Auditors’ Behavioral Intention: the Interaction Effect of Individual, Audit Firm and Audit Team Factors

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Abstract

Breakdown of reporting detected misstatements can cause serious problems because it reflects poor audit quality and can lead audit firm to failures. Due to the magnitude of the quality of auditors’ work, many studies have attempted to identify influencing factors on auditors’ intention to act ethically. This study ascertains how external auditors decide to report the detected misstatements in terms of their individual characteristics, ethical culture and team norms according to the theory of planned behavior. Data are collected using 257 survey questionnaires which are distributed among audit seniors. Statistical analyses indicate that ethical culture and team norm moderate the influence of individual factors on auditors’ intention of reporting misstatements. In fact, the association between locus of control, personality type and auditors’ work quality moderate by audit firm ethical culture and team norms.

Keywords: Behavioral Intention, Ethical Culture, Locus of Control, Personality Type, Reporting Misstatements, Team Norm, Theory of Planned Behavior.

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Introduction

Unethical behavior of auditors is claimed to decrease auditors’ quality and leads to failure of audit firms (Akpotu and Israel, 2013). Following audit failures, a number of significant regulatory initiatives such as the code of ethics are released for professional accountants to motivate auditors to act ethically (IFAC, 2003). Despite the strengthening laws for the accounting profession and also different researches conducted on auditors’ behavioral intention, unethical behaviors of auditors continue to occur. For example, the National Ethics Survey in 2007 suggested that unethical behavior remains a severe problem in the audit profession and needs more investigations. Moreover, based on Mohd Nor (2011) results, a high number of auditors were still concerned with unethical behaviors which reduced the quality of their work. These apparent audit failures and unethical behaviors among auditors might be caused by their widespread reluctance to report detected misstatements due to a lack of sufficient intention (Mohd Zawawi et al., 2008). Therefore, to increase auditors’ intention for reporting the detected misstatements and also audit quality, the exploration of influencing factors on auditors’ intention to behave ethically is vital.

According to the theory of planned behavior (TPB), ethical actions in organizational circumstance are affected by individual, firm and team factors (Alleyne et al., 2013). In fact, auditors’ behavior is insightful of their personality and their characteristics during audit work (Paino et al., 2010). However, based on TPB, beside characteristics, social pressures from the audit firm can affect auditors’ behavioral intention. Thus, social pressures by the audit firm and audit team are important factors which might motivate auditors in order to report misstatements. Although not many studies have concentrated on the ethical laws and cultures set in audit firms to promote auditors' ethical behavior, the interaction between theory of planned behavior components are not investigated in auditing context (Aghaei Chadegani et al. 2014). Some new applications of the theory of planned behaviour have been suggested by different researches. It has been suggested that all the theory components may have interaction effects (Hukkelberg, Hagtvet & Kovac 2013). Bertrand et al. (2009) argue that the antecedents of the theory of planned behaviour are not independent and interaction effects may exist between attitude toward behaviour, perceived behavioural control and subjective norms. Bansal & Taylor (2002) believe that an individual may feel unfavourable toward behaviour but the pressure by the organisation or the team may motivate him to act ethically.
Anugerah et al. (2016) examined the antecedents of turnover intention on reduced audit quality behaviour. They try to examine the influence of organizational commitment and locus of control on reduced audit quality behaviour by turnover intention. Samples are 97 auditors in Indonesia who respond to the questionnaire. Their results showed that the influence of organizational commitment and LOC on reduced audit quality behaviour is indirectly influenced by turnover intention. Purnamasari (2019) investigated whether moral evaluation and cognitive moral development impact an auditor engagement in reduced audit quality behaviour. 289 auditors participated in this study and research survey. Their results revealed that moral evaluation mediates the relationship between cognitive moral developments and reduced audit quality behaviour. Recently, Partha Nadi et al. (2020) examined the mediating effect of Machiavellian between locus of control and auditor dysfunctional behaviour. They used the survey method and samples are auditors who work in public accounting. Their results showed that the external locus of control and Machiavellian trait has a positive effect on the auditor dysfunctional behaviours.

So far, some psychological studies have supported the argument on the interaction effects of individual and organisational factors on individual behavioural intention (Chatzisarantis & Hagger 2007). Also, there are no prior studies in auditing which examine these interaction effects. In fact, little is known about how the interaction of individual characteristics and organisational factors influence auditor intention for reporting misstatements. Therefore, the interactions of multiple factors associated with auditors’ behavioural intention need further inquiry. This research tries to fill the gap by investigating the extent to which the interaction of individual characteristics, firm and team factors influence auditors’ intention for reporting misstatements either internally or externally in a complete model. In summary, this research extends TPB by investigating the interaction of team norms and audit firm ethical culture with auditors’ characteristics on auditors’ intention for reporting misstatements. Moreover, this study contributes to the TPB by investigating the interaction effects of the audit firm and audit team factors with individual characteristics on auditors’ intention for reporting the detected misstatements.

