The Magic Wand of Multimedia! *Unethical* Decisions in Tourism and Hospitality Education

*(Theme: Critical action in the classroom)*

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Abstract

From bearing negative images to acceptance by leading corporations, until today when it is related as an important element of the firm value (Barnett 2007, Hallak, Assaker et al. 2013), corporate social responsibility has become a prominent requirement for sustainable development. To be socially responsible, the understanding of ethical behavior and decisions is important (Rainbal, Payne 1990, World Tourism Organization 2005). According to the report by Federal Bureau of Investigation, 12.8% of cases reported were on accounting fraud, amongst which is corporate fraud. The situation has attracted global concern, in virtue of some highly publicized cases, including the Enron and WorldCom. This resulted in the growing demand to comprise ethical related topics into the syllabus of university degree programs. For non-accounting majors, including tourism and hospitality, accounting courses are commonly classified as business management courses. Therefore, fraud education is normally delivered within general management courses framework. This fosters the need to design the syllabus in a way that can meet social and industry requirements, while earning acceptance of students who do not specialize in this area.

Fraud accounting is a senior level topic that educates students the importance of ethical behavior and the savage outcomes of making unethical decisions. In most higher education institutes in Asia, it is typical to deliver this senior level topic to junior level students majoring in tourism and hospitality. The level of effectiveness has always been in doubt, which has driven decisions to exclude this topic from the syllabus. To confront this problem, the current research has applied a well-designed pedagogic model that can enhance the understanding of students on this topic area while raising their satisfaction on the course and in turn resulted in better performance. In this model, a mixed education method is applied, using a multimedia tool supplemented by written training materials but exclude traditional classroom training. The
materials are delivered in a foreordain arrangement, holding specialized objectives and followed by distinct coursework to intensify the capability at making ethical decisions. For the multimedia tool, a documentary movie on one of the most influential accounting scandal in history that leads to the establishment of the Sarbanes-Oxley (SOX) was used.

Data is collected during one semester on around three hundred freshman undergraduates. A questionnaire covering eight major categories was developed based on past literatures and local consideration is used and data analyzed by quantitative methods. Based on the technology acceptance model (TAM), four hypotheses are established and all are found to be supported. The majority of students hold a positive preference on the use of movie to learn the influence of accounting fraud and the drawbacks of unethical decisions. It is found to improve their understanding and perceived to be more effective than reading textbooks alone.

Introduction

The paces of the world economic development have changed dramatically over the past decades. The use of economic resources, the way of communication, the fast development of technology and the high expectation of the investors have much impact on the strategies and development of different organizations and corporations. Aside from the financial performance of the corporations, a more critical concern has been placed on the ethical issues of the business since there has been an increasing 12.8% cases reported on eight categories of accounting fraud according to the report released by Federal Bureau of Investigation (Federal Bureau of Investigation 2012).

Since a number of international companies have a vast development in Macau, international accounting standards have also been applied in preparing the financial reports. In
order to equip students to be more competent and competitive, universities and institutes in Macau have been providing different level of accounting courses that covered basic theories, concepts and technical skills for accounting and non-accounting major students. Though accounting major students who are prepared to be accounting professionals are learning more advanced accounting courses than non-accounting major students who mostly focus on elementary accounting, it is believed that all business students should have a basic knowledge and sensitivity on fraud accounting (Gates, Lee et al. 2011). The issue of code of ethics, being an important element of fraud accounting, has become more important in the industry. The topic of fraud accounting was used to be either found in forensic accounting or advanced accounting courses. Therefore, opportunities to learn this topic should definitely be given to more students who are going to work in the management level and become decision makers. Except students found that the concepts and knowledge they learnt about fraud accounting was useful and practical, the employers also appreciated for the benefit they can gain from these students (Peterson 2003). More employers realized that it was important for their employees to be sensitive and knowledgeable about fraud accounting.

