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Lessening The Cost of Whistleblowing Through Hierarchy Peer-Reporting Type: A Grid-Group Cultural Theory Perspective

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Abstract

Purpose – This study examines the moderating effect of peer-reporting type on the influence of microsocial ethical environment, anonymous reporting channel, and perceived personal cost on internal whistleblowing intentions.

Methodology – This paper is an empirical study using accounting students at Trunojoyo Madura University and Bahaudin Mudhary University as respondents. By distributing an online questionnaire and using incidental sampling, 156 responses were obtained. WarpPLS software version 7.0 is used to test the hypotheses.

Findings – Microsocial ethical environment and perceived personal costs have a significant effect on whistleblowing intentions. Anonymous reporting channel do not have a substantial impact on whistleblowing intentions. Peer-reporting type moderates the influence of anonymous reporting channel on whistleblowing intentions. Still, it does not significantly moderate the effect of microsocial ethical environment and the impact of perceived personal costs on whistleblowing intentions. This research also provides empirical evidence that the hierarchical dimension is a suitable policy to use to report wrongdoing among accounting students at Trunojoyo Madura University and Bahaudin Mudhary University who take forensic accounting courses.

Originality – This study is among the earliest to investigate the moderation effect of peer-reporting type. A previous study based on grid-group cultural theory proposes peer-reporting type as one of the antecedents of whistleblowing intentions, albeit at the conceptual level. The present study tries to further develop this concept (peer-reporting type) as a moderating variable by transforming the peer-reporting type concept into a research instrument.

Limitation/Implication – The peer-reporting type questionnaire in this research was created referring to the peer-reporting type concept proposed by the previous study. This instrument is based on the four-dimensional concept of grid-group cultural theory, which is still at the conceptual level. Therefore, the validity and reliability of this instrument need to be tested further through settings, respondents, and others research.

Keywords: Student whistleblowing, microsocial ethical environment, anonymous reporting channel, perceived personal cost.

Article Type: Research Paper



Introduction

Whistleblowing has attracted worldwide attention after issuing the Sarbanes-Oxley Act (2002). Whistleblowing is considered to be one of the most efficient techniques that can be used in preventing and detecting fraud (Bowden, 2013; Brennan & Kelly, 2007; Georgiana, 2012; Harahap *et al.*, 2020; Indriani *et al.*, 2019; Kaplan & Schultz, 2007; Miceli *et al.*, 1991; Putri, 2015; Reckers-Sauciuc & Lowe, 2010). This is due to the fact that many large companies are involved in fraud and eventually get exposed (Rachagan & Kuppusamy, 2013). (Bagustianto & Nurkholis, 2012) stated that disclosure from whistleblowers was more successful than other actions, such as internal audits, internal controls, and external audits, in disclosing fraud. Whistleblowing is a medium to mitigate the possibility of academic fraud by placing lecturers as parties who can take action. A survey in the UK found that one of the 6 industries that reported wrongdoing was education (Yeoh, 2014). Behind the importance of implementing whistleblowing in higher education institutions, there are still some drawbacks where this system can't stand alone.

This is because many factors hinder individuals from conducting whistleblowing, and the whistleblowing process becomes very complicated due to the sensitive nature of this action (Ahmad *et al.*, 2012; Chiu, 2002). (Cho & Song, 2015) stated that whistleblowing is a problematic choice because whistleblowers will be faced with risks. Therefore, universities need to provide security for prospective whistleblowers so that they are more courageous in disclosing fraud committed by their friends. This is supported by rational choice theory which states that individuals will do something rational in nature where individuals will do something if they feel safe (Jenkel & Haen, 2012). System enhancement can be done for example by maintaining the confidentiality of the whistleblower's identity (anonymous) (Kaplan *et al.*, 2012) and also by conditioning the surrounding environment so that prospective whistleblowers feel safe and not afraid (Dalton & Radtke, 2013).

The purpose of this study is to examine the intentions of accounting students at universities in Madura to report fraud internally with antecedents, namely microsocial ethical environment, anonymous reporting channel, and perceived personal cost and peer-reporting type as a moderating variable. In this study, the researcher only focused on ethical environment variables, anonymous reporting channel, and personal costs because these three variables are contextual or situational. They are referring to the statement from (Hannah *et al.*, 2011), which states that contextual variables are the most important aspect of ethical decisions, which in this study is the whistleblowing intentions. Therefore, researchers only focus on these three variables based on rational choice theory.

This research refers to previous research that wants to re-examine variables that provide conflicting findings, such as microsocial ethical environment (Lee & Fargher, 2013; Dalton & Radtke, 2013; Taripudin & Umar, 2020), anonymous reporting channel (Kaplan & Schultz, 2007; Ayers & Kaplan, 2005; Gao *et al.*, 2015; Park *et al.*, 2014) and perceived personal cost (Callahan & Collins, 1992; Cho & Song 2015; Kennett *et al.*, 2010; Keenan, 2002). Several previous studies have found that these three variables significantly affect whistleblowing. Several studies contradict theories, such as research conducted by (Ahyaruddin & Asnawi, 2017), which states that the ethical environment has no significant effect on whistleblowing. (Jenkel & Haen, 2012) and (Kaplan *et al.*, 2009) provide empirical evidence that anonymous reporting channel have no significant effect on whistleblowing. (Park *et al.*, 2005) and (Winardi, 2013) also state that personal cost or retaliation is not a factor influencing the intention to whistleblow.