**Literature Review**

Malfunction of auditors for reporting detected misstatements may cause serious problems for investors, clients and audit profession because it reflects the reduced quality of audit work (Alaniz-Bouqayes et al., 2012). Ovidiu-
Constantin (2009) argued that in audit engagements if auditor detects errors which have a significant effect on financial information and financial statements, he/she needs to report errors to superiors within the audit firm. Besides, according to Auditing Standards (SAS) No. 53, auditors are accountable to perform audit work with rational assurance in relation to detect and report errors and misstatements. Detecting errors and misstatements is associated with auditors’ experience, technical capabilities and skills (DeAngelo, 1981). However, reporting errors and misstatements is a moral behavior of auditors that is determined by auditors’ behavioral intention. Behavioral intention is a motivation of performance since it is an effort that individuals plan to perform (Beck and Ajzen, 1991). Sulaiman (2001) argued that examining behavioral intention is important because of its close link with actual behaviors. The connection between individual’s behavioral intention and actual behavior is shown to be extremely powerful and allows researchers to determine behavioral intentions to infer actual behaviors (Chiu, 2003; Alleyne et al., 2013). Ajzen (1991) with the theory of planned behavior (TPB) argue that one of the best predictors of individual behavior is individual intention. Therefore, based on this argument, in this research auditors’ intention is used as a measurement for actual behavior.

Auditors’ behavior is a reflection of their characteristics during audit work performance (Paino et al., 2010). Baotham (2009) argued that ethically oriented auditors have more motivations to behave ethically rather than less ethically oriented auditors. Thus, individual characteristics have a vital role in shaping the quality of audit by affecting individual decision making and their behavioral intention (Wang et al., 2012). Individual characteristics measured by different factors in different audit researches. These factors are auditors’ ethic reasoning (Tsui and Gul, 1996), goal orientation (Sanusi et al., 2010), professional skepticism (Harding and Trotman, 2011), auditors’ virtue (Libby and Thorne, 2000) locus of control (Paino et al., 2010) and personality type (Gundry and Liyanarachchi, 2007). According to Kirkcaldy et al. (2002), loci of control and personality type are commonly used personality characteristics which are concerned with ethical intention. TPB also suggested that auditors’ intention is settled by their perceived control and attitude towards their behavior (Ajzen, 1991). Perceived control shows the individuals’ perception by having control over behavior (Ardenne et al., 2011). Chiu (2003) argued that auditors’ individual perception regarding having control of their behaviors refer to their locus of control. Attitude towards behaviors also refers to individual common approach about behavior and his/her assessment regarding the outcomes (Mohd Zawawi et al., 2008). Ardenne et al. (2011) argued that
auditors’ behavioral intention and decision making are affected by their personality type that shows their ethical orientation. Whereas, the dependent variable is auditor intention for reporting errors and misstatements, personality type and locus of control related to auditors’ ethical behavioral intention are selected as individual characteristics.

Although most scholars concentrate on individual features, according to TPB, organizational features play also a vital role in auditor intention for reporting errors and misstatements. The Financial Reporting Council (FRC) remarks on the significance of audit firm condition. It is recommended that the atmosphere surrounding auditors can influence the auditors’ state of mind and the way that they perform their duties. Shafer and Simmons (2010) concluded that in addition to individual features, the ethical situation or cultures in audit firms can impact auditors’ intention to act ethically. Dowling (2007) concluded that in addition to firm effects, team effects also are important subjective norms in TPB. Audit team norms are other firm factors that may affect auditors’ intention (Alleyne et al., 2013; Aghaei Chadegani et al. 2014). According to Alleyne et al. (2012), a person engagement extent in a specific action depends largely on the norm developed to audit team which he is a member. Team norm is the most influential forms of pressure over a member's behavior (Bettenhausen and Murnighan, 1991). Prior studies have investigated these factors separately but this study is designed to explore individual, audit firm and audit team features that may affect auditor’s intention for reporting misstatements simultaneously in addition to the interaction effect that may exist between these factors according to theory of planned behavior. This research explores how auditor intention for reporting misstatements could be increased.

