Accounting Ethics Education on Ethical Behaviour of Accounting Graduates in Malaysia

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ABSTRACT - The rising corporate scandals caused by unethical accountants have concerned various parties, especially the stakeholders. These scandals, whether in public or private sectors, have impacted the economy and reputation of a country. Therefore, the role of ethical accountants in providing reliable information for decision-making is crucial and should be addressed seriously. Thus, the education sector is believed to be one of the ways to produce graduates with good technical skills, knowledge, and high morality to make the best judgement for society. The research is conducted to assess the influence of accounting ethics education (Ethics Courses (EC) and Teaching Styles (TS)) on the Ethical Behaviour (EB) of accounting graduates in Malaysia. This study uses a questionnaire distributed to accounting graduates from Malaysian Institute of Accountants (MIA)-accredited universities. Seventy usable responses were received, and Partial Least Squares - Structural Equation Modelling (PLS-SEM) was used to analyse the data. This study discovered that TS used in teaching EC has a positive and significant relationship with the EB of accounting graduates in Malaysia. However, EC offered in the accounting programme at the university was discovered not to be significant. Thus, it is suggested that lecturers need to use various methods of teaching in delivering EC to enhance the EB of accounting graduates in Malaysia.

INTRODUCTION
The 1 Malaysia Development Berhad scandal, famously known as 1MDB in 2015, the Immigration Department Migrant scandal in 2016, Tabung Haji’s RM9 Billion Shortfall in 2017, the Serba Dinamik’s scandal in 2021 (The Edge Malaysia, 2022), and the list goes on (Nair, 2020). Corporate scandals in Malaysia have a destructive impact on Malaysia’s economy and taint the reputation and impression of others in Malaysia in general (Jones, 2020). The 1MDB has been described as “one of the world’s greatest financial scandals” (Chen, Ponniah, & Mayuri, 2019; Ronkin, 2020). Due to this scandal, the auditor, Deloitte Malaysia, has been charged a total of RM2.2 million (US$536,000) fine by Malaysia’s Securities Commission due to the failure to report right away on the irregularities of the RM2.4 billion transaction in the Islamic bond issuance that may have a
significant impact on the 1MDB scandals (CFO Innovation Editors, 2019). In Serba Dinamik’s scandal (Barrock, 2021; Staff, 2021), the company’s financial reports furnished to Bursa Malaysia were manipulated by the executives and accountants of the company (Ho, 2022).

Every time these scandals occur, the integrity and capability of the accounting profession will be questioned (Sooi, 2021). In order to avoid that, accountants need to have excellent ethical judgment skills (Plummer, 2005). Islam also has taught its believers to be honest and truthful in every action (Alani & Alani, 2012). To this end, accountants are responsible for upholding the public interest by ensuring that public and private funds are managed effectively (Mohamed Saat et al., 2012). In this context, ethics in accounting education is believed to be one of the methods to achieve a high moral standard for the individual (McPhail, 2001; Mohamed Saat et al., 2012). Integrating ethics education into the accounting curriculum is the most effective Teaching Style (TS). This includes who should teach ethics are some of the hot topics when it comes to providing the most comprehensive education model to teach ethics to accounting students (Blanthorne et al., 2007; Ryan & Bisson, 1978; Sahin et al., 2019).

However, previous studies have suggested that accounting education has failed to produce balanced accounting graduates in intellectual skills and morals to make the best decisions in the interest of society and its environment (Fritzsche & Oz, 2007; McPhail, 2001). Practitioners, academics, and professional organisations have been concerned about the declining quality of accounting education in academic and non-academic sources for many years (Madsen, 2015). Hence, the call for strengthening ethics education in the accounting profession is tremendous (Mohamed Saat et al., 2012). The role of academicians in instilling ethical values and enhancing Ethical Behaviour (EB) through education is significant in producing accounting graduates who will be the future leaders of the country (Abdul Rahman, 2003; Mishra, 2017).

In conclusion, accounting scandals will negatively affect the organisation, society, and the country. The public will also have a poor opinion of the accounting profession, which is in charge of managing the financial matters of the organisation. Therefore, ethical accountants with excellent technical capabilities and high moral values are the key to solving these challenges. The main problem that needs to be addressed, though, is that existing accounting education has failed to produce accountants with high integrity. Thus, this paper aims to examine whether Ethics Courses (EC) and the TS used in Malaysian universities will influence the EB of accounting graduates.

**LITERATURE REVIEW**

**Ethics in the Accounting Profession**

Ethics originated from the Greek word èthos, defining the moral nature that characterises a person or a group and is the science of morals (Baud et al., 2019). Ethics refers to a philosophical reflection on moral beliefs and practices. People can be ethical by thinking about ethics and reflecting on their moral beliefs and practices (Abdul Rahman, 2003). In Islam, numerous verses in the Quran are related to “those who believe” and “those who do good actions,” demonstrating the close connection between religion and morality or ethics in Islam. For example, in Surah Al-Baqarah, v. 25, “Give good news to those who believe and do good that they will have Gardens under which rivers flow...” (The Quran, 2:25) and also in Surah Al- ‘Asr, v. 3, “except those who have faith, do good, and urge each other to the truth, and urge each other to perseverance” (The Quran, 103:3). It suggests that ethics is fundamental to becoming a good Muslim.