The inconsistency of previous research results motivated researchers to re-examine these three variables. Whistleblowing in education is still interesting because of limited research in this area. Several studies that have been carried out regarding whistleblowing in the education sector include (Harahap *et al.*, 2020), (Lakaba *et al.*, 2022), (Zarefar *et al.*, 2018), (Chaudhary *et al.*, 2019) and (Owusu *et al.*, 2020). By providing more insight into this domain (education), the magnitude of academic cheating and dishonesty could be mitigated. This statement supplements (Yeoh, 2014) that the education sector is a fraud-laden domain. Researchers, therefore, try to add empirical studies related to whistleblowing in this domain by adding peer-reporting type as a moderating variable to reduce inconsistencies from previous studies (Baron & Kenny, 1986). The peer-reporting type as a moderating variable is

constructed with grid-group cultural theory as a theoretical lens by (Loyens, 2013a). (Loyens, 2013a) only explains grid-group cultural theory at a conceptual level, but this research tries to make it a research instrument to see what kind of policies are suitable to be implemented in higher education institutions in Madura that can be implemented among students.

This study provides empirical findings that the internal whistleblowing intentions of accounting students who take forensic accounting courses are influenced significantly by the microsocial ethical environment and perceived personal cost. On the other hand, anonymous reporting channel is not a predictor of student's internal whistleblowing intentions. Other findings regarding the moderating effect also provided by this study show that peer-reporting type does not moderate the impact of microsocial ethical environment and perceived personal cost on the intention to do whistleblowing. Different findings in testing other moderating effects provide evidence that type of peer-reporting moderates the impact of anonymous reporting channels on intention to blow the whistle internally. This study also offers empirical proof that hierarchical policies can moderate all effects of exogenous variables on endogenous variables.

The contribution of this study is twofold. First, by adding the moderating variable of peer-reporting type, this study seeks to reduce the inconsistency of the results of previous studies. Even though peer-reporting type has not been able to moderate the influence of the microsocial ethical environment and perceived personal cost significantly on whistleblowing intentions, through additional analysis, it is known that the hierarchical dimension is able to moderate the effect of all exogenous variables on endogenous variables, namely whistleblowing intentions. Second, referring to the additional analysis results, the hierarchical dimension is the most suitable approach for peer-reporting. Therefore, referring to this research, the university can develop and implement hierarchical policies in peer-reporting policies in reporting fraud.

Literature Review

Rational Choice Theory

The rational choice theory explains that when individuals have to choose between alternative courses of action, rational decision-makers usually choose the one that will maximize their own benefits and minimize risk (Elster, 1989). Through rational choice theory, this research will explain how individuals who undertake whistleblowing report by thinking rationally. (Dozier & Miceli, 1985) and (Miethe & Rothschild, 1994) state that fraud reporting will be made if the benefits are greater than the losses. This means that the individual will do something rational in nature, where the individual will do something if he feels safe and gains benefits. This theory can predict that if the benefits obtained are higher than the risks, it will cause students to not hesitate in reporting fraud, primarily academic dishonesty committed by their peers. This theory underlies variables such as whistleblowing, microsocial ethical environment, anonymous reporting channel, and perceived personal costs.

Grid-Group Cultural Theory

Grid-group cultural theory explains two different dimensions that intertwine and form four policies. The grid dimension refers to how humans' life is constrained by formal regulations and provisions imposed from the outside. The more lattice, the more closed a person is, and the narrower the room for negotiation (Thompson *et al.* 1990:5). The grid is viewed as a boundary that relies on the extent of the group fellowship level (Vaughan, 2002:413). Group means the incorporation of individuals into limited units or the extent to which individual choices are limited by choice (Douglas, 1982). In other words, the group points to the extent to which a pledge to a social unit restraint how people think and behave individually (Verweij *et al.*, 2006). This theory was first proposed by (Douglas, 1982) and formed four policies: Fatalism, Hierarchy, Individualism, and Egalitarianism. This theory is brought up by (Loyens, 2013a) as a conceptual reference to build up a peer-reporting mechanism that is amicable for whistleblowers.

Microsocial Ethical Environment on Internal Whistleblowing Intention

All research related to ethics shows that ethical decision-making is influenced by the organization's character (Dickerson, 2009). This also applies to whistleblowing, especially to students, where the organization, in this case, refers to the class he/she attends. Students who discover fraud and are in an ethical environment will be braver and more confident that the surrounding environment supports their actions (Dalton & Radtke, 2013). This is because whistleblowing is a dilemmatic action, where someone who carries out the act of reporting may be labeled as a traitor by the surrounding environment, therefore individuals who are in an ethical environment will be more confident in carrying out the act of reporting (Kaplan *et al.*, 2012). The environment, in this case, refers to the microsocial ethical environment. Microsocial ethical environment is, therefore, one of the determining factors for an individual's courage to blow the whistle (Hanif & Odiatma, 2017; Taripudin & Umar, 2020; Zarefar *et al.*, 2018). This statement is supported by rational choice theory, which states that individuals will do something rational (Jenkel & Haen, 2012). The rationale here means that individuals choose alternative options with the most significant benefits (Elster, 1989). Even in ethical situations, potential whistleblowers will make rational decisions (Jenkel & Haen, 2012). Accordingly, the following hypothesis is proposed:

H1: Microsocial ethical environment influences internal whistleblowing intention.