Prior researchers have identified the importance of both individual characteristics and organisational factors in influencing ethical behavioral intention (Trevino et al., 1998). Aghaei Chadegani et al. (2014) found that auditor’s individual features such as LOC and PT have an effect on auditor intention for reporting misstatements. Recent studies have begun to examine how the interaction between individual factors and organisational factors could increase individuals’ behavioural intention through the extension of TPB. Kaplan et al. (2011) argued that the elements of TPB are not independent. For example, the interaction effects may exist between organisational factors with individual factors. Therefore, based on the theory, although auditors' individual characteristics may impact the auditor intention for reporting misstatements, it may be influenced by the audit firm atmosphere and ethical culture in the audit firm. In fact, ethical behaviour could be higher in firms where norms support
and encourage ethical act, and also ethical act is rewarded and unethical act is punished, rather than in firms without such conditions (Trevino et al., 1998). Thus, the interaction between ethical culture in an audit firm and auditors individual characteristics will increase the audit quality through increasing auditor intention for reporting errors and misstatements.

Based on the above discussion, the interaction effects may influence the relationship between subjective norms with both attitude and perceived behavioural control. Bansal and Taylor (2002) argued that an individual may feel unfavourable toward behaviour (less attitude) and have less perceived behavioural control but the pressure by the organisation (subjective norms) may motivate him to act ethically. Similarly, it is hypothesised that auditors may feel more committed to audit firm and have more intention for reporting misstatements if they believe that audit firm encourages ethical behavior and discourage unethical behaviour through ethical culture (more subjective norm). Therefore, it is hypothesised that the interaction of ethical culture with auditors’ individual characteristics could increase auditor intention for reporting misstatements. The fifth and sixth research hypotheses are:

$H_1$: Ethical culture increases auditor intention for reporting misstatements with both personality type A and B.

$H_2$: Ethical culture increases auditor intention for reporting misstatements with both internal and external locus of control.

Thus far, research within the TPB has supported interaction between subjective norms, attitudes and perceived control (Chatzisarantis and Hagger, 2007). Prior researches further demonstrated that ethical act may be higher in firms when norms and leaders support ethical act, and where the ethical act is compensated and unethical act is punished, rather than in firms without such conditions (Trevino, 1986). Therefore, another interaction effect is hypothesised between audit team norms and auditors’ individual characteristics in this study.

Some prior studies have found that attitude–subjective norms interaction increase individual behavioural intention (Bansal and Taylor, 2002). For example, Hooks et al. (1994) concluded that social pressure like audit team norm could affect individual perceptions of reporting wrongdoings seriousness. Team norms may moderate the effect of individual characteristics and can have positive effects on auditor intention for reporting errors and misstatements. Similarly, Narayanan et al. (2006) concluded that if team norm supports ethical behaviour, the individual is more likely to behave ethically. They mentioned that team norm may moderate the effects of individual characteristics on unethical decision-making. Alleyne et al. (2013) also concluded that the moderating impact of team norm on the association between attitude toward
behavior and whistleblowing intentions. Therefore, ethical norms within the audit team may have a positive influence on individual member decision-making and behaviours regarding appropriate organisational practice.

Jones (1991) examined the effects of individual and firm factors interactions to moderate the ethical decision-making of individuals and behavioural intention. Therefore, it is suggested that auditors’ intention for reporting misstatements is a compound interaction of personal features with the team and also firm factors (Herndon et al., 2001). Thus, it is hypothesised that auditors may have more intention for reporting misstatements if auditors perceived that the audit team encourages and supports ethical behaviour by setting high ethical norms (more subjective norm). According to theory, it is hypothesised that the interaction of audit team norm with auditor individual characteristics could increase auditor intention for reporting misstatements. The seventh and eighth research hypotheses are:

H₃: Audit team norm increases auditor intention for reporting misstatements with both personality type A and B.

H₄: Audit team norm increases auditor intention for reporting misstatements with both internal and external locus of control.

Methodology

This is a cross-sectional study which utilizes a survey design and uses a mail questionnaire for collecting data. This research combines using a questionnaire and vignette design to examine the auditors’ intention (short and hypothetical situation) as the other ethical researches in self-reporting issues in audit studies (Ab Ghani et al., 2011; Alleyne et al., 2012). The research population consists of all auditors working in audit firms. However, among all these auditors, only senior auditors are selected in the sample. Senior auditors are within the fieldwork and they are positioned at the client’s main office for most time of audit engagement (Guy et al., 1993). Therefore, they are in the position that more likely for detecting errors and misstatements of client financial statements. Consequently, the basis for selecting audit seniors is according to this argument that reporting errors and misstatements are made usually by members who are close to the inside working of firm and misstatements are detected more rather than other levels and they are in a situation for reporting detected errors and misstatements to superior level (Kaplan and Whitecotton, 2001; Ab Ghani et al., 2011). Thus, according to these justifications senior auditors are chosen as a sample in this study and 550 questionnaires are distributed among them. A total of 257 completed questionnaires are received. The research model is as follows (Aghaie et al. 2014):
Research Model: (Alleyne et al. 2012; Aghaie et al. 2014)

\[
IRM = \beta_0 + \beta_1 EC + \beta_2 TN + \beta_3 PT \ast EC + \beta_4 LOC \ast EC + \beta_5 PT \ast TNA \beta_6 LOC \ast TN + \varepsilon
\]  