In this research, the technology acceptance model (TAM) has been applied to understand how the use of multimedia as an education tool could affect the learning performance of students on accounting. The multimedia employed was a movie and the topic of study was an advanced topic, the accounting fraud, with a focus on the drawbacks of unethical management decisions. Students mostly stereotyped accounting courses to be boring and difficult to master, this research demonstrated that the use of movie can help students to learn the concepts and impacts of accounting fraud and the grievous influence of unethical decisions in an easier, more relaxed and effective way.
Based on past literatures, a questionnaire that covered eight areas of study was utilized. The preference of the students on eight types of traditional and non-traditional education tools to study accounting was investigated and movie was the second most highly preferable education tool to be used. Further understanding on this preference was examined by ten features related with the movie, from the richness of information to its effectiveness over traditional textbooks. Movie was reported to be informative, ease the learning process and more effective than using textbooks. Supported by these conceptual evidences, the effectiveness of using movie as an education tool was analyzed statistically by means of the technology acceptance model (TAM), based on two core constructs of perceived usefulness and perceived ease of use of the movie. Four hypotheses were constructed and all were supported. All the variables were found to be positively correlated and the technology acceptance of using movie to learn accounting was concluded to affect the belief of students at achieving better performance. The extent of knowledge learnt on the major areas of accounting fraud and unethical decisions was elaborated through descriptive statistics, when around 50% of students expressed that have better understanding on each of the areas under study.

**Literature Review**

There is no wonder that standardized concepts, figures and calculations are linked with all accounting courses, from elementary to advance. To start the course with a real world example can arouse more of the interest of the students. It can also ease the anxiety of the students towards the stereotypes of accounting and accountants (Stice, Stice 2006). Besides, when students are first introduced about the topic of accounting fraud, the use of cases is very useful and can increase the initiatives of the students. Enron can be a very good choice as a starting point. Not only can it help students to understand more about the perceptions of the corporation,
bankers, employees and the auditors within the case, it also shows how relevant accounting is to their daily life. Gaining momentum in the first session is important for both students and instructors. For non-accounting major students studying tourism and hospitality stream, they may find more initiatives and passion in studying accounting courses with the real world example given as a launch. Fordham (2012) advised to use the same fraud case again in different accounting courses and institutions when students and instructors were more familiar with the detail of the case which can have a more effective result. Instructors can also customize the materials of the case in their own courses.

Due to the expectation for the knowledge of ethics and ethical behaviour covered in colleges by practitioners, Thomas (2012) suggested the importance and essence of the transference of ethical standards to first year students. Argument on the understanding of ethical issues between accounting and non-accounting students has been addressed but no significant difference can be found. Therefore, though students with different perception and rationales on ethical issues which includes moral equity, contractualism, relativism, utilitarianism and egoism (Reidenbach, Robin 1998) will have different efforts in decision making, it has been found that education will have a positive effect on deliberative reasoning (Thomas 2012). Furthermore, it stated that senior students use higher deliberative reasoning instead of cognitive moral capability. As more concern has been raised on ethical issues in business, it should not only be delivered at the latter days of students’ university life. The fraud topics should be incorporated into the entire business curriculum (Gates, Lee et al. 2011). Except fraud cases discussed in forensic accounting courses, more universities and institutes have included the business fraud topic in other accounting and business courses in order to let students aware of its importance and improve decision making.
As more different types of fraud cases happened in this recent decade, there was an increasing demand for expertise in forensic accounting and more fraud services were provided by accounting firms (Peterson 2003). It is important to have students well equipped with basic knowledge on fraud accounting so that better service and decision making can be provided to their future employers. In order to let students understand more about fraud cases, real cases are assigned to students for learning and experiencing. Students regarded it as a valuable educational experience and an effective way to apply their knowledge (Daigle, Hayes et al. 2014). Pre-class reading can help students to have better discussion and decision on the cases. Students found very useful and interesting in learning fraud accounting with detail guidance of the instructors (Gissel 2014). After learning through real cases, students can understand the types of information available from public sources and have a better understanding of the role of publicly available information in fraud accounting engagements (Quirin, O'Bryan 2014). Positive feedbacks of students can be found in handling the cases by themselves. Though a lot of analytical skills were required in decisions making, students still found the cases interesting. Thus, they were more inspired by the use of their accounting knowledge that may affect the management behaviour and the financial reporting choices (Dutta, Caplan et al. 2014).