Anonymous Reporting Channel on Internal Whistleblowing Intention

To protect whistleblowers from fraudster threats, the confidentiality of their identity is a crucial thing that must be given to prospective whistleblowers (Kaplan *et al.*, 2012). Anonymous reporting channels help protect the personal identity of prospective whistleblowers when reporting wrongdoing (Sugianto & Jiantari, 2014). This is important to reduce the possibility of whistleblowers being adversely affected due to disclosing fraudulent activities through non-anonymous reporting channels. With anonymous reporting channels, there is a guarantee given by the campus to the prospective whistleblower that their identity will be protected and will not be leaked to other parties (Nayir & Herzig, 2012). According to (Kaplan & Schultz's, 2007) findings, the availability of anonymous reporting channels can reduce people's motivation to report fraudulent acts through channels that do not guarantee their anonymity. This is triggered by the rational choice of potential whistleblowers who prefer anonymous channels in reporting fraud (Jenkel & Haen, 2012), especially when they carry out peer-reporting which can have a greater negative impact than other forms of whistleblowing (Loyens, 2013a). The rational choice theory supports the statement above. This theory states that the whistleblower will choose something that has the best impact on him. This will allow potential whistleblowers to be more comfortable reporting fraud, provided their identity is kept confidential. Based on these findings, the following hypothesis is formulated:

H2: Anonymous reporting channel influences internal whistleblowing intention.

Perceived Personal Cost on Internal Whistleblowing Intention

An individual's intention to report wrongdoing will be lower if there is a high personal cost. This triggers prospective whistleblowers to choose silence because they consider responses and retaliation from individuals within the organization who oppose reporting actions (Bagustianto & Nurkholis, 2012). (Vandekerckhove & Tsahuridu, 2010) stated that many whistleblowers experienced severe retaliation for exposing their organization's wrongdoing. Individuals who witness wrongdoing within their companies may choose not to report it for fear of retaliation from fraudsters or organizational members who engage in unethical actions (Zhang *et al.*, 2009). The statement above aligns with rational choice theory, which states that students who discover fraud committed by their peers will reason and report it if they feel safe without retaliation (Kaplan *et al.*, 2012). Perceived personal cost has been proven to be one of the factors that prospective whistleblowers consider before blowing the whistle (Callahan & Collins, 1992; Cho & Song, 2015; Kennett *et al.*, 2010; Keenan, 2002). Hence the following hypothesis is proposed:

H3: Perceived personal cost influences internal whistleblowing intention.

Moderating Effect of Peer-Reporting Type on the Influence of Microsocial Ethical Environment, Anonymous Reporting Channels, and Perceived Personal Cost on Internal Whistleblowing Intentions

Peer-reporting is part of internal whistleblowing, which is more complicated and presents a more significant dilemma for the whistleblower (Loyens, 2013b). This is because individuals must report their peers who are emotionally close to them (Loyens, 2013a). An individual's intention to report wrongdoing will be lower if there is a high personal cost. This triggers whistleblowers to remain silent because they fear retaliation from people within the organization who oppose reporting activities (Bagustianto & Nurkholis, 2012; Loyens, 2013b). Several studies, such as those conducted by (Riandi (2017), Hanif & Odiatma, 2017) and (Zarefar *et al.*, 2018), stated that the microsocial ethical environment influences the intention to blow the whistle. A microsocial ethical environment coupled with an appropriate reporting policy will increase individual intentions to blow the whistle internally. This follows (Loyens, 2013a) statement, which states that peer-reporting type policies based on grid-group cultural theory can increase students' intention to report. This theory explains how different mechanisms and policies exist to facilitate and encourage prospective whistleblowers to blow the whistle (Loyens, 2013a). Peer-reporting is a part of internal whistleblowing that is quite sensitive and complex compared to other forms of whistleblowing (Loyens, 2013a). Therefore, even though the environment appears to provide support, if there are no appropriate policies that can facilitate whistleblowers in reporting, peer-reporting could fail to be implemented. The peer-reporting policy referred to by (Loyens, 2013a) can enforce anonymous reporting channels and weaken the adverse effect of perceived personal costs felt by prospective whistleblowers. This supposition leads to the formulation of the following three hypotheses:

H4: Peer-reporting type moderates the influence of microsocial ethical environment on internal whistleblowing intentions.

H5: Peer-reporting type moderates the influence of anonymous reporting channel on internal whistleblowing intentions.

H6: Peer-reporting type moderates the influence of perceived personal cost on internal whistleblowing intentions.