Where:
IRM: Intention of reporting misstatements
LOC: Locus of control
PT: Personality type A/B
EC: Ethical culture
TN: Team norms
\(\varepsilon\): Error term

**Research Instrument**

The research questionnaire consists of six parts. Part 1 explains a hypothetical situation and scenario or vignettes which shows misstatements in financial information. This study adapted the vignette from (Menk, 2011) which is developed by (Siefert et al., 2010) to measure auditor intention for reporting misstatements. This vignette explains an unrecorded material entry of sales revenue which was input by an accounting manager. In fact, auditor intention for reporting misstatements is examined by asking a question from respondents to point out the degree of likelihood of reporting misstatements using five-point Likert scale (valued as 1 for highly unlikely and 2 for unlikely, 3 for neither unlikely nor likely, 4 for likely and finally 5 for highly likely).

Part 2 examines the LOC variable. LOC questionnaire is adapted from Paino et al. (2012) that is developed by Spector (1988). This questionnaire has 16 sentences for measuring LOC orientation associated with organisational outcomes (Spector, 1988). Part 3 examines the PT variable. To measure PT of auditors, Blumenthal’s (1985) self-rating questionnaire adapted was recently used by Mohd Nor (2011). Based on this instrument, individuals can be divided into two groups. Individual by type A personality who is more competitive, ethical oriented and ambitious than individuals with type B personality. The instrument consists of 38 personality characteristics (Blumenthal et al., 1985; Gundry & Liyanarachchi, 2007).

The ethical culture in audit firm questionnaire is adapted based on the developed instrument by Key (1999) from Shafer and Simmons (2010). Thus, part 4 measures ethical culture within an audit firm. Ethical culture instrument is developed based on respondents’ perceptions of ethical culture in a
company. This questionnaire measures two broad-based variables: 1: ethical tone top and 2: ethical pressure by 18 items. Part 5 examines audit team norms. To measure audit team norm, the team norm questionnaire is adapted from Alleyne et al., (2012) and it is developed by De Jong et al., (2005). This instrument is developed based on respondents’ perceptions about team norm. The original questionnaire consisted of three parts and scored on a five-point Likert scale. However, each part is modified by using the term “audit team” for the auditing context. One additional part is also added by Alleyne et al. (2012) for testing the ethical norm of the audit team. Finally, part 6 captures demographic information of the respondents which includes age, gender, years of auditing experience, level of education, type of audit firm and also the position in an audit firm.

Research Findings

Before conducting main statistical analyses, it is needed to do preliminary steps to ensure the research data quality. The preliminary process begins with an inspection of missing data, checking non-response bias problem, validity and reliability analyses. The results of frequencies analyses show that none of the research variables has missing data and all data are entered completely and correctly into the SPSS data file. Content validity could not be a threat since the questionnaires are adopted from prior studies. The adequacy of instrument items had been examined by prior researchers. Moreover, pre-test and pilot study is conducted to be sure about content validity regarding the research instrument. For conducting the pre-test, before the mail questionnaire administration, four academics that are university professors and have auditing experience fill up the research instrument and answer some questions concerning the questionnaire. They are asked to explain how easy to understand research questionnaire and the time to fill up the questionnaire and also about the realism of the scenario. Generally, these academics considered the questionnaire as suitable and acceptable for auditors. The main objective of pilot testing is to make sure that the research vignette and other questions of research instrument are understandable by senior auditors (Ahmar Ahmad et al., 2013). Additional improvements to the survey instrument were made based on the participants' comments and suggestions. In this stage, the research instrument is distributed randomly among 30 auditors who work as a senior auditor in audit firms. In general, respondents understand and could answer all questions and contents of the research instrument. The vignette is also considered appropriate to be used in the research. Regarding the reliability, Cronbach’s Alpha was tested for research variables. Results show that
Cronbach’s Alpha coefficients are above 0.8 for all research variables. In general, Sekaran (2006) argued that reliabilities less than 0.6 is considered poor and reliability of 0.7 is considered acceptable and reliability above 0.8 is good, whereas the closer to 1.0 for the reliability coefficient, the better. Regarding the results of the pilot study and the validity and reliability analysis of data, it is concluded the research questionnaire is reliable and suitable.

For testing the interaction effects of individual factors and firm factor on auditor intention for reporting misstatements, Hayes and Matthes (2009) probing interaction procedures (MODPROBE) is used. Hypotheses H1 and H2 posit that ethical culture in an audit firm can moderate the relationships between individual factors (LOC and PT) and auditor intention for reporting misstatements. Table 1 and 2 indicate the results of probing interaction procedures for the moderating impact of audit firm ethical culture on the relationship between individual characteristics (PT and LOC) and auditor intention for reporting misstatements.

