Redefining the Role of Mobile Phones in Accounting Education:
Exploring Students' Perspectives

Khulood khalifa almusalhi1*, Huria Saleem alabri2, Mohammed Muneerali Thottoli3
1,2,3Departement of Accounting, University of Nizwa, Nizwa, Oman

ABSTRACT

Equitable access, choosing suitable apps, eliminating distractions, assuring compatibility, and providing efficient teacher training for successful integration challenges with using mobile phones as teaching aids in accounting education. Hence the current research examines students' perceptions of using smartphones in accounting education. Quantitative data was gathered from 101 students in accounting programs at universities in Oman. The data is then analyzed using the Partial Least Square Structural Equation Modelling (PLS-SEM) technique. Both hypotheses are supported wherein students' perception of the use of mobile phones as a learning tool with accounting education shows p < 0. 001, t=4.896, and university/college policy on using mobile phones with accounting education show p < 0. 001, t=4.020. This result indicates that Students' Perceptions of (using mobile phones as a learning tool and university/college policy on using mobile phones) significantly impact accounting education.

Introduction

According to Sarwar and Soomro (2013), IBM's Simon smartphone marked the start of the smartphone era in 1993. Smartphones have proven to be one of the most rapidly spreading and extensively embraced technology worldwide (Degusta, 2012). Smartphones are becoming increasingly vital in medical practice, from patient monitoring and diagnostics to more effective medical teaching and communication (Ozdalga et al., 2012). Mobile, smartphone-based learning may be an alternative or supportive method for better education in many subject areas (Kim and Park, 2019).

Smartphones are most valuable when they are not utilized excessively. However, the rapid rise in smartphone use has demanded investigations into its detrimental
impacts. Some present teachers are debating using cell phones in formal and non-formal education. Some people think it's a helpful tool for learning on a smartphone, while others think it's a distraction for students learning on their phones. Given these variations, it's critical to investigate professors' perspectives on the usage of cell phones in higher education, particularly in poor nations (Iqbal & Bhatti, 2020). Internet access, computer, and communication technologies enable people to communicate with one another, create documents, read data and files, and discuss creativity. By allowing the users to receive emails and instant messages in text or multimedia formats, class notes, and audio and video files in 3G formats, tablet computers and the iPad, for instance, make it simpler to compute and communicate with others (Kutluk et al., 2015). The accounting profession needs to keep thinking, growing, and producing with a sense of responsibility to address the challenges of the digital age and influence the profession's future (Parlak, 2020).

The use of cell phones in teaching English as a foreign language was also discussed in a study from the Kingdom of Saudi Arabia that was presented. It was found that most educators use cell phones for tasks linked to higher education, such as browsing the Internet, sending and receiving emails, and using a variety of educational applications. However, according to the experts, one disadvantage to using smartphones for instructional purposes is student distraction (Dontre, 2021; Iqbal & Bhatti, 2020).

The smartphone provides a teaching resource in education. Still, it is now seen as a distraction in the classroom rather than a learning aid because it causes a distraction in the school when students are learning, which has detoured students' interest in class while they are studying. Multitasking and non-academic smartphone use significantly impact students' learning, resulting in decreased learning performance (Abbas et al., 2020).

Voshaar et al. (2023) revealed that severe mobile app users perform substantially better on the final exam than casual users. Due to cellophane's enormous versatility and internet capabilities, educators are emphasizing and highlighting their benefits
and taking considerable measures to reduce their disadvantages (Jabali et al., 2019). New technology in accounting education must be used to promote students' learning growth. Therefore, it is essential to encourage the use of digital technology in accounting education procedures. Digital tools must support students' learning as they progress through their accounting education. Information technology tools and systems are used in some universities to support teaching accounting courses and introduce students to fundamental accounting concepts (Berikol & Killi, 2021). The above challenges motivated the authors to examine students' perceptions of using smartphones in accounting education.

This study is critical because it tackles issues with mobile phone use in accounting education. By looking at students' perceptions, it offers insights into equitable mobile usage, proper app selection, distraction avoidance, compatibility assurance, and practical teacher training. According to the authors, the study's findings can improve educational practices, policies, and curricula by guaranteeing equal access, useful app selections, intense learning environments, seamless integration, and improved teacher training through mobile learning.

