business and Finance Journal, 6(5), 81-100.

Benos, N., & Zotou, S. (2014). Education and Economic Growth : A Meta-Regression Analysis. *World Development*, *64*, 669–689. https://doi.org/10.1016/j.worlddev.2014.06.034

Burritt, R., & Christ, K. (2016). Industry 4.0 and environmental accounting: a new revolution?. Asian Journal of Sustainability and Social Responsibility, 1(1), 23-38.

Byrne, M., Willis, P., & Burke, J. (2012). In fl uences on school leavers ' career decisions – Implications for the accounting profession. *International Journal of Management Education*, *10*(2), 101–111. https://doi.org/10.1016/j.ijme.2012.03.005

Byrne, M., & Willis, P. (2003). Decline in the number of students taking leaving certificate accounting: teachers' perspectives. The Irish Journal of Education/Iris Eireannach an Oideachais, 3-14.

Cahyadi, D. D., Andayani, S., & Suryaningrum, D. H. (2019). Accounting Students Perceptions on Factors Affecting Career Choices. *Journal of Accounting and Strategic Finance*, *2*(2), 170–182. https://doi.org/10.33005/jasf.v2i2.63

Chan, A. S. (2012). Analisis Faktor-Faktor Yang Mempengaruhi Pemilihan Karir. *Jurnal Ilmiah Mahasiswa Akuntansi –*, *1*(1), 53–58.

Chin, J. L., Trimble, J. E., & Garcia, J. E. (Eds.). (2017). Global and culturally diverse

leaders and leadership: New dimensions and challenges for business, education and society. Emerald Group Publishing.
Churchman, R. J. (2013). *Attracting The Best And Brightest: An Examination Of The Factors That Influence Students' Intent To Enter The Accounting Profession*.
De Long, D. (1997). Building the knowledge-based organization: How culture drives knowledge behaviors. Centers for Business Innovation–Working Paper, 1-29.
Dinç, E. (2008). Meslek Seçiminde Etkili Faktörlerin İ ncelenmesi : Meslek Yüksek Okulu-Muhasebe Program ı Ö ğ rencileri Üzerine Bir Ara ş t ı rma. *Kocaeli Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, *16*(2), 90–106.
Durgut, M., & Pehlivan, A. (2019). Analysis Of Factors That Affect The Job Choice Of Accounting Students *. *Araştırma Makalesi Research Paper*, *17*(9), 103–118.
Goleman, D. (2017). Leadership that gets results (Harvard business review classics). Harvard Business Press.
Grayson, D., & Nelson, J. (2017). The leadership role of individual champions, companies and foundations in building the coalitions. In Corporate Responsibility Coalitions (pp. 52-61). Routledge.
Harnovinsah. (2017). Career Decision of Accounting Students and Its Influencing Factors : A Study of University Accounting Students in DKI Jakarta , Indonesia. *International Journal of Finance and Accounting*, *6*(2), 59–65. https://doi.org/10.5923/j.ijfa.20170602.03
Hashim, H. M., & Embong, A. M. (2015). Parental and Peer Influences upon Accounting as a Subject and Accountancy as a Career. *Journal of Economics, Business and Management*, *3*(2), 252–256. https://doi.org/10.7763/joebm.2015.v3.189
Hirschi, A. (2018). The fourth industrial revolution: Issues and implications for career research and practice. The Career Development Quarterly, 66(3), 192-204.
Hosseini, S. A., & Khoeini, M. (2020). The dimensions of cultural values' role in accounting career-choice factors. Empirical Research in Accounting, 10(3), 55-80. World Economic Forum. (2016). The future of jobs: Employment, skills and workforce strategy for the fourth industrial revolution. In Global challenge insight report. Geneva: World Economic Forum.
Ikatan Akuntansi Indonesia. (2016). *Kode Etik Akuntan Profesional*. Komite Etika IAI.
Ilham, Z. M., & Rosalina, K. (2020). Analisis Faktor-Faktor Yang Mempengaruhi Pilihan Karir Mahasiswa Akuntansi Sebagai Akuntan Publik. *Jurnal Ilmiah Mahasiswa UB*, *8*(2). https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/6467
Jackling, B. (2002). *Profession Perpetuated by the Introductory Accounting Course ? — an Australian Study*. *2*, 62–80.
Jackson, T. (2016). Prosperity without growth: foundations for the economy of tomorrow. Taylor & Francis.
Karsten, I., van der Merwe, M., & Steenekamp, K. (2020). Empowering accounting students to enhance the self-determination skills demanded by the fourth industrial revolution. South African Journal of Higher Education, 34(2), 36-58.
Khlif, H., & Chalmers, K. (2015). A review of meta-analytic research in accounting. *Integrative Medicine Research*, 1–44. https://doi.org/10.1016/j.acclit.2015.09.001
Kirkpatrick, I., Ackroyd, S., & Walker, R. (2005). The new managerialism and public service professions. Hampshire: Palgrave Macmillan.
Kiradoo, G., & Associate. (2020). Ethics In Accounting : Analysis Of Current Financial Failures And Role. *International Journal of Management (IJM)*, *11*(2), 241–247.
Kunartinah. (2003). Perilaku Mahasiswa Akuntansi di STIE STIKUBANK Semarang dan FaktorFaktor yang Mempengaruhi Pemilihan Karir sebagai Akuntan Publik. *Jurnal Bisnis dan Ekonomi*, *10*(2), 182–197.
Law, P. K. (2010). A theory of reasoned action model of accounting students ' career choice in public accounting practices in the post-Enron. *Journal of Applied Accounting Research*, *11*(1), 58–73. https://doi.org/10.1108/09675421011050036