Table 1. Results of Moderating Effects of Ethical Culture on Relationship between Personality Type and Reporting Intention

<table>
<thead>
<tr>
<th></th>
<th>Reporting Intention</th>
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<tbody>
<tr>
<td></td>
<td>β</td>
<td>S.E</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Constant</td>
<td>3.61</td>
<td>0.07</td>
<td>48.28</td>
<td>0.00</td>
</tr>
<tr>
<td>PT</td>
<td>0.67</td>
<td>0.16</td>
<td>4.18**</td>
<td>0.00</td>
</tr>
<tr>
<td>EC</td>
<td>0.34</td>
<td>0.08</td>
<td>4.23**</td>
<td>0.00</td>
</tr>
<tr>
<td>PT × EC</td>
<td>-0.06</td>
<td>0.15</td>
<td>-0.44</td>
<td>0.66</td>
</tr>
<tr>
<td>R² = 0.32</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔR² = 0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-value (3, 170) = 26.99</td>
<td></td>
<td></td>
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</table>

Source: Compiled by Author

Table 2. Results of the Moderating Effect of Ethical Culture on the Relationship between Locus of Control and Reporting Intention

<table>
<thead>
<tr>
<th></th>
<th>Reporting Intention</th>
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<tbody>
<tr>
<td></td>
<td>β</td>
<td>S.E</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Constant</td>
<td>3.69</td>
<td>0.07</td>
<td>48.87</td>
<td>0.00</td>
</tr>
<tr>
<td>LOC</td>
<td>0.53</td>
<td>0.15</td>
<td>3.50**</td>
<td>0.00</td>
</tr>
<tr>
<td>EC</td>
<td>0.34</td>
<td>0.08</td>
<td>4.24**</td>
<td>0.00</td>
</tr>
<tr>
<td>LOC × EC</td>
<td>-0.35</td>
<td>0.15</td>
<td>-2.29*</td>
<td>0.02</td>
</tr>
<tr>
<td>R² = 0.31</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ΔR² = 0.021</td>
<td></td>
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<td></td>
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<tr>
<td>F-value (3, 170) = 26.51</td>
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</table>

Source: Compiled by Author
The results show that ethical culture in an audit firm cannot moderate the influence of personality type on auditor intention for reporting misstatements. Table 1 shows that the ethical culture interaction term (personality type × ethical culture in audit firm) has not added significant incremental variance in auditor intention for reporting misstatements (PT, $\beta = -0.06$, $\Delta R^2 = 0.000$). This result indicates that the relation of personality type and auditor intention for reporting misstatements cannot be stronger and more positive at higher levels of ethical culture rather than at lower levels.

However, research results indicate that ethical culture in an audit firm can moderate the effects of LOC on auditor intention for reporting errors and misstatements. Table 2 shows that the ethical culture interaction term (LOC × ethical culture) added incremental variance in auditor intention for reporting misstatements (LOC, $\beta = -0.35$ and $\Delta R^2$ is 0.021 and $P < 0.05$). This result indicates that the association between LOC and auditor intention for reporting misstatements is moderated by ethical culture in an audit firm. It means that the association between LOC and auditor intention for reporting misstatements is more significant and stronger and positive in a higher level of ethical culture.

Hypotheses H3 and H4 posit that audit team norm moderates the association between individual factors (LOC and PT) and auditor intention for reporting misstatements. Tables 3 and 4 show the results of probing interaction procedures for moderating influence of team norm on the association of individual factors (PT and LOC) on auditor intention for reporting misstatements.

| Table 3. Results of Moderating Impact of Team Norm on the Relationship between Personality Type and Reporting Intention |
|---|---|---|---|
| | $\beta$ | S.E | t | p |
| Constant | 3.69 | 0.07 | 48.65 | 0.00 |
| PT | 0.65 | 0.16 | 4.07** | 0.00 |
| TN | 0.22 | 0.07 | 2.91** | 0.00 |
| PT × TN | -0.32 | 0.14 | -2.27* | 0.02 |

$R^2 = 0.33$
$\Delta R^2 = 0.020$
F-value (3, 170) = 28.66
$P < 0.05$

Source: Compiled by Author
Table 4. Results of the Moderating Effect of Team Norm on the Relationship between Locus of Control and Reporting Intention