In the recent decades, more fraud cases like Enron and WorldCom were known to the business world, more stakeholders including the government finally realized the innovative tactics used by these corporations and the importance of fraud accounting. Traditional way of teaching may not be the prelude that can attract the audience of fraud accounting. In order to make the delivery of the topic more interactive and effective, hybrid form of teaching can be used (Dowling, Godfrey et al. 2003). Flexible learning pattern can affect the results and performance of students positively and they were more devoted to the course. It was also proved that the relationship among the different uses of technology in education, the students’ academic performance and the effects of motivation was significant. (Valentin, Mateos et al.)
Albeit another form of teaching using the Blackboard discussion which can arouse the interest of the students in gathering more information and enhancing individual’s contribution, the result showed a negative relationship between the performance of the students and the online exercises (Rainsbury, Malcolm 2003). Using the same platform, positive results showed that blended learning can affect the academic achievement targeted to students. It was also the effective combination of different modes of delivery, models and styles of learning (Obiedat, Eddeen et al. 2014). However, Lane and Porch (2002) found no relationship between the performance of the non-accounting major students and the method of teaching. Students may find the hybrid form of teaching useful but less likely to be helpful in delivering the knowledge. Therefore, there is no perfect form of education in delivering accounting knowledge to students but more education tools should be used in order to cope with the needs of the students.

Multimedia tools have been used widely in education. Video clips like TV, movies, YouTube were recommended to be used as teaching tool in the classroom. Some of the potential learning value of video clips such as generating interest in class, focusing students’ concentration, creating a sense of anticipation, increasing understanding, inspiring and motivating students, making learning fun can enhance the effectiveness of the courses (Berk 2009). In order to make visual learning superior than verbal learning, steps taken by the instructors are very critical. Special guidelines for students like some pre-reading, discussion questions and the introduction of the video are required. In the early stages, students had negative feedbacks in using multimedia due to the nature of the course. However, with the standardization of the materials used in the multimedia, it became more convenient to the users and some students even appreciated for the animation made in the multimedia (Junaidu 2008). In some universities and institutes, it is difficult to make fraud accounting as one full course so Gates et al. (2011) suggested incorporating the topic in different business courses by using videos as a complement to textbook and lecture. In this way, even non-accounting students can
have a thorough learning experience in this topic. The improvement of attitude and ability can be found through the use of multimedia (Wise, Groom 1996). On the other side of the coin, some drawbacks have been concluded which included the lack of communication and interaction between the students and the instructor (Holtzblatt, Tschakert 2011). The use of video clips can stimulate and motivate the students in learning a particular topic. Besides, it can avoid some students who spend less time in reading and preparing the materials. Ellis (2001) stated that it may not be easy to evaluate the effectiveness of using multimedia as an educational tool but it would be more important to understand the different learning styles of the students in developing their critical thinking capabilities through the use of multimedia.

More different and new types of multimedia are being used for education. During the past decade, the perception in using multimedia during classes has been changed greatly. Unlike traditional way of teaching which is commonly a one-way communication, multimedia becomes an important complement to education which provides a lot of convenience to both students and instructors. Therefore, when schools can provide adequate resources and instructors are willing and capable of using multimedia, effectiveness on the performance of students and positive feedback can be achieved sooner or later. Training provided to instructors is definitely required to develop their competence, confidence and enthusiasm (Ferry, Brown 1995). It was also important to understand the students’ satisfaction and motivation when multimedia was applied in the courses (Astleitner, Wiesner 2004, Yarbrough 2001). To understand the level of effectiveness of using technology, the Technology Acceptance Model (TAM) suggested by Davis (1989) has been applied. A lot more researches have also applied the same model in different areas (Amornkitpinyo, Piriyasurawong 2015, Rodriguez, Lozano et al. 2012). Generally, the model has been proved to be useful and reliable in understanding and explaining the behavior of the users towards technology (Chen, Li et al. 2011). However, there is still argument about the correlation for the usefulness than the ease of use (Averweg 2008). In this research, it
studied whether the level of perceived usefulness (PU) of movie for the learning of fraud accounting would affect the level of perceived ease of use (PEOU). There would be an extension for the study of students’ attitude of PU and PEOU on the delivery of fraud accounting by means of movie. From the preceding literatures, the following four hypotheses were developed.