The study investigates students' attitudes toward integrating smartphones into accounting education by looking at their perceptions. This variable was chosen since it reflects the students' perceptions of the efficiency and utility of mobile devices as teaching aids in accounting. The study also looks into how college and university policies affect the use of mobile phones as teaching tools. This variable was chosen to investigate and better understand how those university or college regulations affect the integration process and may affect students' perceptions and experiences.

2. Literature Review
2.1 The Link between mobile phones and accounting education
The first mobile game software was created to enable students to learn accounting outside of the classroom in a fun way. Accounting Challenge, a free app for iPhone/iPad and Android, blends game-based learning with mobile learning to engage and motivate students who are digital natives (Seow & Wong, 2016). The results confirm that students' smartphone self-efficacy moderates smartphone use intent to learn and actual smartphone use. The current study also shows several implications for smartphone use and students' academic performance (Nand et al., 2020). The impact of smartphone use on students' participation in scientific activities and examining the barriers to smartphone use. According to the findings, students who learn remotely find it easier to utilize a smartphone.

Furthermore, the results revealed a negative impact on students in distance learning and some disincentive factors in using smartphones, such as freezing smartphones during critical learning moments, which causes distraction, and the sometimes-unstable Internet connection, which makes the smartphone unstable. Compared to laptops with huge, crisp screens and large keyboards, it's more convenient for studying (Darko-Adjei, 2019). Mr. A’s research indicates that iPods have a considerable portability advantage, allowing students to effectively use their time for planning and studying. Students who could bring iPods with them were better able to use downtime—like when commuting—for academic objectives (Richardson et al., 2013). Game-based mobile learning can improve the efficiency of education. The regression model demonstrates that information and service quality are reliable indicators of usage intention (Kao et al., 2023). Additionally, user satisfaction mediates the relationship between use intention and user pleasure, which favorably influences learning engagement (Kao et al., 2023).

Chua et al. (2018) intended to examine an interactive smartphone application to help school students who were under pressure and anxious, and they adopted a user-centered methodology and included students in the design phase to learn about their preferences and phone usage patterns. Smartphone data analytics and accompanying grammar learning algorithms have been developed by science. These
technologies can be influenced by multidimensional environments such as temporal, spatial, or social factors, thus researching the remaining issues. Traditional context-aware systems and technologies have received much attention, while systems relying on machine learning algorithms to make good decisions in each domain have received less attention. Different context-aware solutions allowing end users to aid themselves in their daily tasks intelligently can be built using domain-specific context-aware rules. When employing smartphones and other devices, machine learning presents a promising path for future research in many areas of learning (Sarker, 2019). College students of all levels should be encouraged to utilize cell phones for academic purposes, and frequent training should be provided for undergraduate students on how to get the most out of their smartphone's information access (Sambo et al., 2021).

**H1:** The use of mobile phones in learning will have a positive effect on accounting education.

**H2:** University/college policy will affect using mobile phones in accounting education.

The theoretical framework provides the theoretical underpinnings of this study's dependent variable, accounting education, and the independent variable, students' perceptions of using mobile phones. A logical theoretical framework was built to define the correlation between variables for an extensive literature review survey. The research questions will next be addressed by strengthening the research hypotheses. Figure 1 shows the research framework for this study. The dependent variable is accounting education, whereas the independent variable is students' perceptions of using mobile phones.
3. Methodology

The researchers will describe the research methodology in this chapter. Research methodology refers to the procedures for gathering and interpreting data for a study. This section covers the most crucial parts of research, such as research design, sampling, population techniques, measurement variables, units of analysis, measures taken, and data processing procedures. The data were analyzed using descriptive statistics. A questionnaire was used to obtain quantitative data in this quantitative technique. The project's dependent variable is accounting education. Students' perception of using mobile phones is the independent variable. This questionnaire is adapted from Alfraih and Alanezi (2016), which has attached in Appendix A.