Lin, J. W., & Hwang, M. I. (2010). Audit Quality , Corporate Governance , and Earnings Management : A Meta-Analysis. *International Journal of Auditing*, *77*(14), 57–77.
Maree, J. G. (2020). *Contextualisation as a Determining Factor for Career Counselling Throughout the World*. University of Pretoria.
Mbawuni, J. (2015). Examining students' feelings and perceptions of accounting profession in a developing country: The role of gender and student category. *International Education Studies*, *8*(6), 9–23. https://doi.org/10.5539/ies.v8n6p9
McDowall, T., & Jackling, B. (2010). Attitudes towards the accounting profession: An Australian perspective. *Asian Review of Accounting*, *18*(1), 30–49. https://doi.org/10.1108/13217341011045999
Morrar, R., Arman, H., & Mousa, S. (2017). The fourth industrial revolution (Industry 4.0): A social innovation perspective. Technology Innovation Management Review, 7(11), 12-20.
Morrow, I. (1992). Comment: An historical and contemporary note on "The decline of operational expertise in the knowledge-base of management accounting". Management Accounting Research, 3(1), 77-78.
Murphy, M. P. A. (2020). COVID-19 and emergency eLearning: Consequences of the securitization of higher education for post-pandemic pedagogy. *Contemporary Security Policy*, *41*(3), 492–505. https://doi.org/10.1080/13523260.2020.1761749
Mustapha, M., & Hassan, M. H. A. (2015). Accounting Students ' Perception on Pursuing Professional Examination. *International Journal of Education*, *4*(4), 1–15. https://doi.org/10.5296/ije.v4i4.1546
Myburgh, J. E. (2005). An empirical analysis of career choice factors that influence first-year Accounting students at the University of Pretoria : A cross-racial study. *Meditari Accountancy Research*, *13*(2), 35–48.
Ng, Y. H., Lai, S. P., Su, Z. P., Yap, J. Y., Teoh, H. Q., & Lee, H. (2017). Factors influencing accounting students' career paths. Journal of Management Development.
Odia, J. O., & Ogiedu, K. O. (2013). Factors Affecting the Study of Accounting in Nigerian Universities. *Journal of Educational and Social Research*, *3*(3), 89–96.
Oler, D., Skousen, C. J., Smith, K. R., & Talakai, J. (2019). Revisiting the Status of Accounting as an Academic Discipline: Is the Profession Really in Decline?. Available at SSRN 3361209.
On, C. H., Keong, H. C., & Huey, K. P. (2013). *Factors Affecting Job Selection Preferences Of Accounting Students In Malaysian Universities*. *May*.
Rianto, E. P., Wirawat, N. G. P., Mertha, M., & Sujana, I. K. (2020). The Influence of Intrinsic Factor , Student Perception , Accounting Learning , Family , and Peers in Accounting Student Interest in Bali , Indonesia to Becoming Professional Accountant. *American Journal of Humanities and Social Sciences Research (AJHSSR)*, *9*(1), 264–271.
Salehi, M., Mahmoudi, M. R. F., & Gah, A. D. (2019). A meta-analysis approach for determinants of effective factors on audit quality. *Journal of Accounting in Emerging*, *9*(2), 287–312. https://doi.org/10.1108/JAEE-03-2018-0025
Samsuri, A. S. B., Arifin, T. R. B. T., & Hussin, S. B. (2016). Perception of Undergraduate Accounting Students towards Professional Accounting Career. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, *6*(3), 78–88. https://doi.org/10.6007/ijarafms/v6-i3/2173
Schoenfeld, J., Segal, G., & Borgia, D. (2017). Social cognitive career theory and the goal of becoming a certified public accountant. *Accounting Education*, *26*(2), 109–126. https://doi.org/10.1080/09639284.2016.1274909
Schwab, K., & Davis, N. (2018). Shaping the future of the fourth industrial revolution. Currency.
Sihotang, K. (2015). *Implementasi Tanggung Jawab Moral dalam Profesi Akuntansi Oleh Kasdin Sihotang*. *20*(01), 41–54.
Srirejeki, K., Supeno, S., & Faturahman, A. (2019). Understanding the Intentions of