Hypothesis 1: The perceived usefulness (PU) of movie has significant effect on the perceived ease of use (PEOU) of movie for learning.

Hypothesis 2: The perceived usefulness (PU) of movie has significant effect on the technology acceptance (TA) of using movie to learn accounting.

Hypothesis 3: The perceived ease of use (PEOU) of movie has significant effect on the technology acceptance (TA) of using movie to learn accounting.

Hypothesis 4: The technology acceptance (TA) of using movie to learn accounting has significant effect on the belief to achieve better performance.

**Methodology**

This research has involved more than nine hundred undergraduates over three scholastic years. The current paper reported the results on one semester with the participation of 284 students from the five majors of event management, heritage management, hotel management, retail management and tourism management. These students were all taking the course of Management Accounting at the time of the research. The course covered eight topics and to control the setting for students to fully experience both traditional classroom learning (TCL) and learning through multimedia, the topic of accounting fraud with the usage of multimedia for teaching was designed as the last topic of the syllabus.
Survey approach was adopted using questionnaires with 101 questions. The questionnaire was developed based on past literatures (Rainsbury, Malcolm 2003, Lane, Porch 2002, Potter, Johnston 2006) with local considerations, the course structure and the topic of study. It constituted eight major parts on personal learning habits (8 questions), preference on education tools and perception on the accounting course (27 questions), preparation done before the movie (10 questions), perception on the movie (10 questions), perception on the usage of movie for learning (14 questions), the perceived usefulness and perceived ease of use of movie (11 questions), the differences in the extent of knowledge learnt on the core study objectives before and after the movie (15 questions), together with demographics. The Likert scale of 1 to 5 with 1 being extremely disagreeable (extremely difficult) and 5 being extremely agreeable (extremely easy) were used. The Technology Acceptance Model (TAM) was applied as the theoretical basis and four hypotheses were developed to study the acceptance of using multimedia for learning, through the two constructs of perceived usefulness (PU) and perceived ease of use (PEOU) of multimedia.

After data cleaning, eight samples were removed due to missing information, retaining 276 samples in the final analyses. The data was examined on reliability to ascertain suitability for the research analyses. The perception of the students on a list of traditional and non-traditional tools was identified, followed by their perception on the movie used in this research study. The technology acceptance of using the movie to learn accounting was then investigated based on the Technology Acceptance Model, through examining the variances of the group means and the correlations. This was supplemented by the study on the perceived effect of technology acceptance on the belief to achieve good performance. To further understand the effectiveness of using multimedia to learn accounting, the extent of knowledge learnt on the core objectives of the topic before and after the movie was studied.
Findings and Discussions

Demographics and reliability

For the 276 completed questionnaires, 31% were male and 69% were female, with 76% local Macao students and 24% international students. Around 70% of students aged 19 or below and the distribution within the five majors of event, heritage, hotel, retail and tourism management were 24%, 8%, 33%, 11% and 24% respectively.

The reliability of the data was measured by means of Cronbach’s coefficient alpha (Cronbach 1951) on the internal consistency. A high alpha score of 0.96 (n=85) was recorded on the overall data set and this was far more satisfying than the minimum required internal consistency of 0.70 (Nunnally, Berstein 1994). For the particular sections, personal learning habits attained an alpha score of 0.71 (n=8), preference on education tools and perception on the accounting course 0.90 (n=27), perception on the movie 0.87 (n=10), perception on the usage of movie for learning 0.88 (n=14), the perceived usefulness and perceived ease of use of movie 0.87 (n=11) and the differences in the extent of knowledge learnt on the core study objectives before and after the movie 0.91 (n=16).