The dedication to ethics in accounting has long been a source of pride (Mintz, 2021). According to Abdul Rahman (2003), acting ethically is an expected trait of an accountant. The virtues of ethics are ideal since they emphasise “a capacity to judge and do the right thing in the right place at the time in the right way” (Mintz, 2021). Ethical accountants can make the best judgement whenever facing any ethical dilemma. These ethical accountants can be produced through accounting ethics education (Abdul Rahman, 2003; Taylor, 2013). As a result, unethical or corporate scandal cases in accounting, especially in Malaysia, can be reduced.
From the Islamic perspective, an accountant, as a person, is the caliph of Allah SWT and plays a significant role in implementing the thrust of Allah SWT (Latif & Misbah, 2016). The role of the caliph of Allah SWT is not only limited to a person in professional fields but also as a human being in general. The objective of Muslims in their daily routines and activities is to achieve the jalab in the world and then lead to the jalab in the Hereafter (Nik Abdul Ghani et al., 2012). As inheritors of God, it is an obligation for men/women to inhabit and protect this earth as best as they can based on the verses of Allah SWT in Surah Sad, v. 26; “O Dawud! Verily, we have placed you as a successor on the earth; so, judge you between men in truth (and justice) and follow not your desire, for it will mislead you from the path of Allah SWT” (The Quran, 38:26).

Ethics in the Malaysian Accounting Education
Ethics education has been inculcated since pre-school (MOE, 2013). The Minister of Education (MOE) aimed to ensure that every school can produce students with core, universal values and a robust Malaysian identity when they leave the school (MOE, 2013). In order to do so, MOE has introduced general ethics and moral courses that are mandatory to all students, called “Pendidikan Sivik,” or Civic Education (MOE, 2023; 2018). There is also a specific accounting subject called “Prinsip Perakaunan,” or Principle of Accounting, taken by accounting students in secondary school. This subject focuses on technical skills and knowledge, especially preparing financial reports. Ethics and values were also included in this subject (MOE, 2009).

One of the functions of the tertiary educational institution is to produce graduates with integrity as future leaders (Haron et al., 2022). In accounting, tertiary education plays a critical role in the development of the moral competency of accounting students, which will translate into the development of morally competent accountants in the future (Zubairu, 2016). In Malaysia, one specific stand-alone EC with three (3) credit hours are offered to accounting students (Mohamed Saat et al., 2010). Conversely, it can also be embedded in other accounting courses like audit, taxation, and others (MOHE, 2015; 2006). Students are first exposed to professional principles and behaviour in college, and the accounting profession’s socialisation process starts (Ponemon, 1990). Previous research has discovered inconsistent evidence on the best method to integrate ethics into accounting (Christensen et al., 2018; Robinson et al., 2020). Extensive studies have discussed whether ethics should be a stand-alone subject or embedded in other courses (Davis & Welton, 1991; Sahin et al., 2019).

In conclusion, ethics, in general, has been inculcated since pre-school. Early exposure to ethics in accounting education is crucial to teach students the importance of the role of accountants in any business transaction. The accountant has always been portrayed as “introverted, cautious, analytical, systematic, antisocial, and, above all, boring” (Parker, 2000). However, without proper bookkeeping, it will increase the likelihood of early failure and decrease the likelihood that the business will survive. This makes it more challenging to plan and manage its operations, lowers the possibility of being profitable, and contributes to keeping the business in an unhealthy and unsound state to compete (Aruwa, 2005; Claustei & Underdown, 2002; Reed, 2005). Moreover, the importance of keeping all business transactions’ documentation was also mentioned in the Quran Surah Al-Baqarah, v. 282; “Hi believers, when you contract a debt for a specified term, write it down. And let a scribe write [it] between you in justice” (The Quran, 2:282).

Accounting Teaching Styles
How ethics education is conducted or the chosen teaching method will influence its deliverables (Ponemon, 1993). According to the International Education Standard (IES) 4, Initial Professional Development – Professional Values, Ethics, and Attitude (2019), there are various TS that educators can use to teach ethics, for example, role-play, discussion, case studies, seminars, and forums (IESB, 2019). Accounting educators can use any TS that suits the class discussion. The educators are expected to constantly update with current practices in the industry and give early exposure to the students. A variation of TS used in accounting ethics education that suits current...
practices will help students better understand (Okougbo & Okike, 2021; O’Leary & Stewart, 2013). According to Okougbo and Okike (2021), Kerr and Smith (1995) and Loeb (1994) listed seven (7) teaching delivery styles of EC, which are (i) case study, (ii) game, (iii) role-play, (iv) film, (v) digital video, (vi) group learning, and (vii) lecture notes.