<table>
<thead>
<tr>
<th></th>
<th>Reporting Intention</th>
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<tbody>
<tr>
<td></td>
<td>β</td>
<td>S.E</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Constant</td>
<td>3.71</td>
<td>0.07</td>
<td>49.59</td>
<td>0.00</td>
</tr>
<tr>
<td>LOC</td>
<td>0.57</td>
<td>0.15</td>
<td>3.82**</td>
<td>0.00</td>
</tr>
<tr>
<td>TN</td>
<td>0.26</td>
<td>0.07</td>
<td>3.55**</td>
<td>0.00</td>
</tr>
<tr>
<td>LOC × TN</td>
<td>-0.40</td>
<td>0.14</td>
<td>-2.87**</td>
<td>0.00</td>
</tr>
<tr>
<td>R² = 0.33</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>ΔR² = 0.032</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-value (3, 170) = 28.08</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>P &lt; 0.05</td>
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Source: Compiled by Author

The results show that audit team norm moderated significantly the impact of PT and LOC on reporting intention. Tables 3 and 4 show that all four audit team norm interaction items (independent variables × audit team norm) added incremental significant variance in auditor intention for reporting misstatements (PT, β is -0.32 and ΔR² is 0.020 and P < 0.05, LOC, β is -0.40 and ΔR² is 0.032 and P < 0.05). This result indicates that the association of PT and auditor intention for reporting misstatements and also the association of LOC and auditor intention for reporting misstatements are stronger at a high level of audit team norm than at low levels. Based on these results relationships between auditor intention for reporting misstatements and individual variables are moderated by audit team norm.

Post-hoc Analysis

Simple Slopes Analyses for Ethical Culture

To show the more details about the moderating effect of ethical culture on the relationship of individual features with auditor intention for reporting misstatements, the simple slopes analyses and plots of interaction effects are presented as a post-hoc analysis. Additional analyses of simple slopes are performed in order to determine which slopes are different from zero significantly. Such information assists the regression lines plotting in figure form and facilitates interpretation. Table 5 indicates that the results of simple slopes tests for the moderating effect of ethical culture.
Auditors’ Behavioral Intention: the Interaction Effect

Table 5. The Effect of Locus of Control on Auditor intention for Reporting Misstatements at Low, Medium and High Levels of Ethical Culture (Simple Slopes Analysis)

<table>
<thead>
<tr>
<th>Ethical Culture levels</th>
<th>Reporting Intention</th>
<th>β</th>
<th>S.E</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Locus of Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low level of EC</td>
<td></td>
<td>0.18</td>
<td>0.21</td>
<td>0.85</td>
<td>0.39</td>
</tr>
<tr>
<td>Medium level of EC</td>
<td></td>
<td>0.53</td>
<td>0.15</td>
<td>3.50</td>
<td>0.00</td>
</tr>
<tr>
<td>High level of EC</td>
<td></td>
<td>0.88</td>
<td>0.21</td>
<td>4.09</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Compiled by Author

The results of probing interactions procedures reveal that ethical culture significantly moderates the influence of LOC on auditor reporting intention. Results of simple slope tests confirmed the relationship derived from the regression analyses significantly. The results in table 5 show that the relationship between LOC and auditor reporting intention is significantly positive (P < 0.01) and stronger when ethical culture is in high level than when it is in medium or low levels. In fact, the simple slope for the predicted line at low level of ethical culture (-1 SD) is 0.18, t = 0.85, whereas at high levels of ethical culture (+1 SD), it is 0.88, t = 4.09, p <0.05.

The simple slopes for one interacting variable are calculated for levels of low, medium and high. The high, low and medium level of the interacting variable is defined as -1 and 0 and +1 standard deviation from the mean (Mignonac et al., 2006). The plots of interaction effects indicate precisely what type of auditors obtain more effects from the interaction. Figure 1 represents the plot of interaction effects of EC on the association between LOC and auditor reporting intention. This plot further supports our expectations. In general, ethical culture moderates the association between LOC and auditor reporting intention. As the plot in figure 1 represents, LOC significantly (p < 0.05) influenced auditor reporting intention in all three levels of ethical culture. It can be noted that the interaction between LOC and ethical culture is illustrated by a sleeper, more pronounced positive slop for high levels of ethical culture. When ethical culture is in high level (1 SD above the mean), the slope of the line is more than when ethical culture is in medium and low levels (1 SD below the mean). It means that positive association between LOC and reporting intention is stronger once the ethical culture is strong and in high level. Higher levels of ethical culture increase reporting intention of an auditor with external and internal LOC. But, this increase in intention is higher for auditors with external LOC (lower score of LOC) than auditor with internal LOC (higher score of LOC) due to the greater distance between three levels of ethical culture and lines.
Simple Slopes Analyses for Team Norms

The results of probing interactions procedures reveal that team norm significantly moderates the effects of personality type on auditors’ reporting intention and also the locus of control on auditors' reporting intention. Results of simple slope tests confirmed the relationship derived from the regression analyses significantly.

