The Influence of Auditor’s Personality Types, Experience, Ethics, and Gender on Fraud Detection Capability: Study of Big Four Public Accounting Firm in Indonesia

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Abstract: This study aims to examine individual factors such as auditor’s personality types, experience, ethics, and gender which influence auditor’s fraud detection capability through mediation effect of auditor’s professional skepticism. This study uses Theory of Planned Behavior (TPB), Theory of Psychological Types, and Selectivity Hypothesis. The research was conducted using survey method in collecting data from samples of permanent auditors who work at Big Four Public Accounting Firm in Indonesia. The sample size is 99 respondents. This study uses Partial Least Square (PLS) for data analyses. The result of this study is that auditors with ST (Sensing-Thinking) and NT (Intuitive-Thinking) personality types are found to have higher fraud detection capability than auditors with other personality types, but professional skepticism does not mediate the relationship. Auditor’s ethics positively influences fraud detection capability directly and through professional skepticism. Auditor’s experience and gender do not influence auditor’s fraud detection capability either directly and through professional skepticism. The implication of this study is that TPB and Theory of Psychological Types are able to explain the differences in individual’s behavior, and it is important for auditors to continuously exhibit professional skepticism and have ethical perception which favor Professional Codes of Ethics in order to be better in detecting fraud.

Keywords: Fraud Detection, Behavior, Personality Types, Myers-Briggs Type Indicator, Professional Skepticism, Gender, Theory of Planned Behavior

1. Introduction

There has been a growing demand of concern towards fraud, as it is one of the forms of financial crime worldwide. A recent report by Association of Central Fraud Examiners (ACFE) in 2016 showed that typical organization loses 5% of its annual revenues to fraud. Two thousand four hundred and ten (2,410) cases of occupational fraud occurred throughout the world have caused a total loss of more than $6.3 billion (ACFE, 2016). Loss of market capitalization resulting from the alleged financial statement fraud committed by Enron, WorldCom, Qwest, Tyco, and Global Crossing is estimated to be about $460 billion in USA (Rezaee and Riley, 2010). According to International Standards of Auditing (ISA 240) regarding auditor’s responsibilities on fraud in an audit of financial statements, the objectives of auditors are to identify and assess the risks of material misstatement of the financial statements due to fraud, to obtain sufficient and appropriate audit evidence regarding the assessed risks of material misstatement due to fraud, and to respond appropriately to fraud or suspected fraud identified during the audit. Those objectives can be achieved by designing and implementing appropriate responses towards fraud risks (IAASB, 2013).

Auditors are perceived to protect the stakeholders. But in practice many auditors have failed to honor such role by increasing risks passed on to stakeholders (Satava, Caldwell, and Richards, 2006). A study conducted by KPMG in 2003 and the Association of Fraud Examiner in 2008 found that external auditors rarely discover fraud (Ashari, 2013). Pincus (1989) conducted a survey towards several hundred auditors and found that 39.5% of auditors had some form of fraud detection experience, and from that percentage, only 10% had personally discovered fraud while working in an ordinary audit. Furthermore, 2016 fraud survey by ACFE has revealed that only 3.8% of the frauds committed were detected by external auditors (ACFE, 2016).
Based on figure 1, the ACFE 2016 survey’s result showed that tip, refers to ways of discovering fraud through calls and hotlines by whistle-blowers (PriceWaterhouseCoopers, 2005) were placed on top (39.1%), while external auditors only placed on eighth position of fraud detection method. The low rank of fraud detection by external auditors might be caused by the perception of auditors towards fraud detection responsibility. DeZoort and Harrison (2008) found that the perception of biggest responsibility of detecting fraud lay on the hands of management, while external auditors only placed at fourth position with 10.36% from total population. It indicated that external auditors are not prioritizing fraud detection over the course of audit. Since there have also been several Indonesian financial companies’ collapses which create accusations by public opinion that accounting profession is being responsible for each case (Sukoharsono and Gaffkin, 1993), it becomes important to examine what exactly are the factors which could improve the performance of external auditors.

According to Theory of Planned Behavior, the way individuals perform a certain behavior is driven by their intention, which are motivational factors that indicate how hard they are willing to try, of how much of an effort they are planning to exert, in order to perform the behavior (Ajzen 1991). The intention is driven by three factors, namely attitude towards behavior, subjective norms, and perceived behavioral control. Fraud detection in this study is a behavior which presumably driven by favorable degree of attitude towards fraud detection, which in this study is defined as professional skepticism. Subjective norm is defined as auditor’s ethical perception, refers to the how auditor perceives Professional Codes of Ethics and Auditing Standards. Perceived behavioral control is defined as auditor’s perceived ease and difficulties in performing fraud detection during the audit, which obtained from audit experience.

When obtaining reasonable assurance, the auditor is responsible for maintaining professional skepticism throughout the audit, considering the potential for management override of controls and recognizing the fact that audit procedures that are effective for detecting error may not be effective in detecting fraud (IAASB, 2013). The requirements in this ISA are designed to assist the auditor in identifying and assessing the risks of material misstatement due to fraud and in designing procedures to detect such misstatement (IAASB, 2013). According to ISA 200, professional skepticism is an attitude that includes a questioning mind, being alert to conditions which may indicate possible misstatement due to error or fraud, and a critical assessment of audit evidence (IAASB, 2013).

Maintaining professional skepticism throughout the audit is necessary for the auditor to reduce the risks of overlooking unusual circumstances, over generalizing when drawing conclusions from audit observations, and using inappropriate assumptions in determining the nature, timing and extent of the audit procedures and evaluating the results thereof (IAASB, 2013).