Malaysian employers demand that graduates possess strong communication, organisational, analytical, research, problem-solving, and technological skills (Accountants’ Today, 2008). In response, the Ministry of Higher Education (MOHE) also advocates a student-centred learning approach, emphasising “independent learning, active learning processes, analytical thinking, effective writing ability and effective oral communication” (MOHE, 2006). It is also parallel with the IES 4, where accounting educators are suggested to use multiple TS to teach ethics to accounting students (IESB, 2014). Students prefer active teaching methods like role-play to passive teaching methods like standard note delivery (Okougbo & Okike, 2021). The educators are free to use whatever ways to teach ethics to the accounting students. According to O’Leary and Stewart (2013), instructors or educators must deliver ethical material most appropriate to achieve the desired outcomes for accounting graduates (O’Leary & Stewart, 2013).

Ethical Behaviour
Extensive research has been conducted on individual behaviour and numerous factors that influence an individual’s behaviour. Some researchers believe that the foundation for deciding what is right and what is not is formed early, and what comes later will not significantly change the foundation (Abuznaid, 2009). However, this opinion contradicts the study conducted by Hunt and Vitell (1986). Accountants must have sound ethical judgements when facing ethical dilemmas to achieve the desired outcomes for accounting graduates (O’Leary & Stewart, 2013).

Islam also highlights EB as Islam itself is a way of life; therefore, it applies to every aspect of life, including administration (Abuznaid, 2009). In Islam, there are two dimensions of ethics: (i) ethics toward Allah SWT, where a Muslim must believe in Allah SWT and worship Him, and (ii) ethics towards other living creature in the world, which a Muslim need to maintain a good relationship with other living creature, incredibly human (Abdul Aziz & Ahmad, 2019; Abuznaid, 2009). When Muslims face any ethical dilemma, any decision must be guided by faith or Iman. Iman is the religious feeling that results from obeying what Allah SWT asks every Muslim to do (Al-Banna, 1940). Any decision must be ethical towards Allah SWT, and other living creatures achieve the highest blessing and mercy, mardhatillah (Abdul Aziz & Ahmad, 2019).

Muslims are required to abide by the Shariah law, practising what is halal, permitted and refraining from what is haram, prohibited (Alawneh, 1998). Any unethical practices by Muslims are considered haram and need to be avoided. Therefore, Muslims must be able to distinguish what is halal and what is haram according to the Quran and Sunnah, especially in the accounting profession. Muslim accountants are free to make any decision. However, they must abide by religious principles and exercise appropriately (Ali & Gibs, 1998). Muslims are expected to conduct a proper method in any business dealing taught in Islam (Arham, 2010). It is also stated in Surah An-Nisaa’, v. 29; “Believers! Do not devour one another’s possessions wrongfully; rather than that, let there be trading by mutual consent. You shall not kill yourselves. Surely Allah is ever compassionate to you” (The Quran, 4:29).

In conclusion, accountants must uphold ethics not just in the course of providing their professional services but also in everyday life as members of society. Muslims must maintain a good relationship with Allah SWT, the Creator, and all living things.

Theory
According to Deep Learning theory, individuals will stimulate deep learning depending on the environment or the learning spaces (Kolb & Kolb, 2009; Lawter et al., 2014). In order to stimulate the deep learning environment or the deep learning process of accounting students, how ethics are taught and the TS used need to be effective (Kolb & Kolb, 2009). The Deep Learning theory has
explained that the formal learning spaces in the classroom can stimulate the deep learning process of the students (Lawter et al., 2014). It is crucial to use the most effective teaching methods to deliver the most effective ethics education to the students to achieve all of the objectives of ethics education.

Other than the spaces of the learning process, the method of teaching used is also significant in delivering the teaching module. Matching the teaching method with the TS used by the educator to teach the learner has been proven to significantly influence academic success (Kolb, 1984). Furthermore, each learner is discovered to have different preferences for learning methods (Kolb & Kolb, 2005), especially accounting students. There are different types of teaching methods, including role-play, case study discussion, and movies or videos that can be used in formal learning spaces. Hence, various teaching methods should be used to deliver ethics education modules to accounting students.

Islam also has different learning spaces with different learning styles to stimulate the learning process in teaching ethics. In the past, various types of educational institutions used both active and passive teaching methods, including the madrasah (education institution of public instruction), the maktab (writing education institution), the halaqah (circle education institution), and the masjid (mosque education institution). Each educational institution has a different structure for teaching and learning moral values (Halstead, 2004). Teaching methods vary in learning styles, use of punishment, dependence on memorisation, use of visual aids, computers, and other resources, the inclusion of discussion of contemporary moral issues, and others. Consequently, there will be various methods to teach ethics and morality to individuals by providing learning spaces to stimulate the deep learning process.