Conceptual Framework

Hannah *et al.* (2011) argue that in ethical decisions setting, contextual variables are the most crucial factor before blowing the whistle and inconsistencies from prior study regarding variables such as microsocial ethical environment (Lee & Fargher, 2013; Dalton & Radtke, 2013; Ahyaruddin & Asnawi, 2017; Taripudin & Umar, 2020), anonymous reporting channel (Kaplan & Schultz, 2007; Ayers & Kaplan, 2005; Kaplan *et al.*, 2009; Jenkel & Haen, 2012; Gao *et al.*, 2015; Park *et al.*, 2014) and perceived personal cost (Callahan & Collins, 1992; Park *et al.*, 2005; Cho & Song 2015; Kennett *et al.*, 2010; Keenan, 2002; Winardi, 2013) encourage this study to re-examine and add a moderating variable that is peer-reporting type. The direct effect from three exogenous variables is theoretically constructed from rational choice theory, meanwhile the moderating variable is built on grid-group cultural theory perspective. Figure 1 below depicts the conceptual framework of this study.

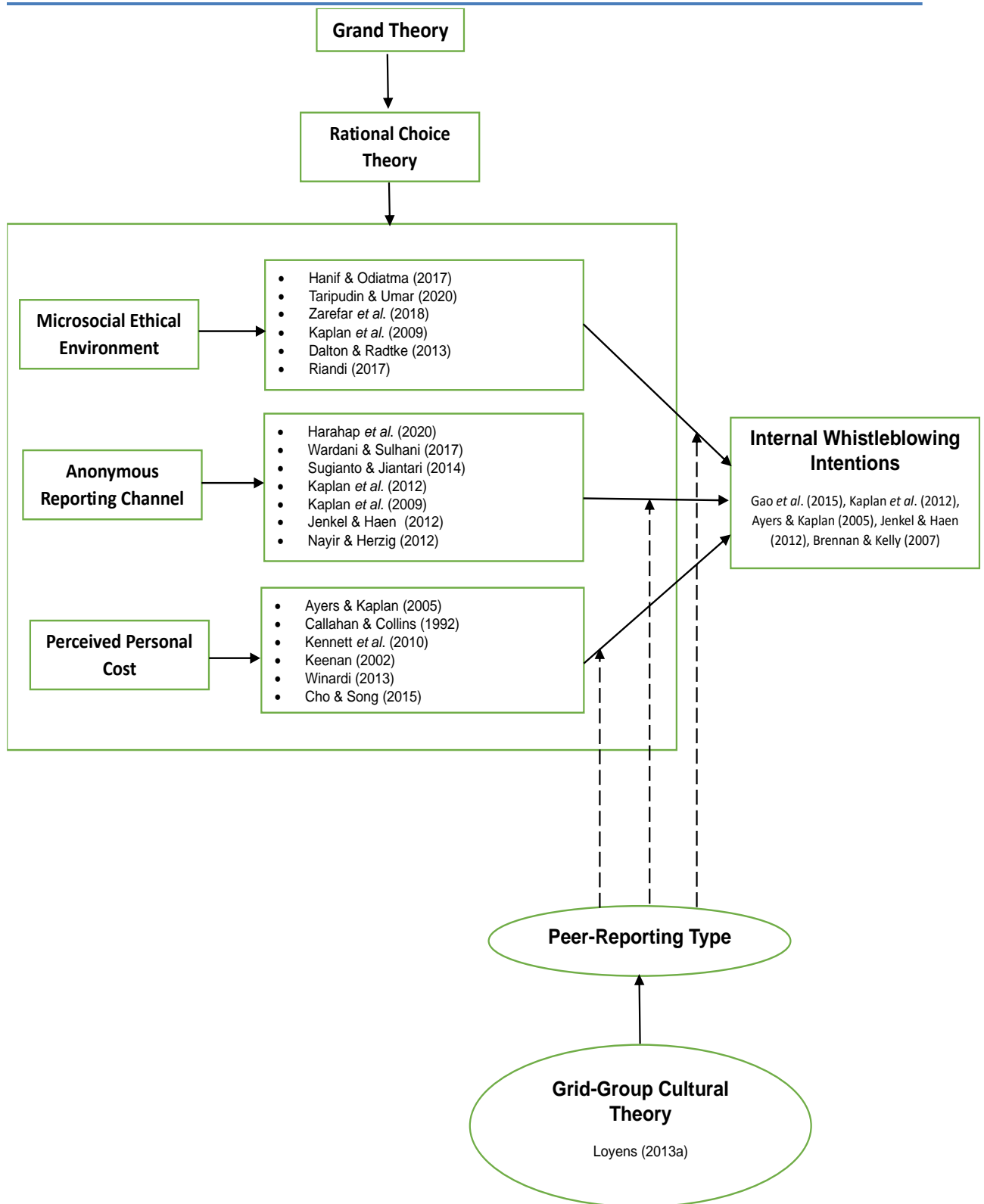


Figure 1. Conceptual Framework

Research Method

The method used in this research is a quantitative approach with primary data. The data are the perceptions of undergraduate accounting students at two universities in Madura (Trunojoyo Madura University and Bahaudin Mudhary University). The respondents of this study have met the criteria of having taken or are currently taking forensic accounting courses and elected using an incidental sampling technique. They are asked about their intentions to carry out internal whistleblowing. This research uses data collection techniques with online questionnaires. Undergraduate accounting students are elected as respondents based on [Yeoh's \(2014\)](#) findings regarding the pervasiveness of academic cheating, especially in universities in Madura ([Puspita et al., 2015](#)). This study chose Trunojoyo Madura University and Bahaudin Mudhary University as they have forensic accounting subject in their curriculum. Hal ini akan memberikan our respondents are had sufficient understanding regarding this study research topic, which is whistleblowing.