Experience as perceived behavioral control has also been linked to professional skepticism and fraud detection. Tubbs (1992) stated that experience affiliated with audit knowledge, an increase in audit experience will also increase auditor’s knowledge of audit errors. Ashour, Sukoharsono, and Ghofar (2015) also found that audit competencies related with knowledge plays in important role in determining internal audit’s effectiveness. ChoodanTrotman (1991) also found that experienced auditors more like to recall and having more knowledge of ‘atypical’ items in audit that the inexperienced ones. The more experience, the more experience-based knowledge, for example the numbers of audit errors stored in auditor’s memory along with accurate audit explanations. At the end, experience will enable auditor in making more accurate audit conclusions in a faster way (Libby and Frederick, 1990).

It is urgent for auditors to be aware of their ethical aspects in performing the audit. Accounting scandal, especially like what happened to Enron, puts accounting profession in questions, about how such disgraceful accounting practice could be overlooked and therefore caused the “largest bankruptcy in U.S History” (Fussaro and Miller, 2002). Sriwahjoeni (2000) define accountant professional codes of ethics as behavior norms which regulates relationship between public accountants and their clients. Codes of ethics are loaded with ethical contents, which

![Initial Detection of Occupational Frauds](http://www.onlinejournal.in)

**Figure 1. ACFE 2016 Fraud Detection Survey’s Result**

<table>
<thead>
<tr>
<th>Method</th>
<th>2016</th>
<th>2014</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tip</td>
<td>39.1%</td>
<td>39.4%</td>
<td>43.3%</td>
</tr>
<tr>
<td>Internal Audit</td>
<td>15.6%</td>
<td>15.1%</td>
<td>14.2%</td>
</tr>
<tr>
<td>Management Advertisement</td>
<td>3.1%</td>
<td>3.5%</td>
<td>3.9%</td>
</tr>
<tr>
<td>By Accident</td>
<td>13.0%</td>
<td>11.3%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Account Reconciliation</td>
<td>2.3%</td>
<td>2.3%</td>
<td>2.1%</td>
</tr>
<tr>
<td>Other</td>
<td>6.0%</td>
<td>5.8%</td>
<td>6.6%</td>
</tr>
<tr>
<td>Document Examination</td>
<td>2.5%</td>
<td>2.8%</td>
<td>2.6%</td>
</tr>
<tr>
<td>External Audit</td>
<td>1.5%</td>
<td>2.0%</td>
<td>2.3%</td>
</tr>
<tr>
<td>Notified by Law Enforcement</td>
<td>1.2%</td>
<td>1.1%</td>
<td>1.3%</td>
</tr>
<tr>
<td>Surveillance Monitoring</td>
<td>1.0%</td>
<td>0.9%</td>
<td>1.2%</td>
</tr>
<tr>
<td>IT Controls</td>
<td>0.6%</td>
<td>0.4%</td>
<td>0.9%</td>
</tr>
<tr>
<td>Compliance</td>
<td>0.5%</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Percent of Cases
basically aim to protect the interests of members and the interests of people who use the profession’s services. Code of ethics provides practical guidance to the member of profession in maintaining a professional attitude. In addition, this code gives assurance to clients and to the public that the profession intends to maintain high standards and enforce compliance by individual members (Whittington and Pany, 2001). However, such code of ethics will be effective as a rule for auditors depends to a substantial degree on the broad acceptance of the code, or the level of consensus to such ethical standards (Carthy, 1997).

According to Gibson, Ivancevich, and Konospake (2012:94), perception involves receiving stimuli, organizing them, and translating or interpreting the organized stimuli to influence behavior and form attitudes. Because each person gives her own meaning to stimuli, different individuals “see” the same thing in different ways (Gibson et al, 2012:94). It is important for auditors to have ethical perception which conforms with Professional Codes of Ethics. In this research, ethics is defined by the auditors’ perception toward rules and standards as the subjective norm, which in turn, will define their capability in detecting fraud over the course of audit.

This study adds personality types and gender as the independent variables to define fraud detection capability. In Indonesia, studies of Nasution and Fitriany (2012), Noviyanti (2008) and also Larimbi (2013) shown that there is relationship between certain personality types, professional skepticism, and fraud detection. Auditors who possess ST (Sensing-Thinking) and NT (nTuitive-Thinking) personality types according to Myers Briggs Type of Indicators (MBTI) would be higher professional skepticism in detecting fraud than those who possess other personality types (Noviyanti, 2008). The differences of fraud detection behavior and professional skepticism between auditors with ST and NT personality types SF (Sensing-Feeling) and NF (nTuitive-Feeling) personality types supports Jung’s theory of psychological types which states that human behavior can be traced to differences in personality type (Schloemer and Schloemer, 1997). Schloemer and Schloemer (1997) also states that the way people approach their job and interact with their colleagues influenced by their personality types. Personality makes for an attractive explanation of social attitudes and behavior because it is internal to the individual and, to a large extent, it has large heritability coefficients (Medland and Hatemi, 2009, in Gallego and Pardos-Prado, 2013).

Based on explanations above, therefore it could be pre-concluded that personality types, as part of heritable characteristics, influence auditor’s professional skepticism as a form of attitude and fraud detection as a behavior.