Hypothesis Development

i) Accounting Ethics Course
Accounting ethics education at the university has been taught to accounting graduates in two types of courses: (i) stand-alone EC and (ii) embedded in other courses (MOHE, 2006). Previous studies discovered that ethics should be across the entire qualification (Sims, 2000). However, there is a need for a separate course that teaches more common core ethics to all students (Bowden & Smythe, 2008). According to Weber (2007), ethics education should raise ethical consciousness and promote the organisation’s moral principles to extend the standards managers apply when making morally charged decisions. The intervention of ethics has demonstrated significant improvements in ethical sensitivity, strengthened the ability to be open-minded and reconsider their past action and beliefs, and increased the ability to face ethical dilemmas in the students’ workplace (Walker, 2013; Wu, 2003).

On the contrary, previous studies also discovered that courses in educational institutions do not have an impact on ethical reasoning and are not significant in influencing the ethical development of students (Early & Kelly, 2004; Ponemon, 1993). In Malaysia, ethics education is important to satisfy the profession’s needs. However, different opinions exist among educators on the adequacy of the ethics education scope that has been practised (Win et al., 2014). Nevertheless, more previous studies postulate a positive and significant relationship between EC and EB.

Deep learning theory teaches that formal learning spaces, such as the university’s EC, stimulate the deep learning process of the students. The formal learning spaces will influence the effectiveness of the EC to enhance the EB of accounting graduates. Hence, this study develops the following hypothesis.

H1: There is a positive and significant relationship between Ethics Courses (EC) and the Ethical Behaviour (EB) of accounting graduates.
ii) Teaching Style
There are multiple ways to teach ethics to accounting graduates. Actual case studies (McWilliams & Nahavandi, 2006) and role-play (Okougbo & Okike, 2021; Sanyal, 2000) are some of the delivery methods in ethics education. According to Bowden and Smythe (2008), students’ ability to analyse moral dilemmas is enhanced through EC, which includes case studies and lectures on ethical theory. Collaboration with industry players as guest lecturers is also one of the ways to teach ethics that can enhance students’ EB, as ethics educators need to be well-versed in two disciplines: (i) philosophical ethics and (ii) subject matter (Frederick, 1998).

According to deep learning theory, students will stimulate a deep learning process in ethics education through their preferred learning styles. Hence, the pedagogies or methods of delivery in the learning spaces, specifically in ethics education, will help to stimulate the accounting students’ deep learning process. Therefore, this study develops the following hypothesis.

H2: There is a positive and significant relationship between various Teaching Styles (TS) and the Ethical Behaviour (EB) of accounting graduates.

Conceptual Framework
The constructs of the conceptual framework for this study are adapted from the Deep Learning Theory (Kolb & Kolb, 2009; Lawter et al., 2014). The Deep Learning Theory will explain the relationship between accounting EC as formal learning spaces and the TS used in the formal learning spaces to stimulate the deep learning process of accounting graduates. Accounting ethics education is taught to accounting students to enhance the EB of future accountants in Malaysia. The conceptual framework for the proposed study is presented in Figure 1.

![Figure 1: Conceptual framework of the study.](image-url)

METHODOLOGY
This study uses a quantitative, cross-sectional research design. The unit of analysis is accounting graduates.

Population and Sample Size
The population comprised accounting graduates from 17 MIA-accredited universities offering Bachelor’s Degree accounting programmes. The accounting graduates must fulfil the following criteria: they must work in finance, accounting/audit, or related fields and have less than three (3) years of working experience. The reason why accounting graduates with less than three (3) years of working experience in accounting or related fields are needed is that during this period, they would not yet be eligible to become an accountant. However, they are already on the pathway to becoming one. This is attributed to the fact that one of the criteria to become an accountant is that the accounting graduates must fulfil three (3) years of working experience in accounting or related fields.

The minimum sample size for factor analysis is 50 samples (Sapnas & Zeller, 2002; Williams et al., 2010). Hair et al. (2018) also stated that exploratory factor analysis cannot be done if the sample has less than 50 observations. On the contrary, according to Roscoe (1975), the minimum number of respondents is to be at least ten times the total number of variables to be analysed (Hair et al., 2017; Hair et al., 2014). Since this study has two (2) variables, the sufficient
sample size would be $2 \times 10 = 20$ samples. However, according to the G*Power, the minimum sample size is 68. This study has used G*Power to determine the minimum sample size of the study. Since the usable responses are 70, it has met the minimum sample size for the study.

**Data Collection Method**

This study uses an online questionnaire as a method of data collection. There are three sections in the questionnaire. Section A consists of the demographic profile of the respondents, while Section B consists of questions on EC and TS. Section C requires the respondents to rate the EB of accounting graduates. The questionnaire was validated by panel experts.

Using a purposive sampling method, the online questionnaire was distributed to 70 accounting graduates who graduated from 17 MIA-accredited universities offering Bachelor’s Degree accounting programmes. The respondents must be accounting graduates currently working in finance, accounting/audit, or related fields, with less than three (3) years of working experience, and who have graduated in 2019, 2020, and 2021. The questionnaire was administered and collected within four (4) weeks.