Preference on education tools

The preference of students on the type of education tools that they would like to use for the study of accounting was examined from a list of eight traditional and non-traditional tools. These included traditional classroom lecture, online teaching, PowerPoint slides, video, movie, non-electronic games, electronic games and discussion forum (e.g. Facebook). From the results (Figure 1), video is most highly preferred by students (60%) and this is followed by movie (59%). Traditional classroom lecture and online teaching are least preferred by students at 34% and
33% only. This high preference of students conceptually reflected their acceptance to use movie for the learning of accounting.

![Figure 1 The preference of education tools on the study of accounting](image)

**Perception on the features of movie**

To further understand the perception of students on the usefulness of using movie as a learning tool, their perception on the movie shown was investigated. As shown in Figure 2, aside from the factor that the movie is interesting, when only 25% of the students agreed, the remaining nine variables under study reported positive responses from majority of the students. The movie was found to be informative (66%), rich in ethical (63%) and accounting (52%) information. It has helped the students at understanding the importance of ethical decisions made by management (62%), the importance of management decisions at maintaining an ethical culture in the organization (59%) and the impact of accounting fraud on the organization and the society (56%). In addition, it was believed to be more effective than using textbook alone at delivering the importance of management decisions (56%), the impact of accounting fraud (56%), as well as the importance of ethical decisions (55%).
The Technology Acceptance Model (TAM)

Following the corroboration that students conceptually prefer to learn accounting through the use of movie and the strengths of movie at delivering the course objectives, the statistical acceptance on the use of movie to learn accounting courses was studied by means of the theoretical model, Technology Acceptance model (TAM). The TAM stated that the perceived usefulness of a technology will affect the perceived ease of use on that technology. These two factors in turn will determine the acceptance of the technology, termed technology acceptance. The differences between the group means of variables under study were analyzed by means of the Analysis of Variance (ANOVA) and the assumption on homogeneity of the variance was examined by the Levene’s test.
Table 1 Analysis of Variance (ANOVA) and Levene statistics on hypotheses

<table>
<thead>
<tr>
<th>Dependent variable</th>
<th>Factor</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.*</th>
<th>Levene statistic</th>
<th>Sig.</th>
<th>H</th>
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</thead>
<tbody>
<tr>
<td>Technology</td>
<td>Perceived usefulness</td>
<td>Between Groups</td>
<td>20.74</td>
<td>4</td>
<td>5.19</td>
<td>23.94</td>
<td>0.00</td>
<td>0.71</td>
<td>0.59</td>
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<td></td>
<td></td>
<td>Within Groups</td>
<td>58.69</td>
<td>271</td>
<td>0.22</td>
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<td></td>
<td></td>
<td>Total</td>
<td>79.43</td>
<td>275</td>
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<tr>
<td>Acceptance</td>
<td>Perceived usefulness</td>
<td>Between Groups</td>
<td>19.59</td>
<td>4</td>
<td>4.90</td>
<td>22.18</td>
<td>0.00</td>
<td>0.70</td>
<td>0.59</td>
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<td></td>
<td></td>
<td>Within Groups</td>
<td>59.84</td>
<td>271</td>
<td>0.22</td>
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<td>Total</td>
<td>79.43</td>
<td>275</td>
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<tr>
<td>Perceived ease</td>
<td>Perceived usefulness</td>
<td>Between Groups</td>
<td>95.72</td>
<td>4</td>
<td>23.93</td>
<td>46.56</td>
<td>0.00</td>
<td>6.50</td>
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<td></td>
<td></td>
<td>Within Groups</td>
<td>139.28</td>
<td>271</td>
<td>0.51</td>
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<td></td>
<td></td>
<td>Total</td>
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<tr>
<td>of use</td>
<td>Belief on better</td>
<td>Between Groups</td>
<td>73.22</td>
<td>37</td>
<td>1.98</td>
<td>3.69</td>
<td>0.00</td>
<td>2.21</td>
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<tr>
<td></td>
<td>performance</td>
<td>Within Groups</td>
<td>127.77</td>
<td>238</td>
<td>.54</td>
<td></td>
<td></td>
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<td></td>
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<td>Total</td>
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H = Hypothesis; *significant at p<.01 (two-tailed)