Auditor’s gender presumably influences the way he/she gathers and processes information regarding fraud detection. Based on Selectivity Hypothesis by Meyers-Levy (1986, in Chung and Monroe, 2001), in processing information, men are likely to eliminate and women integrate. Women are also considered to be more comprehensive in information processing who process most of the available information cues. This also supported by Chung and Monroe (2001) which in a complex audit task, women tend to differentiate between and integrate decision cues in a deeper way than men do it with less decision cues. Fullerton and Durtshi (2004) even found that response to all professional skepticism construct in detecting fraud are higher in younger, female internal auditors who also have professional certification and have experiences regarding fraud along her career.

2. Literature Review and Hypothesis Development

2.1 Theory of Planned Behavior

Theory of behavior used in this research is theory of planned behavior. The central factor of theory of planned behavior is individual’s intention to perform a given behavior. Intentions are assumed to capture motivational factors that influence a behavior. The stronger a person’s intention, the more the person is expected to try, and hence the greater the likelihood that the behavior will actually be performed (Ajzen and Madden, 1986).

Theory of planned behavior postulates three conceptually independent determinants of intention (Ajzen, 1991). The first is attitude toward the behavior which refers to the degree a person has a favorable or unfavorable evaluation or appraisal of the behavior in question, while second predictor is a social factor termed subjective norm, refers to the perceived social pressure to perform or not to perform the behavior, and third predictor is perceived behavioral control, which refers to the perceived ease or difficulty in performing the behavior (Ajzen and Madden, 1986). As a general rule, the more favorable the attitude and subjective norm with respect to a behavior, and the greater the perceived behavioral control, the stronger should be an individual’s intention to perform the behavior under consideration (Ajzen, 1991).

2.2 Theory of Psychological Types

Jung, through his book entitled “Psychological Type”, has developed a basis for personality typology that became so popular, called Myers-Briggs Type Indicator (MBTI). This instrument was developed by Katharine Briggs and Isabel Briggs Myers then published in 1962, in order to make Jung’s Theory of psychological types understandable
and useful in everyday life. MBTI assess individual’s preferences by a set of questionnaires for understanding normal personality differences (Myers, 1998:5). The MBTI preferences indicate the differences in people that result from the following:

- Where they prefer to focus their attention and get energy (Extroversion or Introversion);
- The way they prefer to take an information (Sensing or Intuition);
- The way they prefer to make decisions (Thinking or Feeling); and
- How they orient themselves to the external world—with a judging process or perceiving process (Judging or Perceiving)

2.3 Selectivity Hypothesis

Meyers-Levy (1986, in Chung and Monroe, 2001) developed a framework to explain the differences of how women and men cognitively process information, called selectivity hypothesis. Women and men use different approaches to process information cues to solve problems or make decisions. Men generally do not use all the information available in problem solving, nor do they process information comprehensively; they tend to select the information they process. Conversely, women viewed as detailed processors who process most available information cues. They tend to conduct a detailed evaluation of more of the available information and less relied on heuristics (Meyers-Levy, 1986, in Chung and Monroe, 2001).

2.4 Relationship between Auditor’s Personality Types, Professional Skepticism, and Fraud Detection Capability

Studies conducted by Noviyanti (2008), Nasution and Fitriany (2012), and Larimbi (2013) found that auditors who possess ST (sensing-thinking) and NT (intuitive-thinking) types were found to be skeptical than those who possess other personality types. Jung (1923, in Schloemer and Schloemer, 1997) asserted that human behavior can be traced to differences in personality type. Jung’s typology of personality is applied through Myers-Briggs Type Indicator (MBTI). MBTI identify 16 personality type based on combined eight aspects or traits of Jung’s theory of personality, which are: (1) Extrovert (E); (2) Introvert (I); (3) Sensing (S); (4) iNtuition (N); (5) Thinking (T); (6) Feeling (F); (7) Judging (J); (8) Perceiving (P). Based on the literatures and research findings, the hypothesis is as follows:

**H2:** Auditors with ST and NT personality types have higher fraud detection capability than auditors with other than ST and NT personality types

2.5 Relationship between Auditor’s Experience, Professional Skepticism, and Fraud Detection Capability

Experienced auditors possess relatively accurate knowledge of error and irregularities causes and effects (Libby, 1985; Tubbs, 1992). Audit experience influences auditors’ error and irregularities detection, because auditors knowledge towards error and irregularities which obtained from their previous experiences would cause them to be more alert to any potential for error and irregularities for the next audit.

Experienced auditors tend to be skeptical when dealing with client’s management. Klersey (1994) found that experienced auditors were more likely to disagree with management’s assertions and less often in judging them to be reasonable than the inexperienced ones. Experience can also influence fraud detection ability related with knowledge acquisition. In planning stage of audit, increased skepticism will cause experienced auditors to assess higher probabilities of the likelihood of fraud, while knowledge acquisition would lead to better identification of relevant risk factors, and thus, increase the ability to detect fraud when it does exist (Carpenter et al, 2002). This also confirmed by Payne and Ramsay (2005) who found that auditors who exposed to fraud or having experience related with fraud beforehand, will exercise a higher level of professional skepticism. Pramana et al (2016) and Nasution and Fitriany (2012) also found that as the auditors’ experience increases, their professional skepticism increases and so does their fraud detection capability. Based on the literatures and research findings, the hypothesis is as follows:

**H3:** Auditor’s experience positively influences auditor’s fraud detection capability

**H4:** Auditor’s experience positively influences auditor’s fraud detection capability through professional skepticism

2.6 Relationship between Auditor’s Ethics, Professional Skepticism, and Fraud Detection Capability

Auditor’s ethics would also determine their ethical judgment. Kung and Huang (2013) argued that individual’s moral philosophy is the key factors in how one views ethical issue and largely determines the ethical choices they make. When entering professions, however, individuals may be expected to conform their moral behavior to professional ethics codes (Beets, 1991). Farag and Elias (2012) found the relationship between trait skepticism of
accounting students and their ethical perceptions regarding earnings management. It was found that higher skeptics view earnings management is more of an unethical action than the less skeptical ones do. Suraida (2005) found that auditor’s ethics influence auditor’s professional skepticism. Al Moman and Obeidat (2013) found that auditors’ ethics influence their ability to detect practices of creative accounting. While Okpiani (2016) found that auditor’s perception towards professional ethics influence his fraud detection capability. Based on the literatures and research findings, the hypothesis is as follows:

\[ H_1: \] Auditor’s ethics positively influences auditor’s fraud detection capability

\[ H_2: \] Auditor’s ethics positively influences auditor’s fraud detection capability through professional skepticism

2.7 Relationship between Auditor’s Gender, Professional Skepticism, and Fraud Detection Capability

Selectivity hypothesis by Meyers-Levy (1986) also suggests that in cognitive information processing, women tend to be comprehensive processors and men to be selective processors. In accounting profession, a study conducted by Chung and Monroe (2001) found that female auditors were found to be more integrating information and analyzing decision cues in more depth than male auditors. In regards to professional skepticism and ability to detect fraud, Fullerton and Durtschi (2004) found that average response to all skepticism construct in detecting fraud (a questioning mind, suspension of judgment, search for knowledge, interpersonal understanding, autonomy, self-esteem) were found higher in younger female internal auditors, who have professional certification, and fraud experience. Charron and Lowe (2008) also found that female management accountants’ professional skepticism in detecting fraud is found to be higher. These findings imply that in average, women exhibit higher professional skepticism in fraud detection than men do. Based on the literatures and research findings, the hypothesis is as follows:

\[ H_3: \] Female auditors have higher fraud detection capability than male auditors

\[ H_4: \] Female auditors have higher fraud detection capability than male auditors through professional skepticism

3. Research Method

3.1 Population, Sample, Sampling Method, and Data Analysis

This research’s population is auditors who work at Indonesia Accounting Firm affiliated with Big Four. Since the exact population number is unknown, based on previous study of Singgih and Bawono (2010) and several informant’s information, it is estimated that total amount of auditors at Big Four Accounting Firm is around 500 up to 600. Therefore, population number in this research is deemed 2400 auditors. Using Slovin’s Formula, with 10% of margin error, a minimum sample of 96 auditors were drawn from Big Four Accounting Firm. Sampling technique being used in this research is purposive sampling. The researcher’s criteria for respondents are auditors who are working at Big Four Accounting Firm and have passed the probation period. Questionnaires were then administered to respondents. Partial Least Square (PLS) and Variance Accounted For (VAF) Score was used to analyze the hypothesis of direct and mediation relationship between variables. VAF Score must be above 0.2 to justify partial mediation, and 0.8 to justify full mediation, by conditions of: (1) relationship between independent and dependent variable must be significant, and (2) relationship between independent and dependent after intervening variable is included must be significant.

3.2 Definitions and Variable Measurements

3.2.1. Personality types

In this research, personality types defined as certain individual’s characteristics which portray the way individuals react to and interact with others (Noviyanti, 2008). Auditor’s personality types are measured by 20 questions of Myers-Briggs Type Indicator Indonesian version as used by Nasution and Fitriany (2012). The dimensions of personality types are as follow:

- Extrovert (E)-Introvert (I)
- Sensing (S)-iNtuition (N)
- Thinking (T)-Feeling (F)
- Judging (J)-Perceiving (P)

Auditors with ST (Sensing-Thinking) and NT (Intuition-Thinking) personality types will be scored 1, while auditors with personality types other than ST (Sensing-Thinking) and NT (Intuition-Thinking) will be scored 0.

3.2.2 Experience

Experience (EXP) is related to audit tenure possessed by auditors. Experience is measured by how many years respondent has worked as an auditor (Suraida, 2005; Nasution and Fitriany, 2012). Auditor’s years of experience (EXP1) is measured by Likert scale with interval 1-4. Score 1 means auditor has worked for less than two years, 2 means auditor has worked for 2 up to less than 5 years, 3 means auditor has worked for 5 up to less than 10 years, and 4 means auditor has worked for more than 10 years.

3.2.3 Ethics

Auditor’s ethics (ETH) dimensions are concern towards professional ethics (Shaub and Lawrence, 1996), and perception towards professional codes of
ethics (Murtanto and Marini, 2003). Four-item questions adopted from Shaub (1989) to measure auditor’s concern towards professional ethics, and five item-questions adopted from Okpianti (2016) to measure implementation of professional ethics and interpretation and improvement of professional ethics. Those dimensions consist of indicators which will be measured using Likert scale with interval 1-4.

3.2.4 Gender
Auditor’s gender (GEND) is measured by categorizing respondent based on his/her sex. Female auditor is scored 1, while male auditor is scored 0.

3.2.5 Professional Skepticism
Professional skepticism (SKEP) is measured by 15 questions of Hurtt Eining Plumlee (HEP) Model as used by Nasution and Fitriany (2012). There are six dimensions of professional skepticism including questioning mind, suspension of judgment, search for knowledge, interpersonal understanding, self confidence, and self determination. Those dimensions consist of indicators which will be measured by Likert scale, with interval 1-4.