**Measurement of Variables**

Accounting EC refers to the coverage of ethics education, whether in stand-alone courses or whether a topic on ethics is discussed in other courses in the accounting programme. Three (3) stand-alone courses and 23 courses in the accounting programme were listed for the respondents to choose from. This measurement is adapted from Sahin et al. (2019), whose study examined the coverage of accounting EC in accounting curricula in universities around Turkey. Assuming a respondent ticked only one (1) stand-alone course, a score of 100% will be given. If the same respondent ticked other courses in the accounting programme that discussed the topic of ethics, a score of $1/23$ (4.35%) would be given. Thus, to obtain the percentage score of the coverage of ethics education that a respondent has taken in his accounting degree programme, these two scores will be added and will be multiplied by 100%. A score of 52.17% $[(100\% + 4.35\%)/2] \times 100\%$ will be given. The method of scoring is based on Sricharan and Salawati (2019).

Next, TS refers to the number of TS used in ethics education. Seven (7) TS were listed for the respondents to choose from. The more TS are ticked by the respondents, the greater the score that will be assigned to TS. This is adapted from a previous study conducted by Okougbo and Okike (2020), where accounting students are asked to tick the types of teaching delivery preferred in teaching ethics in accounting programmes.

There are nine statements that measure the EB of accounting graduates. The respondents are required to rate their agreement with the statements based on a 5-point Likert scale, (1) representing strongly disagree, (2) representing disagree, (3) representing neutral, (4) representing agree, and (5) representing strongly agree. This measurement was adopted from a previous study, and these statements describe the do’s and don’ts of formal codes of ethics (Davis & Walton, 1991).

**ANALYSIS AND FINDINGS**

The data was analysed using SmartPLS version 4.0. This study is a reflective measurement model. In PLS-SEM, measurement model assessment is used to evaluate the validity and reliability of the construct measurement. This study surveys the opinions of 70 accounting graduates from different universities who graduated in 2019, 2020, and 2021 and are currently working in accounting/auditing-related fields. This study conducted two assessments: (i) measurement model assessment and (ii) structural model assessment.
Expert Validity: Content and Face Validity

Researchers employ content and face validity to ascertain that the measures represent the measured concept. Thus, pre-testing will be conducted on a group or panel of experts who will pass judgment on the appropriateness of the measures to the construct being measured (Sekaran & Bougie, 2016). The item in the survey instrument was selected after an extensive literature review. It was evaluated by a research expert comprising three academicians from local universities in Malaysia and two accounting graduates for layman’s opinion before conducting the pilot survey. Consequently, some of the items were reworded and deleted based on the comments and feedback from the validator. The item was modified to suit the targeted sample group.

Preliminary Analysis

A preliminary analysis was conducted to capture the demographic profiles of the participants. 87% of the participants were female, and 62% graduated from local public universities with bachelor’s degrees in accounting. The majority of 46% of the participants were auditors, and 69% worked at small and medium firms. The demographic profile of the participants in Table 1 reflects the general characteristics of the targeted population of accounting graduates.

<table>
<thead>
<tr>
<th>Questions</th>
<th>Details</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>9</td>
<td>13%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>61</td>
<td>87%</td>
</tr>
<tr>
<td>University</td>
<td>Universiti Sains Islam Malaysia</td>
<td>23</td>
<td>33%</td>
</tr>
<tr>
<td></td>
<td>Universiti Teknologi MARA</td>
<td>15</td>
<td>21%</td>
</tr>
<tr>
<td></td>
<td>Others (Below 10)</td>
<td>32</td>
<td>46%</td>
</tr>
<tr>
<td>Job Designation</td>
<td>Accountant</td>
<td>24</td>
<td>34%</td>
</tr>
<tr>
<td></td>
<td>Auditor</td>
<td>32</td>
<td>46%</td>
</tr>
<tr>
<td></td>
<td>Tax Agent</td>
<td>8</td>
<td>12%</td>
</tr>
<tr>
<td></td>
<td>Others (Finance/Banking)</td>
<td>6</td>
<td>8%</td>
</tr>
<tr>
<td>Type of Company</td>
<td>Big 4 Audit Firm</td>
<td>2</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>Non-Big 4 Audit Firm</td>
<td>48</td>
<td>69%</td>
</tr>
<tr>
<td></td>
<td>Commercial Company</td>
<td>20</td>
<td>28%</td>
</tr>
</tbody>
</table>

Measurement Model Assessment

PLS-SEM was used to measure the reliability and validity of the survey instrument used for this study. The reliability test is conducted to assess the combination of construct variables to the objectives of the measurement (Urbach & Ahlemann, 2010). Meanwhile, a validity test is conducted to test the accuracy of how a construct will be reflected in what has been measured (Omer et al., 2019).

i) Internal Consistency Reliability

Internal consistency reliability is the degree to which the items in the constructed model that make up the scale are all measuring the same underlying attribute (Pallant, 2016). Cronbach’s alpha (α) and Composite Reliability (ρc) were used as the parameter to measure the consistency of constructed variables (Memon & Abdul Rahman, 2014). However, a previous study has standardised loadings of the variables by only using the ρc to measure the internal consistency (Fornell & Larcker, 1981). In order to get a sufficient level of internal consistency reliability, the cut-off values for each of the construct’s ρc must be more than 0.7 (Hair et al., 2019).