The research instruments are adopted from previous research. Microsocial ethical environment instrument is constructed based on [Husser et al. \(2019\)](#), anonymous reporting channel was adopted from [Nayir & Herzig \(2012\)](#), the measurement of perceived personal cost perception was referred to [Cho & Song \(2015\)](#), internal whistleblowing intentions was adopted from [Park et al. \(2005\)](#) and peer-reporting type was developed from [Loyens \(2013a\)](#). From distributing the questionnaire online, 156 respondents were obtained.

The data analysis method used in this research is Structural Equation Modeling (SEM) using WarpPLS software version 7.0. WarpPLS was chosen for several reasons: (1) this method is used because of the latent variables being observed such as perceptions or variables that cannot be measured directly, (2) this method is also suitable for this study because the existence of formative construct on the moderating variable, and (3) the last reason is that this study uses a new model or explores a new theory so WarpPLS more suitable to be used in hypotheses testing ([Ghozali & Latan, 2014](#); [Zeng et al., 2021](#)). The hypothesis testing is divided into two parts: (1) direct effect and (2) moderating effect. This study also provides supplemental analysis to test the moderating effect of four different policies in grid-group cultural theory: Fatalism, Hierarchy, Individualism, and Egalitarianism. This test is intended to determine what kind of peer-reporting policy is best and most capable of encouraging students at these two universities to report fraud.

Results and Discussions

From distributing the questionnaires, 156 responses were obtained which would be tested as samples in this study. The profiles of respondents who participated in this study are exhibited in Table 1 as follows:

Table 1. Respondent Demographics

Description	Total
Gender:	
Male	93
Female	63
University:	
Trunojoyo Madura University	142
Bahaudin Mudhary University	14
Age:	
17-18 years	22
19-20 years	89
21-22 years	45

From Table 1, the most significant respondents were men, 93 people, and 63 women. The respondents

came from 2 universities, namely Trunojoyo Madura University, with 142 students, and Bahaudin Mudhary University, with 14 students aged 17 to 18 years, 89 students aged 17 to 18 years, 89 students aged 19 to 20 years and 45 students aged 21 to 22 years.

Outer Model Analysis

Table 2. Convergent Validity Test

Variable	Indicator	Loading Factor	AVE	Description
MEE	MEE_1	0.646	0.653	Valid
	MEE_3	0.887		Valid
	MEE_4	0.869		Valid
SPA	SPA_1	0.898	0.807	Valid
	SPA_2	0.898		Valid
PPC	PPC_1	0.863	0.806	Valid
	PPC_2	0.923		Valid
	PPC_3	0.907		Valid
WI	WI_1	0.867	0.778	Valid
	WI_2	0.880		Valid
	WI_3	0.891		Valid
	WI_4	0.889		Valid

Convergent validity can be seen from the correlation between the indicator score and the construct score (loading factor), with the construct value being between 0.5-0.6. It is said to be sufficient (Chin, 1998), whereas if the factor loading value is ≥ 0.7 , then it is said to be high (Ghozali & Latan, 2014) and can also be seen through the AVE value with the criteria that the AVE value must be above 0.5.

Table 3. Discriminant Validity Test

Variable	Indicator	Loading Factor	Highest Loading Value	AVE Square Root	Highest AVE Square Root	Description
MEE	MEE_1	0.646	0.090	0.808	0.408	Valid
	MEE_3	0.887	0.084			Valid
	MEE_4	0.869	0.073			Valid
SPA	SPA_1	0.898	-0.038	0.898	0.281	Valid
	SPA_2	0.898	0.042			Valid
PPC	PPC_1	0.863	0.062	0.898	0.281	Valid
	PPC_2	0.923	-0.015			Valid
	PPC_3	0.907	0.042			Valid
WI	WI_1	0.867	0.011	0.882	0.408	Valid
	WI_2	0.88	-0.022			Valid
	WI_3	0.891	0.079			Valid
	WI_4	0.889	0.064			Valid

Based on Table 3, all variables can be considered valid because they have indicator correlation values greater than the correlation between indicators of other variables. The second way to analyze discriminant validity is with the AVE criteria. Sholihin & Ratmono (2013) state that the criteria used are AVE square roots in the diagonal column. The number in brackets must be higher than the correlation between latent variables in the same column (top or bottom)

Table 4. Reliability Test

Variable	Composite Reability	Cronbach's Alpha	Description
MEE	0.847	0.725	Reliable
SPA	0.893	0.761	Reliable
PPC	0.926	0.879	Reliable
WI	0.933	0.905	Reliable

Reliability can be measured using Composite Reability and Cronbach's Alpha. An indicator is reliable if it has a Cronbach's Alpha and Composite Reliability value above 0.7. According to this indicator, all variables are declared reliable.