From Table 1, the Levene statistics were all insignificant that complied with the assumption for ANOVA. For the four hypotheses, all F-value were significant at p<.01, this implied that the perceived usefulness (PU) of movie has significant effect on the perceived ease of use (PEOU) of movie for the learning of accounting (Hypothesis 1, F=23.94); the perceived usefulness (PU) of movie has significant effect on the technology acceptance of using movie to learn accounting (Hypothesis 2, F=22.18); and the perceived ease of use (PEOU) of movie also has significant effect on the technology acceptance of using movie to learn accounting (Hypothesis 3, F=46.56). Moreover, the technology acceptance of using movie to learn accounting has significant effect on the belief that better performance can be achieved (Hypothesis 4, F=3.69). These supported all the three hypotheses H1, H2, H3 and H4.

To further explore the relationship between the perceived usefulness, perceived ease of use and technology acceptance of movie, as well as the resulting influence on the belief to achieve better performance, the correlation of the variables was studied by the Pearson correlation (ρ). The Pearson correlation coefficient will indicate the direction and magnitude of
the association between the variables (Bobko 2001). Results showed that all the variables demonstrated significant correlation.

The perceived usefulness and perceived ease of use of movie has a significant positive correlation ($\rho=+0.635$, $p<.01$). The correlation between the perceived usefulness (PU) of using movie to the technology acceptance of using movie to study accounting ($\rho=+0.508$, $p<.01$) was slightly higher than that between the perceived ease of use (PEOU) of using movie to technology acceptance (TA) of movie ($\rho=+0.478$, $p<.01$). The technology acceptance of using movie was also showed a significant positive correlation to the belief of students that they can achieve better performance ($\rho=+0.539$, $p<.01$).

**Extent of knowledge learnt**

To further understand the influence of technology acceptance on the movie as an education tool in the regard that it could improve the performance of students, the extent of knowledge that was learnt through the movie was studied.

![Figure 3 Percentage of students expressing better understanding on the topic areas of study](image)
From 3, obvious improvement was recorded on the major areas of study after the watching of the movie. Around 53% of students expressed they have better understanding on the meaning of accounting fraud, when 49% of students have same feeling on the influences. Similarly, 49% of students reported that have better understandings on accounting scandal, 47% of students indicated this perception for the causes of accounting fraud and 46% perceived better understanding on the code of ethics after watching the movie.

Conclusions

Teaching fundamental accounting concepts and techniques may be inadequate for the students to stay competitive when they join the industry. Owing to the continuous concern of accounting fraud from the public after the incidents like Enron and Worldcom, the importance of making ethical decisions are assured and the inclusion of accounting fraud into accounting courses has proved to provide solid benefits for both students and employers. In order to facilitate the non-accounting major students in tourism and hospitality majors with this knowledge, the usage of movies to teach fraud accounting in traditional classroom learning is found to have a positive impact on the students in understanding the topic.

Amongst eight types of traditional and non-traditional education tools, movie was found to be the second most highly preferable education tool to study accounting. Moreover, through further investigation, movie is perceived to be informative and rich in ethical information that can help students to understand the importance of making ethical decisions. More important is the findings that it can ease the learning process and is more effective over traditional textbooks. The technology acceptance model (TAM) demonstrated the significant influence between the
perceived usefulness of movie, its perceived ease of use as well as the technology acceptance of using it as an education tool. In turn, the technology acceptance of using movie to learn accounting was found to affect the belief of students at achieving better performance. The extent of knowledge learnt on the major areas of accounting fraud and unethical decisions was elaborated through descriptive statistics, when around 50% of students expressed that have better understanding on each of the areas under study.
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