In this study, only EB will be tested in this analysis, and the result reveals that the ρc value is 0.881, which exceeds the minimum benchmarking. The result indicates that the reliability of the variables is of a high standard. Table 2 provides the result of the internal reliability analysis.
Table 2: Reliability and validity analysis

<table>
<thead>
<tr>
<th>Constructs</th>
<th>Items</th>
<th>Loadings</th>
<th>α</th>
<th>ρc</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Ethics Course</td>
<td>EC</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Teaching Styles</td>
<td>TS</td>
<td>1.000</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ethical Behaviour</td>
<td>EB1</td>
<td>0.736</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EB2</td>
<td>0.773</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EB3</td>
<td>0.636</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EB4</td>
<td>0.748</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>EB5</td>
<td>0.708</td>
<td>0.865</td>
<td>0.881</td>
<td>0.518</td>
</tr>
<tr>
<td></td>
<td>EB6</td>
<td>0.767</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>EB7</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>EB8</td>
<td>0.505</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>EB9</td>
<td>0.837</td>
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</tbody>
</table>

ii) **Indicator Reliability**

Indicator reliability allows researchers to detect measurement errors in the constructed model. This error exists when there are inaccurate responses (i.e., participants give unsure answers or the interpretation of the questions provided is different from the researcher’s intention) and a natural degree of inconsistency when using multiple items to measure the same concept (Šiška, 2018). The parameter used to assess the indicator reliability is the item loadings, and the suggested factor loading of the items is higher than 0.708 (Hair et al., 2019). It is also agreed by other researchers that manifest variables with outer loading that is 0.7 or higher are considered highly satisfactory (Gotz et al., 2010; Henseler et al., 2009). However, items with a loading of higher than 0.5 are also acceptable, and if it is lower than that, they should be dropped from the study (Chin, 1998; Hair et al., 2010). The other minimum level of loading suggested is 0.4 (Hulland, 1999). In a nutshell, the variables with outer loading between 0.4 and 0.7 are sufficient and need to be reviewed before dropping out of the study (Henseler et al., 2009).

This study reveals that only one of the items (EB7) has a factor loading value lower than 0.5. Hence, this item is deleted from the constructed model. Table 2 provides the result of the indicator reliability analysis.

iii) **Convergent Validity**

The validity of the instruments used in this study is demonstrated by the Average Variance Extracted (AVE) (Al-Okaily et al., 2020). The AVE of the manifest constructed variables will determine the latent variables' variance from its relative variables due to measurement errors (Memon & Abdul Rahman, 2014). When constructs have an AVE value near to or higher than 0.5, convergent validity is considered to be sufficient (Hair et al., 2019).

In this study, the AVE of the constructed model is 0.518. Thus, it reveals that the measurement model has sufficient convergent validity. Figure 2 displays the measurement model of the study.
The measurement used for item EB combines positive and negative statements where EB3*, EB4*, EB5*, and EB8* are negative statements, and the others are positive statements. This method is used to prevent response bias that will affect the validity of the finding.

Figure 2: Measurement model

iv) Discriminant Validity
The determinant to which extent a research latent variable presented is different from other variables, the discriminant validity test was performed (Al-Okaily et al., 2020). According to Memon and Abdul Rahman (2014), discriminant validity is conducted to confirm that the construction variables are relevant to the latent variables, and it can be measured by analysing the cross-loading values. The cross-loading value of its variable should be higher than any other construct (Hair et al., 2019; Memon & Abdul Rahman, 2014). According to Hair et al. (2014), heterotrait-monotrait ratio (HTMT) can be defined as the mean of the item correlations across constructs relative to the (geometric) mean of the average correlations for the items measuring the same construct. If the HTMT value is higher than 0.85 or 0.90, it can be considered that a discriminant validity problem exists (Henseler et al., 2015).

In this study, the HTMT value is lower than 0.90. The result indicates that the constructed model has no discriminant validity problem. Table 3 provides the HTMT analysis results.