The results in table 6 show that the association between PT and auditor reporting intention is significantly positive (P < 0.01) and stronger when team norm is high than when it is in medium or low levels. About reporting intention, the simple slope for the predicted line at low levels of team norm (-1 SD) is 0.29, t = 1.29, n.s, whereas, at high levels of team norm (+1 SD), it is 1.01, t = 4.61 p <0.05. Moreover, the simple slopes analyses indicate that LOC has a significant influence on auditor reporting intention. The simple slope for the predicted line at low level of team norm (-1 SD) is 0.12, t = 0.61, n.s, whereas at high level of team norm (+1 SD), it is 1.02, t = 4.56, p <0.05.
Table 6. The Effects of Personality Type and Locus of Control on Auditor intention for Reporting Misstatements at Low, Medium and High Levels of Team Norms (Simple Slopes Analysis)

<table>
<thead>
<tr>
<th>Team Norm levels</th>
<th>Reporting Intention</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>S.E</td>
<td>t</td>
<td>p</td>
</tr>
<tr>
<td>Personality Type</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low level of TN</td>
<td>0.29</td>
<td>0.22</td>
<td>1.29</td>
<td>0.19</td>
</tr>
<tr>
<td>Medium level of TN</td>
<td>0.65</td>
<td>0.16</td>
<td>4.07</td>
<td>0.00</td>
</tr>
<tr>
<td>High level of TN</td>
<td>1.01</td>
<td>0.21</td>
<td>4.61</td>
<td>0.00</td>
</tr>
<tr>
<td>Locus of Control</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Low level of TN</td>
<td>0.12</td>
<td>0.20</td>
<td>0.61</td>
<td>0.53</td>
</tr>
<tr>
<td>Medium level of TN</td>
<td>0.57</td>
<td>0.15</td>
<td>3.82</td>
<td>0.00</td>
</tr>
<tr>
<td>High level of TN</td>
<td>1.02</td>
<td>0.22</td>
<td>4.56</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Source: Compiled by Author

Figures 2 and 3 represent the graphs drawn for the interaction of team norm on the association between individual features (PT and LOC) and auditor intention for reporting misstatements. All simple slopes for one interacting variable are calculated for low, medium and high levels. The high, low and medium level of interacting variables is defined as -1, 0, and +1 standard deviation from the mean (Mignonac et al., 2006). The plots of interaction effects indicate precisely what type of auditors obtain more effects from this interaction.

Figure 2 represents the plot of the interaction effect of team norm on relationships between PT and auditor reporting intention. This plot further supports our expectations. In general, team norm moderates the relationships between personality type and reporting intention. As the plot represent, auditors with both personality type A and type B have more intention for reporting misstatements in higher levels of team norms than in medium and low levels. It means that audit firms with a high level of team norms improve the reporting intention of auditors. This plot shows that positive association between PT and reporting intention is stronger whereas the audit team norm is strong and in high levels. Higher levels of audit team norm increase reporting intention of both auditors with personality type A and type B. However, this increase in the intention are higher for auditors with personality type B (lower score of personality type) than auditors with personality type A (higher score of personality type) due to the greater distance between three levels of audit firm ethical culture and lines. Moreover, as the plots represent, the interaction effect of team norm on personality type is stronger than the interaction effect of audit firm ethical culture.
Figure 2. The plot of the interaction effect of team norm on the relationship between personality type and auditor reporting intention

In the case of LOC, the pattern for interaction as revealed in Figure 3, there are significant relationships between auditor LOC and auditor reporting intention in all three levels of audit team norms. As the plots represent, auditors with both internal and external LOC have more intention for reporting misstatements in higher levels of team norm than in medium and low levels. It means that audit firms with high levels of team norms improve reporting intention of auditors. This plot shows that the positive relationship between LOC and reporting intention is stronger when the audit team norm is strong and in high level. Higher levels of audit team norm increase reporting intention of auditors with external and internal LOC. However, the increased intention is more for auditors with external LOC (lower score of LOC) than auditors with internal LOC (higher score of LOC) due to greater distance between three levels of audit firm ethical culture and lines.
Figure 3. The plot of the interaction effect of team norms on the relationship between locus of control and auditor reporting intention

Conclusion

Unethical behavior of auditors decreases the quality of their work. Despite the significance of auditors’ behavioral intention, there is little empirical evidence about how audit firms can increase auditor intention to behave ethically and increase audit quality. This study is designed to fill the gap in audit quality literature by examining the effects of different factors on auditor intention for reporting misstatements. This research explores the determinants of auditor intention for reporting misstatements using planned behavior theory to provide a general framework for predicting auditor behavioral intention. Moreover, this research contributes to the knowledge of auditor behavioral intention and the quality of auditors’ work by developing an integrated model of hypothesized relationships. This research also explores the impact of ethical culture as an audit firm factor on auditor intention for reporting misstatements.