3.2.6 Fraud Detection Capability
Fraud detection capability (FRAUD) is measured by the willingness of auditors to develop more information search about possible fraud symptoms in certain area, since fraud usually takes indirect form. Fraud detection capability is operationalized by two dimensions developed by Fullerton and Durtschi (2004) consisted of fraud symptoms related to corporate environment represented by four questions and financial records and accounting practices represented by six questions as also used in Pramaana et al (2016) and Nasution and Fitriany (2012). Those dimensions consist of indicators which will be measured by Likert scale, with interval 1-4.

4. Results and Discussions

120 questionnaires were distributed to the respondents, in which 101 questionnaires returned but two questionnaires were not completely fulfilled. Therefore, 99 questionnaires were further processed.

4.1 Demography of Respondent
From questionnaire returned the demography of respondents can be known. Demography of respondent is based on gender, experience as auditor, position at accounting firm, and MBTI personality types. The respondent is mostly female, consist of 59 auditors or 59.6% of total respondents. While male auditors amounted 40 people or 40.4% of total respondent. Based on experience as auditor, the respondents are mostly having two up to less than five years experience of audit, amounted 55 auditors or 55.6% of total respondents. The rests are those who have zero up to less than two years of audit experience, amounted 20 auditors or 20.2% of total respondents, those who have five up to less than ten years of audit experience, amounted 19 auditors or 19.2% of total respondents, and those who have more than ten years of audit experience, amounted five auditors or 5% of total respondents. Based on auditor’s position, most of the respondents are senior auditors, who are 45 or 45.5% of total respondents. The rests are junior auditor, amounted 41 or 41.4% of total respondents, manager amounted 12 or 12.1% of total respondents, and partner, amounted one or 1% of total respondents. While based on MBTI personality types, auditors are mostly having Extrovert-Sensing-Thinking-Judging (ESTJ) personality types, amounted 32 auditors or 32.3% of total respondents. The combination of Sensing-Thinking (ST) and iNtuitive-Thinking (NT) personality types also dominates the overall respondents’ personality types, composes 70 auditors or 71% of total respondents.

4.2 Validity and Reliability Tests
Results of the validity and reliability tests below belong to the field research. Before conducting field research, researcher conducted pilot tests which its validity and reliability being tested using PLS, it resulted 12 question items from the initial questionnaire must be dropped. Therefore, the field research used after eliminations-questionnaire version. The field research questionnaire was analyzed as follow:

4.2.1 Validity Test
For development of a research, loading score of 0.5 or 0.6 is deemed valid (Ghozali and Latan, 2015). Based on table 4.1, all of indicator’s factor loading is above 0.6, which means all of the indicators being used in this research are deemed having convergent validity. For the discriminant validity, if the correlation between the construct and its measurement core is larger than other construct, therefore latent construct predicts its indicator better than other construct. Model is deemed having good discriminant validity if each latent variable’s indicator loading is the largest among any other loading towards other latent variables. Based on table 1, each variable’s indicator has largest loading score with its variable than other variable. Therefore, discriminant validity for each variable is achieved.
Table 1. Cross Loading

<table>
<thead>
<tr>
<th>ETHICS</th>
<th>EXPERIENCE</th>
<th>FRAUD</th>
<th>GENERATION</th>
<th>PERSONALITY</th>
<th>SKEPTICISM</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETH2</td>
<td>0.72</td>
<td>0.8</td>
<td>-0.075</td>
<td>0.30</td>
<td>0.131</td>
</tr>
<tr>
<td>ETH6</td>
<td>0.75</td>
<td>0.6</td>
<td>0.042</td>
<td>0.16</td>
<td>0.015</td>
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<tr>
<td>ETH7</td>
<td>0.76</td>
<td>0.8</td>
<td>0.086</td>
<td>0.32</td>
<td>0.088</td>
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<tr>
<td>ETH8</td>
<td>0.83</td>
<td>0.7</td>
<td>0.046</td>
<td>0.24</td>
<td>0.072</td>
</tr>
<tr>
<td>ETH9</td>
<td>0.78</td>
<td>0.8</td>
<td>0.016</td>
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<td>0.131</td>
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<tr>
<td>EXP</td>
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<td>0.2</td>
<td>0.05</td>
<td>0.198</td>
<td>-0.011</td>
</tr>
<tr>
<td>FRAUD</td>
<td>0.32</td>
<td>0.3</td>
<td>0.037</td>
<td>0.73</td>
<td>0.024</td>
</tr>
<tr>
<td>FRAUD</td>
<td>0.16</td>
<td>0.8</td>
<td>-0.043</td>
<td>0.69</td>
<td>0.002</td>
</tr>
<tr>
<td>FRAUD</td>
<td>0.20</td>
<td>0.8</td>
<td>0.047</td>
<td>0.82</td>
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<td>FRAUD</td>
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<td>0.8</td>
<td>0.014</td>
<td>0.66</td>
<td>0.115</td>
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<td>FRAUD</td>
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<td>0.5</td>
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<tr>
<td>FRAUD</td>
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<td>0.8</td>
<td>0.048</td>
<td>0.79</td>
<td>0.066</td>
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<tr>
<td>FRAUD</td>
<td>0.16</td>
<td>0.8</td>
<td>0.033</td>
<td>0.66</td>
<td>0.071</td>
</tr>
</tbody>
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Table 2. Average Variance Extracted (AVE)