Table 5. Formative Indicators Outer Model Test

Indicator	LF	P value	VIF
TPR_(F)_1	0.502	0.068	1.391
TPR_(F)_2	0.401	0.117	1.373
TPR_(F)_3	0.605	0.036	1.526
TPR_(F)_4	0.433	0.465	1.948
TPR_(I)_1	0.493	0.123	1.435
TPR_(I)_2	0.562	0.048	1.574
TPR_(I)_3	0.447	0.093	1.350
TPR_(I)_4	0.553	0.347	1.491
TPR_(H)_1	0.628	0.031	1.583
TPR_(H)_2	0.577	0.043	1.493
TPR_(H)_3	0.732	0.014	1.975
TPR_(H)_4	0.541	0.054	1.595
TPR_(E)_1	0.738	0.014	2.217
TPR_(E)_2	0.527	0.059	1.404
TPR_(E)_3	0.672	0.023	1.962
TPR_(E)_4	0.465	0.428	1.637

Table 5 shows all factor loading values above 0.4-0.7. According to [Sholihin & Ratmono \(2013\)](#), factor loadings between 0.40-0.70 should still be considered to be maintained, especially for newly developed questionnaires. This means all variables are valid. The linear contribution of each formative indicator can be seen in the indicator weight output. Each latent variable score is calculated as a linear contribution from its indicators. The criteria must be met: the weight must be significant, where $p < 0.05$ and the VIF value is less than 3.3 ([Sholihin & Ratmono 2013](#)). [Sholihin & Ratmono \(2013\)](#) also added that researchers must be careful about removing formative indicators because they will affect the overall content. If the loading value is above 0.40, even though the weight indicator is not significant, the researcher can maintain it. If the outer loading is below 0.40 but is significant, then researchers must consider theoretical relevance. If it is deleted, it will affect the contents of the construct, so it is best to maintain it.

Inner Model Analysis

Table 6. General SEM Analysis Result

	Index	P value
APC	0.143	< 0.001
ARS	0.322	< 0.001
AVIF	2.311	

Table 6 shows that the APC value is 0.143, the p-value is <0.001, the ARS value is 0.322, the p-value is <0.001, and the AVIF value is 2.311. Based on the criteria, APC and ARS have met the requirements because they have a p-value of <0.001, where the condition is a p-value <0.05. Furthermore, based on this data, the AVIF value of 2.311 meets the criteria because the AVIF value is below 5.

Table 7. R-square and Q-square

	R-squared	Q-squared
WI	0.322	0.296

Based on Table 7, it can be seen that the R-squared value produced by the model is 0.322. This value is included in the moderate category (≤ 0.5). It shows variations that can be explained or influenced by endogenous to exogenous variables in this study, amounting to 32.2%. In contrast, the rest is influenced by other factors, while the Q-squared value is 0.296, so it can be concluded that the value is moderate. Furthermore, the Q-squared value produced by WI is > 0, which means the model has good predictive validity.

Table 8. Effect Size

	MEE	SPA	PPC	TPR*MEE	TPR*SPA	TPR*PPC
WI	0.076	0.080	0.075	0.080	0.077	0.079

Referring to the three categories of effect size (Hair, et al., 2013; Kock, 2012), namely weak (0.02), medium (0.15), and large (0.35), it can be concluded that all variables have a weak influence in the structural model, which means the ability the prediction is weak in the real world.

Table 9. Hypothesis Test Results

Hypothesis	Original Sample	P Value	Description
MEE-->WI	0.265	<0.001	Supported
SPA-->WI	-0.002	0.492	Not Supported
PPC-->WI	-0.279	<0.001	Supported
MEE*TPR-->WI	-0.031	0.350	Not Supported
SPA*TPR-->WI	-0.204	0.004	Supported
PPC*TPR-->WI	0.079	0.158	Not Supported

Statistical analysis results show that the significance value is <0.001, less than 0.05, with a path coefficient value of 0.265. It can be concluded that H1 supported and microsocial ethical environment significantly positively affects whistleblowing intentions. The statistical analysis results for Hypothesis 2 show that the significance value of 0.492 is more significant than 0.05. It can be inferred that H2 is not supported. The test for Hypothesis 3 shows that the significance value is <0.001, which is smaller than 0.05, with a path coefficient value of -0.279. Based on these results, it can be said that H3 supported and perceived personal costs significantly negatively affect whistleblowing intentions. Hypothesis 4 shows that the significance value is 0.350, greater than 0.05. From these results, it can be concluded that H4 is not supported, and peer-reporting type does not moderate the influence of microsocial ethical environment on whistleblowing intention. Based on the information on the hypothesis test results in Table 9, it explains that Hypothesis 5 has a significance value of 0.004, more diminutive than 0.05. These results conclude that H5 supported and peer-reporting type moderate the influence of anonymous reporting channel on whistleblowing intentions. The results of the statistical analysis of Hypothesis 6 provide a significance value of 0.158, which is greater than 0.05. This concludes that H6 is not supported, and peer-reporting type does not significantly moderate the influence of perceived personal cost on intention to carry out whistleblowing.