To extend the planned behaviour theory, it is hypothesized that audit firm ethical culture and audit team norm moderate the relationships between individual factors (PT and LOC) and auditor intention for reporting misstatements. It is suggested that audit firm ethical culture and audit team
norm increase auditor intention for reporting misstatements with both types of personality and LOC. The results of testing moderating effect hypotheses show that ethical culture can only moderate the relationship between auditor LOC and auditor intention for reporting misstatements. The results indicate auditors with external and internal LOC have more intention for reporting misstatements in a high level of ethical culture rather than in a low level of ethical culture. This is consistent with Baker et al. (2006) results who concluded that a high level of ethical culture is positively and significantly related to more ethical behavioural intention. Moreover, the results support the studies by Hukkelberg et al. (2013), Park and Blenkinsopp (2009) and Trongmateerut and Sweeney (2013) that the subjective norm and attitude toward behaviour interact to improve behavioural intention.

The results of this research are also consistent with Alleyne (2010) who concluded team norm can moderate the association of individual factors and internal whistleblowing intention of auditors. Alleyne (2010) concluded when team norm is high, there is a significant and positive relationship between individual characteristics and whistleblowing intention of auditors. In this research, the results show that the audit team norm moderates the association of individual features (PT and LOC) and reporting intention. Moreover, team norm can influence the effect of individual factors. Based on Narayanan et al. (2006) argument, people will value the membership in one team and wish to stay within the team. De Jong et al. (2005) concluded that the norm of audit team determines the suitable behavior and moderates the individual behaviour. In addition, Nichols and Day (1982) argued that a team is more likely to make an ethical decision than an individual. They concluded that norm of team influences and regulate the behaviour of team member. They also found that team force individual to conform to the team norm. Patterson et al. (2005) also confirmed the moderating effect of team norm. He concluded that when team norms are high and the team members perceived that these norms are shared, they are more motivated to act in accordance with team values than when team norms are at lower levels.

From a practical aspect, these results have implications to researchers, audit firms and regulators. Issue of ethical and unethical behaviour of auditors is very important to the audit profession regarding the impact on audit quality. The results imply to staff hiring and audit firm recruitment process, development programmes and training procedures. Based on the results, auditors that have type A personality and internal LOC have more intention for reporting detected misstatements. Therefore, these auditors could increase the quality of audit work. Audit firms could increase their quality by implementing appropriate strategies for choosing and hiring these auditors. Moreover,
regarding this fact that auditors who have personality type A and internal LOC are more ethically oriented and behave more ethically, audit firms could choose these auditors as a leader or top managers in audit firms. As top managers or more specifically tone at the top is also an important factor which increases auditor's intention to act ethically, these leaders could increase employees' intention to behave more ethically as a role model. Based on the results of interaction effects, audit firms can increase the intention of auditors that have personality type B and external LOC through increasing ethical culture and team norms in their firms.

Some limitations come out during evaluating these research results. First, the sensitive natural history of ethical act brings to question the integrity of responses. In this regard, the scenario is used to measure behavioral intention than actual behavior. Also, behavioral intention is used as a substitute for ethical decision making. This study attempted to measure auditors' reporting intention and not actual reporting behavior. Ajzen (1991) discussed that intentions are just proxy for the actual act. However, in real life, all intentions do not lead to decision and acts. Moreover, previous studies have called in question the reliability of self-reported ethical behavioral intention and other planned behavior theory constructs (Key, 1999; Ajzen and Fishbein, 1980; Ampofo, 2004). Alexander and Becker (1978) explained that because of the sensitive nature of ethics researches, reliability of response might be compromised.

Second, although vignettes are supposed to be the most used approach for ethic researches (O’Fallon and Butterfield, 2005), using hypothetical situations (vignette) carries with further limitations. Whereas using the vignette allows the respondent to address sensitive issues with presenting hypothetical situation (Morris and McDonald, 1995), they feel free for indicating their intentions by no real commitments to actual act and behaviour. This may lead to social bias problems which discussed earlier. Moreover, a vignette is susceptible to satisfying by the respondent (Stolte, 1994), a propensity for respondents for processing information is less effectively and carefully than real conditions (Krosnick, 1991). This could lead to respondents misunderstanding overlooking of a certain key construct. However, prior ethical studies (Ayers and Kaplan, 2005) supported using hypothetical vignette in ethical studies. Therefore, this method is deemed suitable and practical for this research.

Third, this research concentrates on external auditor in an audit firm to determine their intentions for reporting misstatements and determine audit quality. But, this study does not examine the reporting intention of internal and governmental auditors. Moreover, this study only surveys auditors. Thus, there is a limitation for generalisability of results to other some forms of the audit
profession and also to other populations. Also, most of the people are Muslim and the effect of religiosity is not considered in this research.

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Auditors’ Behavioral Intention: the Interaction Effect

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