Accounting Students to Pursue Career as a Professional Accountant. *Binus Business Review*, *10*(March), 11–19. https://doi.org/10.21512/bbr.v10i1.5232

Stephen, J., & Zotorvie, T. (2016). *Determinants of Career Choice among Students of Institute of Chartered Accountants (Ghana)*. *12*(31), 255–274. https://doi.org/10.19044/esj.2016.v12n31p255

Sugahara, S., & Boland, G. (2013). Accounting Education : An International The Accounting Profession as a Career Choice for Tertiary Business Students in Japan-A Factor Analysis The Accounting Profession as a Career Choice for Tertiary Business Students in Japan-A Factor Analysis. *Accounting Education: An International Journal*, *18*(3), 255–272. https://doi.org/10.1080/09639280701820035

Sugahara, S., Hiramatsu, K., & Boland, G. (2009). The factors influencing accounting school students ' career intention to become a Certified Public Accountant in Japan. *Asian Review of Accounting*, *17*(1), 5–22. https://doi.org/10.1108/13217340910956487

Susanti, M., Dewi, S. P., & Sufiyati. (2019). Factors Affecting The Selection Of Student Career As A Public Accountant. *Jurnal Akuntansi*, *XXIII*(02), 269–284.

Umar, I., & Bello, M. S. (2019). The relationship between accounting students ' self-efficacy beliefs , outcome expectations and intention to become Chartered Accountants The Relationship between Accounting Students ' Self -Efficacy Beliefs , Outcome Expectations on Intention to Become C. *East African Scholars Journal of Economics, Business and Management*, *2*(7), 376–381.

Uyar, A., Güngörmüş, A. H., & Kuzey, C. (2011). Factors Affecting Students ' Career Choice In Accounting : *American Journal of Business Education –*, *4*(10), 29–38.

Wen, L., Hao, Q., & Bu, D. (2015). Understanding the Intentions of Accounting Students in China to Pursue Certified Public Accountant Designation. *Accounting Education: an international journal*, *24*(4), 341–359. https://doi.org/10.1080/09639284.2015.1051561

Wen, L., Yang, H. (Chris), Bu, D., Diers, L., & Wang, H. (2017). Public accounting vs . private accounting , career choice of accounting students in China. *Journal of Accounting in Emerging Economies Article information :*, *8*(1), 124–140. https://doi.org/10.1108/JAEE-09-2016-0080

Widiatami, A. K., & Cahyonowati, N. (2013). *(Studi Empiris pada Mahasiswa Akuntansi S1 Universitas Diponegoro)* [Universitas Diponegoro]. http://eprints.undip.ac.id/39651/

Widyastuti, R. J., & Pratiwi, T. I. (2013). Pengaruh Self Efficacy Dan Dukungan Sosial Keluarga Terhadap Kemantapan Pengambilan Keputusan Karir Siswa. *Jurnal BK UNESA*, *3*(1), 231–238.

Wipulanusat, W., Panuwatwanich, K., Stewart, R. A., Arnold, S. L., & Wang, J. (2020). Bayesian network revealing pathways to workplace innovation and career satisfaction in the public service. *Journal of Management Analytics*, *0*(0), 1–28. https://doi.org/10.1080/23270012.2020.1749900

World Economic Forum. (2016). The future of jobs: Employment, skills and workforce strategy for the fourth industrial revolution. In Global challenge insight report. Geneva: World Economic Forum.

World Economic Forum. (2018). The future of jobs report 2018. Geneva: World Economic Forum.

Xu, M., David, J. M., & Kim, S. H. (2018). The fourth industrial revolution: Opportunities and challenges. International journal of financial research, 9(2), 90-95.

Zakaria, M., Fauzi, W. N. A. W., & Hasan, S. J. (2012). Accounting as a Choice of Academic Program. *Journal of Business Administration Research*, *1*(1), 43–52.

Zeng, S., Li, X., He, X., & Chen, W. (2019). The Role of Family in Career Choices among Social Workers in China The Role of Family in Career Choices among Social Workers in China. *Journal of Social Service Research*, *0*(0), 1–12. https://doi.org/10.1080/01488376.2018.1528490