Additional Analysis

This research uses peer-reporting based on grid-group cultural theory as a moderating variable with four reporting policies: fatalism, individualism, hierarchy, and egalitarianism. Researchers conducted additional tests to further analyze the effects of moderating variables from these four dimensions. This is because peer-reporting type as a moderating variable has four different policies from grid group cultural theory. Hence, the researcher tested the moderating effect of these dimensions as a peer-reporting type variable to see what peer-reporting policies are suitable for accounting students at universities in Madura who take forensic accounting courses.

Table 10: Moderation Effect Test Results of Grid-Group Cultural Theory

EGALITARIANISM						
P VALUE						
	MEE	SPA	PPC	TPR_E*PPC	TPR_E*SPA	TPR_E*MEE
WI	<0.001	0.045	0.009	0.113	0.414	0.189
PATH COEFFICIENT						
	MEE	SPA	PPC	TPR_E*PPC	TPR_E*SPA	TPR_E*MEE
WI	0.327	0.133	-0.185	0.096	0.017	-0.070
FATALISM						
P VALUE						
	MEE	SPA	PPC	TPR_F*PPC	TPR_F*SPA	TPR_F*MEE
WI	<0.001	0.371	<0.001	0.264	0.002	0.401
PATH COEFFICIENT						
	MEE	SPA	PPC	TPR_F*PPC	TPR_F*SPA	TPR_F*MEE
WI	0.303	-0.026	-0.255	-0.050	-0.224	0.020
HIERARCHY						
P VALUE						
	MEE	SPA	PPC	TPR_H*PPC	TPR_H*SPA	TPR_H*MEE
WI	<0.001	0.283	<0.001	0.044	0.029	0.033
PATH COEFFICIENT						
	MEE	SPA	PPC	TPR_H*PPC	TPR_H*SPA	TPR_H*MEE
WI	0.305	-0.045	-0.329	-0.134	0.148	0.144
INDIVIDUALISM						
P VALUE						
	MEE	SPA	PPC	TPR_I*PPC	TPR_I*SPA	TPR_I*MEE
WI	<0.001	0.119	0.004	0.129	0.394	0.436
PATH COEFFICIENT						
	MEE	SPA	PPC	TPR_I*PPC	TPR_I*SPA	TPR_I*MEE
WI	0.317	-0.093	-0.206	0.089	-0.021	0.013

From the results of testing the moderation effect on each dimension presented in Table 10, it can be concluded that the policies of egalitarianism and individualism are unsuitable for this research because there is no significant moderation effect. In contrast, the policy of fatalism only provides a significant moderating effect on anonymous reporting channels. Still, the results of this moderating effect weaken the impact of the exogenous variable on the endogenous variable, which should strengthen it. The hierarchy policy in this research significantly moderates the three hypotheses, so it can be concluded that hierarchy is a suitable policy to use in this research. According to [Loyens \(2013a\)](#),

the hierarchical peer-reporting policy states that this dimension has clear regulations regarding roles and responsibilities in a group. In this policy, individuals feel that they were born sinners but can be redeemed if they do something good; they also believe that problems can be overcome by obeying the authorities' rules. Individuals sometimes feel that they put false trust in regulations. Accounting students in Madura who have taken forensic accounting prefer a hierarchical policy as they think that if they discover fraud, they will act according to their roles and responsibilities in the group. They feel that whistleblowing is a good action that makes them feel like they are doing good deeds.

Discussion

The results of hypothesis testing show that the microsocial ethical environment significantly positively affects students' internal whistleblowing intention. The results of this research support the application of rational choice theory. This means that individuals will reason to choose actions that are safe and beneficial to themselves (Kaplan *et al.*, 2009). This means that the more ethical the environment around accounting students at Trunojoyo University, Madura, and Bahaudin Mudhary University, Sumenep, the more motivated they will be or will be more encouraged to carry out whistleblowing because they are sure they will get support from their environment. This research's results align with previous research (Hanif & Odiatma, 2017; Taripudin & Umar, 2020; Zarefar *et al.*, 2018), which found that the ethical environment positively and significantly affects internal whistleblowing intentions.

Based on the hypothesis testing that has been carried out, it is known that anonymous reporting channels do not significantly affect students' internal whistleblowing intentions, so the second hypothesis is rejected. The results of this research contrast the study conducted by Wardani & Sulhani (2017) and Harahap *et al.* (2020), which states that anonymous reporting channels positively affect internal whistleblowing intentions. The results support research by Kaplan *et al.* (2009) and Jenkel & Haen (2012), which state that anonymous reporting channels do not affect internal whistleblowing intention. This can happen because of the differences between education and work. The world of education has a narrower environment than the world of work. Therefore, students are still hesitant and worried about reporting fraud if their confidentiality is not fully guaranteed, which will threaten the whistleblower's safety due to retaliation from the fraudster. This can happen because students who commit fraud can still suspect the individual who is doing the whistleblowing due to their narrow environment.

Research findings show that perceived personal cost significantly negatively influences the internal whistleblowing intention. This means that the higher the personal cost, the lower the person's intention to blow the whistle. The results of this research are in line with studies by Callahan & Collins (1992), Cho & Song (2015), Kennett *et al.* (2010), Keenan (2002), Riandi (2017), Hanif & Odiatma (2017), Latan (2019) who stated that perceived personal cost influences the intention to blow the whistle. This research proves that students are aware of the retaliation they will receive if they report fraud. Students' intention to report violations will be lower if there is a high personal cost. This triggers students to choose to remain silent because they are afraid of retaliation from their peers.