<table>
<thead>
<tr>
<th>Variables</th>
<th>AVE</th>
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<tr>
<td>Ethics</td>
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<tr>
<td>Experience</td>
<td>1</td>
</tr>
<tr>
<td>Fraud</td>
<td>0.535</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
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<tr>
<td>Personality Types</td>
<td>1</td>
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<tr>
<td>Skepticism</td>
<td>0.566</td>
</tr>
</tbody>
</table>

Table 4. Result of Data Analysis using PLS and Variance Accounted For

<table>
<thead>
<tr>
<th>Variables</th>
<th>Composite Reliability</th>
<th>Cronbach’s Alpha</th>
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<tr>
<td>Ethics</td>
<td>0.881</td>
<td>0.841</td>
</tr>
<tr>
<td>Experience</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Fraud</td>
<td>0.901</td>
<td>0.889</td>
</tr>
<tr>
<td>Gender</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Personality Types</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Skepticism</td>
<td>0.921</td>
<td>0.910</td>
</tr>
</tbody>
</table>

4.2.2 Reliability Test

Reliability test is aimed to measure the internal consistency of the instrument. There are two criterions of reliability test: composite reliability and Cronbach’s alpha (Ghozali & Latan, 2015). The result of composite reliability test is depicted on table 3.

Table 3. Reliability Tests

<table>
<thead>
<tr>
<th>Variable Relationship</th>
<th>Path Coefficient</th>
<th>T-Statistic</th>
<th>Decision</th>
<th>Signific ica  tion between independent and dependent variable</th>
<th>Indirect Effect</th>
<th>Total Effect (Indirect + Direct Effect)</th>
<th>VAF Score (Indirect/Tota l Effect)</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics → Fraud Detection</td>
<td>0.232</td>
<td>2.299</td>
<td>1.640</td>
<td>Significant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethics → Professional Skepticism</td>
<td>0.378</td>
<td>3.777</td>
<td>1.640</td>
<td>Significant</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethics → Fraud Detection through Professional</td>
<td>0.077</td>
<td>1.697</td>
<td>1.640</td>
<td>Significant</td>
<td>0.077</td>
<td>0.309</td>
<td>0.249</td>
<td>Partial Mediation</td>
</tr>
</tbody>
</table>
Skepticism  
Experience  
Fraud  
Detection  
0.054  
0.591  
1.640  
Not  
Significant  

Experience  
Professional  
Skepticism  
0.012  
0.128  
1.640  
Not  
Significant  

Experience  
Fraud  
Detection  
through  
Professional  
Skepticism  
0.002  
0.106  
1.640  
Not  
Significant  
Not  
Significant  
-  
-  
-  
No  
Mediation  

Gender  
Fraud  
Detection  
0.049  
0.500  
1.640  
Not  
Significant  

Gender  
Professional  
Skepticism  
-0.097  
1.009  
1.640  
Not  
Significant  

Gender  
Fraud  
Detection  
through  
Professional  
Skepticism  
-0.020  
0.802  
1.640  
Not  
Significant  
Not  
Significant  
-  
-  
-  
No  
Mediation  

Personality  
Fraud  
Detection  
0.390  
4.687  
1.640  
Significant  

Personality  
Professional  
Skepticism  
0.228  
2.657  
1.640  
Significant  

Personality  
Fraud  
Detection  
through  
Professional  
Skepticism  
0.046  
1.684  
1.640  
Significant  
0.047  
0.437  
0.108  
No  
Mediation  

Professional  
Skepticism  
Fraud  
Detection  
0.202  
1.892  
1.640  
Significant  

4.3 Inner Model  
Inner model or structural model is being tested by using R-Square for dependent variables, t-statistics, and signification of structural path coefficients which obtained by bootstrapping procedure. Structural model is being tested by R-Square score as follows:

<table>
<thead>
<tr>
<th>Variable</th>
<th>R-Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Skepticism</td>
<td>0.227</td>
</tr>
<tr>
<td>Fraud Detection</td>
<td>0.337</td>
</tr>
</tbody>
</table>

**Table 5. R-Square**

R-square of variable Professional Skepticism is 0.227, which means that personality types variable, Experience, Ethics and Gender are contributing 22.7% to variable Professional Skepticism, which the rest of 77.3% is contribution from other variables which are not included in this research. R-Square of variable Fraud Detection is 0.337 which means that personality types variable, Experience, Ethics, Gender, and Professional Skepticism are contributing 33.7% to variable Fraud Detection. The rest of 66.3% is contribution from other variables which are not included in this research.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Relationship of Variables</th>
<th>Decision</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Personality Types ☢ Fraud Detection</td>
<td>H1 accepted</td>
<td>Positive influence</td>
</tr>
<tr>
<td>2</td>
<td>Experience ☢ Fraud Detection</td>
<td>H2 rejected</td>
<td>No influence</td>
</tr>
<tr>
<td>3</td>
<td>Ethics ☢ Fraud Detection</td>
<td>H3 accepted</td>
<td>Positive influence</td>
</tr>
<tr>
<td>4</td>
<td>Gender ☢ Fraud Detection</td>
<td>H4 rejected</td>
<td>No influence</td>
</tr>
<tr>
<td>5</td>
<td>Personality Types ☢ Fraud Detection</td>
<td>H5 rejected</td>
<td>No mediation effect</td>
</tr>
<tr>
<td>6</td>
<td>Experience ☢ Fraud Detection through</td>
<td>H6 rejected</td>
<td>No mediation effect</td>
</tr>
</tbody>
</table>

**Table 6. Summary of Hypothesis Testing**
<table>
<thead>
<tr>
<th></th>
<th>Professional Skepticism</th>
<th>H7</th>
<th>H8</th>
<th>Partial mediation</th>
<th>No mediation effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>Ethics → Fraud Detection through Professional Skepticism</td>
<td>accepted</td>
<td></td>
<td>Partial mediation</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Gender → Fraud Detection through Professional Skepticism</td>
<td>rejected</td>
<td></td>
<td>No mediation effect</td>
<td></td>
</tr>
</tbody>
</table>
4.4 Hypothesis Testing

Bootstrapping procedure is being used in this research to minimize the problem of normality of the research data. The result of PLS analysis and VAF method as depicted on table 4.