Table 3: HTMT analysis

<table>
<thead>
<tr>
<th>Constructs</th>
<th>EC</th>
<th>TS</th>
<th>EB</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>0.591</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EB</td>
<td>0.544</td>
<td>0.874</td>
<td></td>
</tr>
</tbody>
</table>

Structural Model Assessment
The second step of the analysis is to assess the structural model. The analysis for structural model assessment is based on the standard assessment criteria, including the coefficient of determination, blindfolding-based cross-validated redundancy measure, statistical significance, and path coefficient (Hair et al., 2019). In PLS-SEM, the researchers were also allowed to assess the model’s out-of-sample predictive power using the PLSpredict (Shmueli et al., 2019). In addition, the importance-performance analysis was also presented at the end of the section. Hence, there will be four analyses conducted: (i) Variance Explained / Explanatory Power and Effect Size Analysis, (ii) Significance Testing, (iii) Model’s Predictive Power, and (iv) Importance-Performance Matrix Analysis (IPMA).
i) Variance explained / Explanatory power and Effect size Analysis

Before assessing the explanatory power and effect size analysis, the collinearity test must be conducted. The collinearity test, using the Variance Inflation Factor (VIF), will ensure that the result from the regression is not biased (Hair et al., 2019). The collinearity issues will exist if the VIF values exceed five (5) (Hair et al., 2016).

After ensuring the nonexistence of collinearity issues, the explanatory power assessment is conducted by assessing the R² values. The higher the R² values of the constructed model, the greater the explanatory power. If the R² value is 0.75, it can be considered substantial. Meanwhile, 0.50 and 0.25 can be considered moderate and weak, respectively (Hair et al., 2016). However, the benchmark stated by Chin (1998) is lower than the previous researchers, which are 0.67, 0.33, and 0.19 will be considered substantial, moderate, and weak, respectively.

The effect size of the constructed model is assessed using the $f^2$ values. This analysis considers how removing a specific predictor construct affects an endogenous construct’s R² values (Hair et al., 2019). As for the rules of thumb, if the $f^2$ values are higher than 0.02, 0.15, and 0.35, they are considered small, medium, and large (Cohen, 1988).

As illustrated in Table 4, there are no collinearity issues, as all relationships have VIF below the threshold of five (5). The constructed model with EC and TS as indicators has 31% explanatory power, considered moderate. It suggests that accounting ethics education received in the university does influence 31% of the EB of accounting graduates. The $f^2$ of EC is 0.004, lower than TS, which is 0.083. The result of explanatory power and effect size is presented in Table 4.

### Table 4: Results of significance testing and main effect analysis

<table>
<thead>
<tr>
<th>Relationships</th>
<th>VIF</th>
<th>β</th>
<th>SD</th>
<th>t-value</th>
<th>p-value</th>
<th>Confidence Interval (CI)</th>
<th>Effect Size ($f^2$)</th>
<th>Explanatory Power (R²)</th>
<th>Decision (Y/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LLC</td>
<td>UL</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H1: EC - EB</td>
<td>4.222</td>
<td>0.100</td>
<td>0.222</td>
<td>0.450</td>
<td>0.652</td>
<td>-0.344</td>
<td>0.519</td>
<td>0.004</td>
<td>N</td>
</tr>
<tr>
<td>H2: TS - EB</td>
<td>4.222</td>
<td>0.484</td>
<td>0.189</td>
<td>2.567</td>
<td>0.010</td>
<td>0.138</td>
<td>0.868</td>
<td>0.083</td>
<td>Y</td>
</tr>
</tbody>
</table>

ii) Model’s Predictive Power

The PLSpredict in SmartPLS 4.0 allows the researcher to assess the model’s predictive power. The accuracy of the model’s predictive power is determined by the $Q^2$ (Stone, 1974). The $Q^2$ values for that construct should be greater than zero (0) in order to reflect the prediction accuracy of the structural model for a given endogenous construct (Hair et al., 2019). In general, $Q^2$ values greater than 0, 0.25, and 0.50 represent the PLS-path model’s small, medium, and significant predictive importance, respectively.

The prediction statistic of the constructed model is examined by assessing the indicators’ Root Means Squared Error (RMSE). The model lacks predictive power if all indicators have higher RMSE values than the naïve benchmark using a Linear Regression Model (LM). As for the rules of thumb, low predictive power will be considered if most indicators have a higher RMSE than LM. A medium predictive power existed if a minority of the indicators had a higher RMSE than LM. The model has high predictive power if all indicators have higher LM values than RMSE.

In this study, only one (1) indicator has a higher RMSE than the naïve benchmark LM. Hence, the constructed model has medium predictive power. The result of the PLSpredict assessed in SmartPLS 4.0 is presented in Table 5.
Table 5: Results of PLSpredict

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Q² Predict</th>
<th>PLS-SEM (RMSE)</th>
<th>LM (RMSE)</th>
<th>PLS-SEM - LM</th>
</tr>
</thead>
<tbody>
<tr>
<td>EB1</td>
<td>0.089</td>
<td>0.993</td>
<td>1.015</td>
<td>-0.022*</td>
</tr>
<tr>
<td>EB2</td>
<td>0.200</td>
<td>0.900</td>
<td>0.909</td>
<td>-0.009*</td>
</tr>
<tr>
<td>EB3</td>
<td>0.001</td>
<td>1.105</td>
<td>1.102</td>
<td>0.003</td>
</tr>
<tr>
<td>EB4</td>
<td>0.152</td>
<td>1.194</td>
<td>1.199</td>
<td>-0.005*</td>
</tr>
<tr>
<td>EB5</td>
<td>0.146</td>
<td>0.904</td>
<td>0.914</td>
<td>-0.010*</td>
</tr>
<tr>
<td>EB6</td>
<td>0.149</td>
<td>0.876</td>
<td>0.888</td>
<td>-0.012*</td>
</tr>
<tr>
<td>EB8</td>
<td>0.100</td>
<td>0.986</td>
<td>1.007</td>
<td>-0.021*</td>
</tr>
<tr>
<td>EB9</td>
<td>0.274</td>
<td>0.914</td>
<td>0.915</td>
<td>-0.001*</td>
</tr>
</tbody>
</table>