The results of testing the moderating effect of peer-reporting type on the influence of microsocial ethical environment on internal whistleblowing intention show that peer-reporting type has not been able to moderate the effect of microsocial ethical environment on internal whistleblowing intention. This contrasts Loyens' (2013a) statement, which states that peer-reporting type policies based on grid-group cultural theory can increase students' intention to blow the whistle. The inability of the peer-reporting type to moderate microsocial ethical environment on internal whistleblowing intention is likely due to the significant influence of the perceived behavioral control encouragement received by students to report wrongdoing. Students will behave and decide whether they should carry out whistleblowing, depending on their own control, not from other people or the surrounding environment.

The results of this study provide empirical evidence that peer-reporting type weakens the influence of anonymous reporting channels on internal whistleblowing intentions. This means that having a peer-reporting type policy will reduce the interest of potential whistleblowers to blow the

whistle. This could happen due to the direct testing of four policies on the moderating effect of anonymous reporting channels simultaneously, where the peer-reporting type itself has four different and contradictory policies that will weaken or reduce students' intentions to whistleblowing even though anonymous reporting channels are available. There is variance due to using four policies at once in explaining this moderating variable. This is proven through additional analysis, which provides empirical evidence that the peer-reporting type variable provides a more apparent moderating effect when only using one type of peer-reporting policy.

The results of hypothesis testing provide empirical evidence that peer-reporting type cannot moderate the influence of perceived personal costs on internal whistleblowing intention. These results contradict the statement by [Loyens \(2013a\)](#), where four peer-reporting type policies are expected to reduce the adverse effects of perceived personal costs that students may feel in reporting fraud committed by their peers. The inability of peer-reporting type to moderate the influence of perceived personal costs on internal whistleblowing intention could also be due to the significant social influence received by students. Individuals affected by this encourage them to maintain peace and receive positive feedback from their group. Those affected by this influence are often well-liked by the group. This statement is also strengthened by social influence theory, which explains how individuals create compliance with their environment so that the individual follows society's behavioral patterns ([Venkatesh & Brown, 2001](#)).

There is variance due to using four policies at once in explaining the peer-reporting type variable. This is proven through additional analysis, which provides empirical evidence that the peer-reporting type variable provides a more apparent moderating effect when only using one type of peer-reporting policy. This caused biased moderation test results. Next, additional testing was carried out to prove that separating each type of peer-reporting policy was necessary. Individual testing for each peer-reporting policy dimension provides more relevant empirical findings. The hierarchical peer-reporting policy is proven to be the most suitable to apply to accounting students in Madura who are currently or have taken forensic accounting courses.

Conclusions

This research aims to examine the influence of microsocial ethical environment, anonymous reporting channels, and perceived personal costs on internal whistleblowing intentions with peer-reporting type as a moderating variable. The results of this research show that microsocial ethical environment and perceived personal costs significantly affect internal whistleblowing intentions. In contrast, anonymous reporting channels do not significantly affect internal whistleblowing intentions. The research results on the moderation effect show that peer-reporting type does not moderate the influence of microsocial ethical environment and the influence of perceived personal costs on intention to blow the whistle. Different findings in testing other moderating effects provide evidence that peer-reporting type significantly weakens the influence of anonymous reporting channels on whistleblowing intentions.

This study also performs additional analysis to examine the possibility that the moderating variable was tested incorrectly, resulting in biased findings. After further testing, it is more appropriate to test the moderating variable individually for each policy dimension: fatalism, hierarchy, individualism, and egalitarianism. Hierarchy is a peer-reporting policy dimension more suitable for implementation because it can significantly moderate the influence of all exogenous variables on endogenous variables in this research. The results of this research can be used by both universities, namely Trunojoyo Madura University and Bahaudin Mudhary University, to create a more robust reporting mechanism by applying ethical, environmental support and protection for whistleblowers, which can start from the environment, namely by conducting socialization that whistleblowers are not traitors. The two universities can also use and encourage students to report using a hierarchical policy

that refers to grid-group cultural theory. The university whistleblowing system that uses a peer-reporting hierarchy policy is empirically considered more capable of encouraging accounting students at these two universities to blow the whistle internally.

The limitation of this study is twofold. First, the response rate can be considered low. This is caused partly because the research was conducted at two Madurese universities, which have accounting departments and include forensic accounting courses in their curriculum. Still, the online questionnaire response remains low, considering the possible number of students taking forensic accounting courses. Future research is expected to increase efforts to research the academic cheating behavior of students majoring in accounting, which can be done by simultaneously carrying out two data collection techniques, offline and online. Second, the peer-reporting type instrument in this research was created by referring to the grid-group cultural theory proposed by Loyens (2013a), where the instrument is based on the four-dimensional concept in Loyens (2013a). Researchers use this conceptual basis to develop peer-reporting type research instruments. Therefore, this instrument may still have low validity and reliability. Future research could re-examine peer-reporting type variables as moderating, mediating, endogenous, or exogenous variables to test the level of validity and reliability of the instrument in different research contexts.

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