4.4.1. Auditor’s Personality Types, Professional Skepticism, and Fraud Detection Capability

The significant path coefficient score of 0.390 between personality types variable and fraud detection variable and 0.228 between personality types variable and professional skepticism variable indicate that auditors who have MBTI’s Sensing-Thinking and Intuitive-Thinking personality types exhibit higher level of fraud detection capability and professional skepticism than those who have combined Sensing-Feeling and Intuitive-Feeling personality types. However, the VAF score of 0.108 indicates that professional skepticism failed to mediate the relationship between personality types variable and fraud detection capability variable. The differences of fraud detection behavior and professional skepticism between auditors with ST and NT personality types SF and NF personality types supports Jung’s theory of psychological types (1923, in Schloemer and Schloemer, 1997) which states that human behavior can be traced to differences in personality type. It also supports Schloemer and Schloemer (1997) who states that the way people approach their job and interact with their colleagues are influenced by their personality types, and Gallego and Pardos-Prado (2013) who state that personality influences social attitudes and behavior.

In this research, people with ST and NT personality types have more willingness to develop information search regarding any potential fraud situations and exhibit more professional skepticism during audit work than those who have SF and NF personality types. Myers (1998:33) states that combinations of perception (S or N) and judgment (T or F) influence career interests and choices. It is shown that people who prefer ST and NT in overall are focusing on facts and possibilities, applying objective analysis, experience, theoretical concepts and systems, tend to be practical, analytical, and logical, and are interested in technical skills with objects, facts, theoretical, and technical frameworks.

While in overall, according to Myers (1998:33) people with SF and NF preference rather apply personal warmth, concern to others, and attention to people’s potential. They tend to become sympathetic, friendly, insightful and enthusiastic. They also found to be interested in practical help and services for people, understanding and encouraging people. Hence it can be concluded that auditing work may suit more those who have ST and NT personality types as they develop more information search regarding fraud symptoms and exhibit higher level of professional skepticism, corresponds to their characteristics of being objective, logical and analytical, and interested in technical skills and frameworks. This finding also supports the previous studies by Noviyanti (2008) who find that auditors with ST and NT personality types exhibit higher level of professional skepticism in fraud detection, and Larimbi (2013) who find that personality types influence professional skepticism of auditors. This research’s finding of the domination of auditors with Sensing-Thinking and Intuitive-Thinking personality types, which compose 71% of total respondents, also in line with previous findings that people with combined Sensing-Thinking and Intuitive-Thinking personality types were found to be dominant in accounting professions (Kreiser, McKeon, and Post, 1990; Kovar et al, 2003; Schloemer and Schloemer, 1997). Therefore, by the domination of certain personality types of a profession, personality types could also determine the kind of profession an individual may want to engage in.

4.4.2 Auditor’s Experience, Professional Skepticism, and Fraud Detection Capability

Based on table 4, experience variable has no influence towards fraud detection variable directly and through professional skepticism variable. It means that although the experience of auditors increases, there are not enough influence towards fraud detection and professional skepticism level. It does not support Pramana et al (2016) and Nasution and Fitriany (2012) findings, but supports Okpianti (2016) finding. Such results may be explained by a study by Tversky and Kahneman (1974, in Carpenter et al, 2002) that suggests the auditors’ ability to recognize fraud or errors may be influenced by the ease of them recalling a number of examples of fraud within their environment, which enabled by experience in facing such situations. Carpenter et al (2002) and Charron and Loewe (2008) also suggest that auditors who have more particular experience regarding fraud or irregularities are much more likely to detect them in the audit work caused by the amount of knowledge about fraud increases. Therefore, it may be that auditors who are deemed experienced by amount of audit years in this research are actually not having enough particular experience of fraud symptoms and professional skepticism implementation along their career, so that the experienced ones are not always exhibiting higher level of fraud detection capability and professional skepticism than those who are inexperienced. As also stated by theory of planned behavior (Ajzen, 1991), experience is deemed as perceived behavior control which refers to perceived ease or difficulty in performing the behavior. Thus, it may be more precise if experience is defined more specifically as experience towards fraud symptoms or situations.
4.4.3 Auditor’s Ethics, Professional Skepticism, and Fraud Detection Capability

Based on table 4, significant path coefficient score between ethics variable and fraud detection capability of 0.232, one between ethics variable and professional skepticism of 0.378, and VAF score of 0.249 which means there is partial mediation indicates that ethics variable in this research has positive influence towards fraud detection capability variable directly and through professional skepticism variable. Such findings support Okpianti (2016) study. Ethics variable in this research is defined as perception and concern towards Professional Codes of Ethics. Code of ethics provides practical guidance to the individual member in maintaining a professional attitude (Whittington and Pany, 2001). Hence, it is expected that auditors will comply Professional Codes of Ethics and maintain high standards in the profession. Such perception and concern towards Professional Codes of Ethics would define how good is the auditor’s compliance on Professional Codes of Ethics and how auditors will do their job in conformity to the Codes of Ethics.