* High predictive power

iii) Significance Testing

The hypotheses testing or the statistical significance and relevance of the path coefficients (β) for the constructed model are assessed to test whether a certain relationship between two or more constructs is likely to occur by chance or not (Saunders et al., 2016). The bootstrapping process was conducted in SmartPLS 4.0 to determine the significance of the path coefficients (β) and evaluate their values, which generally range between -1 and +1. As this study has one-tailed hypotheses, it will be considered significant if the t-values are higher or equal to 1.65.

In this study, the relationship of EC exhibited a positive but insignificant association with EB. Hence, hypothesis 1 is unaccepted. On the other hand, hypothesis 2 is accepted as TS has a positive and significant relationship with the EB of accounting graduates in Malaysia. The result of the hypothesis testing is presented in Table 4. Figure 3 illustrates the structural model of the constructed model.

Figure 3: Structural model

iv) Importance-Performance Matrix Analysis

The IPMA, also known as importance-performance map analysis, is an added feature to enhance the results presentation of the standard PLS-SEM estimations by comparing the total effects of the latent variables on some target variables with their latent variable scores (Hair et al., 2019). More specifically, the IPMA compares the average latent variable scores of this construct’s forerunners to the total effects of the structural model on a given target construct (Ringle & Sarstedt, 2016). Table 6 summarises the values of the constructed model’s total effect (importance) and index values (performance).
Table 6: Result of IPMA

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Importance (Total Effects)</th>
<th>Performances (Index Values)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethics Courses (EC)</td>
<td>0.100</td>
<td>32.294</td>
</tr>
<tr>
<td>Teaching Styles (TS)</td>
<td>0.484</td>
<td>33.333</td>
</tr>
</tbody>
</table>

According to the result of IPMA analysis, both variables can be categorised as low importance – performance. However, according to the map in Figure 4, the analysis revealed that the TS for accounting ethics education has a higher performance than EC with only slight differences. Conversely, the TS is a more important variable than EC in the constructed model.

Figure 4: Importance-performance map

DISCUSSION AND CONCLUSION

Findings have demonstrated that the research model is reliable and valid. Hypothesis 1 (H1), which examines the relationship between EC and EB, was rejected. It could be that in Malaysia, the *Halatuju Perakaunan* has been used as the main reference in accounting programmes. All the courses and topics taught to accounting students have been standardised. Hence, there might be no variation with respect to the EC offered in the accounting programme. It is in line with previous studies that demonstrated that courses do not impact ethical reasoning and are not significant in influencing ethical development (Earley & Kelly, 2004; Ponemon, 1993).

On the other hand, Hypothesis 2 (H2), which examines the relationship between TS and the EB of accounting graduates, was accepted. It is in line with Bowden and Smythe (2008), who discovered that EC enhanced students’ ability to analyse moral dilemmas through case studies and lectures on ethical theory. Thus, ethics educators should apply different teaching methods to discuss ethics and moral behaviour in class to enhance the EB of accounting graduates. With the current development in technology, usage of social media and short films or movies that convey the message of ethics to accounting students could prove to be more effective than traditional delivery methods. Additionally, guest lectures invited by practitioners from the industry who could
share real-life ethical issues at the workplace would also assist in enhancing the student’s understanding of ethics.

Like any other study, this study has some limitations. It uses a questionnaire as the method of measurement of accounting graduates’ perception of EB. Future studies may use interview methods with accounting graduates to get a more in-depth view of the ethical issues. The variables examined in this study can explain 31% of the EB of accounting graduates. Future studies can examine other factors to explain the EB of accounting graduates. However, caution should be taken when generalising the result as this study only looks at accounting graduates from MIA-accredited universities in Malaysia. Future studies can use the model to examine accounting students from both accredited and non-accredited universities in Malaysia. Comparisons can also be made with accounting graduates from other countries.

In summary, the study has suggested that the TS used in teaching EC is crucial to enhancing the EB of accounting graduates in Malaysia. Educators, accounting regulatory and professional bodies, and accounting practitioners should work together to create the most effective teaching methods for accounting ethics education. This includes the use of role-play, case studies, and the usage of information technology to educate accounting students on ethics. The reputation of accountants will be secured if the accounting graduates are equipped with good ethics. This, in turn, will help to reduce corporate scandals in Malaysia, in both the private and public sectors.

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