According to Theory of Planned Behavior by Ajzen (1991), perceived social pressure also defines individual’s behavior. Professional Codes of Ethics in this research also acts as the perceived social pressure by the auditors to perform fraud detection behavior, as it is stated mandatory to perform fraud detection during the audit as suggested by ISA 240. This research finding suggest that the more auditor’s perception and concern favor Professional Codes of Ethics, the higher their fraud detection capability and level of professional skepticism. It supports the Theory of Planned Behavior (Ajzen, 1991) that perceived social pressure in form of rules and standards to perform or not to perform certain behavior would define the performance of behavior.

4.4.4 Auditor’s Gender, Professional Skepticism, and Fraud Detection Capability

Based on table 4, gender variable has no influence on fraud detection capability variable directly and through professional skepticism variable. This finding supports Nasution and Fitriany (2012) and Larimbi (2013). While it does not support the Selectivity Hypothesis (Meyers-Levy, 1986, in Chung and Monroe, 2001), which stated women tend to process most available information cues than men, who are more selective in processing information. It indicates that female and male auditors are exhibiting pretty much same level of fraud detection capability and professional skepticism. Such result may be explained by Charron and Loewe (2008) who also include marital status and children alongside gender to examine their professional skepticism level in fraud detection, that it may not only gender which influences professional skepticism and fraud detection but life situations can also alter the degree of skepticism within individuals. It could also be that gender is not related to professionalism. Female and male auditors are required to have same competencies and work professionally in a strictly regulated working environment.

5. Conclusions and Suggestions

Based on the findings, this study concluded that:

1. Auditors with ST (Sensing-Thinking) and NT (Intuitive-Thinking) personality types found to have higher fraud detection capability by more developing their information search regarding fraud symptoms during audit than auditors with other personality types. This indicates that personality types do have influence on how individual perform certain behavior. Furthermore, personality types also play an important role in determining approach that individual take to do their jobs. It indicates that accounting and auditing profession may attract individual with certain personality types due to such profession’s specific requirement of precise, logical, and objective thinking which mainly possessed by people with ST (Sensing-Thinking) and NT (Intuitive-Thinking) personality types. This study also proofs that Theory of Psychological Types by Carl C. Jung and Myers Briggs Type Indicator (MBTI) developed by Briggs and Myers in 1962 are able to explain the differences of individual’s behavior based on their personality types and to show that auditing profession is dominated by individuals with certain personality types.

2. Auditor’s ethics positively influence their fraud detection capability, directly or through professional skepticism. This indicates that the more auditors’ ethics favor the Professional Codes of Ethics, the higher their willingness to perform fraud detection during the audit by developing information search of fraud symptoms and hence, the higher their fraud detection capability. This finding is also in line with Theory of Planned Behavior which explains that behavior is driven by subjective norms. Professional Codes of Ethics is defined as subjective norm or perceived social pressure to perform fraud detection behavior in this research. Therefore, auditors with better concern, interpretation, and implementation of Professional Codes of Ethics are found to have higher fraud detection capability. It implies that some coaching and training regarding ethical matters are important to be conducted to auditors in all position levels.
in order to enhance their ethical aspects and thus can act in conformity with Codes of Ethics.

3. Professional skepticism also found to mediate the effect of auditors’ ethics on their fraud detection behavior. It indicates that professional skepticism is important to be exhibited by the auditors in order to perform fraud detection behavior during the audit. This finding is in line with Theory of Planned Behavior which explains that behavior is driven by attitude towards the behavior, which in this research is represented by professional skepticism. Professional skepticism itself defined as an attitude of maintaining a questioning mind and critical assessment regarding audit evidence. The more auditors exhibit professional skepticism during audit, the higher their willingness to expand information search regarding fraud symptoms and hence, the higher their fraud detection capability. It also implies that some coaching and training regarding professional skepticism are important to be conducted to auditors in all position levels in order to enhance their professional skepticism.

4. Auditor’s years of experience does not influence fraud detection capability and professional skepticism. It indicates that years of experience do not correlate with auditors’ willingness to expand information search regarding fraud symptoms and the level of professional skepticism exhibited during audit. It may because auditors who are deemed experienced or have more years of experience are not actually experiencing fraud along their career, since the ability to detect fraud is also defined by the ease of them recalling a number of examples of fraud within their environment, which enabled by experience in facing such situations. As Theory of Planned Behavior suggests, experience acts as perceived behavioral control or auditor’s perceived ease and difficulties in performing fraud detection during the audit. If auditors with little-to-none experience towards fraud and its environment are exposed to fraud symptoms, they might not respond to perform further information search regarding the fraud.

5. Auditor’s gender does not influence fraud detection capability and professional skepticism. It indicates that female and male auditors are exhibiting pretty much same level of fraud detection capability and professional skepticism during audit. Such finding does not support Selectivity Hypothesis which suggests that women tend to process most available information cues than men, who are more selective in processing information. It might because female and male auditors are required to have same competencies and work professionally in a strictly regulated working environment which not classifies them by gender.

Suggestion proposed to improve future researches is other factors such as audit risks, workload, and auditor’s specific experience towards fraud can be explored in order to get better explanations of auditor’s fraud detection capability.

5. References