Accounting graduates from Oman's Higher Education Institutions are among the participants in this study. A random sample of 101 Omani graduating students was used to assess Students’ Perceptions of using mobile phones in accounting education among graduating students in Oman. The study's unit of analysis was graduating accounting students from universities or colleges in Oman. The variables were measured using a set of survey tools that included questionnaires. The study's units of analysis are graduating students from universities or colleges in Oman.

The study surveyed in 2022 to determine the impact of students' perceptions of using mobile phones and accounting education among graduating students in
Oman. The data acquired in this study is evaluated using the Structural Equation Modeling of Partial Least Square (SEM-PLS) technique.

4. Analysis and Findings

4.1 Reliability Test

The current composite reliability (CR) scores are shown in Figure 2, and the Cronbach's Alpha (CA) values are shown in Figure 3. According to the findings shown in Figure 2, the constructs are reliable because the (CR) ratings for each construct are higher than the criterion of 0.70 that has been proposed by Hair et al. (2014), Fornell and Larcker (1981), and Nunnally (1978). Furthermore, the model meets the criteria suggested by Hair et al. (2017) and Latan and Ghozali (2015) because the average variance extracted (AVE) is greater than 0.50 (see Figure 4).

**Figure 2.** Composite Reliability

**Figure 3.** Cronbach’s Alpha
Figure 4. Average variance extracted

However, as shown by prior research (Franke & Sarstedt, 2019; Zaiț & Bertea, 2011) and supported by the results of this analysis, the HTMT (Heterotrait-Monotrait) ratios in this research, as presented in Figure 5, remained below the advised threshold of 0.90.

Figure 5. Heterotrait-Monotrait) ratio

4.2: Demographic characteristics

Below, Table 1 provides demographic information for the sample selected in the current study.

Table 1

Demographic characteristics

<table>
<thead>
<tr>
<th>Details</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>21</td>
<td>20.79</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-----------</td>
<td>-------</td>
</tr>
<tr>
<td>Female</td>
<td>80</td>
<td>79.21</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20</td>
<td>9</td>
<td>8.91</td>
</tr>
<tr>
<td>21-40</td>
<td>91</td>
<td>90.10</td>
</tr>
<tr>
<td>&gt;40</td>
<td>1</td>
<td>0.99</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100</td>
</tr>
<tr>
<td>Nationality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Omani</td>
<td>98</td>
<td>97.03</td>
</tr>
<tr>
<td>Non Omani</td>
<td>3</td>
<td>2.97</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100</td>
</tr>
<tr>
<td>Major</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting</td>
<td>64</td>
<td>63.37</td>
</tr>
<tr>
<td>Non-accounting</td>
<td>37</td>
<td>36.63</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100</td>
</tr>
<tr>
<td>Graduation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Graduated</td>
<td>54</td>
<td>53.47</td>
</tr>
<tr>
<td>Not Graduated</td>
<td>47</td>
<td>46.53</td>
</tr>
<tr>
<td>Total</td>
<td>101</td>
<td>100</td>
</tr>
</tbody>
</table>

### 4.3 Descriptive Statistics

The statistics in Table 2 below show that the mean average of the dependent variables, accounting education, represents 3.629 with a standard deviation of 0.910. While for the independent variable, students' perception of using mobile phones as a learning tool shows a mean of 3.720 with a standard deviation of 0.929. Further, for the second independent variable, university/college policy on using mobile phones shows a mean of 3.286 with a standard deviation of 0.923.
Table 2

Descriptive Statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Mean</th>
<th>Min</th>
<th>Max</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Education</td>
<td>3.629</td>
<td>1.000</td>
<td>5.000</td>
<td>0.910</td>
</tr>
<tr>
<td>Students Perception</td>
<td>3.720</td>
<td>1.000</td>
<td>5.000</td>
<td>0.929</td>
</tr>
<tr>
<td>University Policy</td>
<td>3.286</td>
<td>1.000</td>
<td>5.000</td>
<td>0.923</td>
</tr>
</tbody>
</table>

4.4 Discriminant Validity Construct

Before evaluating the hypotheses, it is necessary to assess the measurement model's convergent and discriminant validity. The study's discriminant validity is summarized in Table 3. Estimates of the link between the latent variables and their indicators are critical in developing the reflective measurement model. Each variable's root-squared AVE must have a high correlation level with the other variables, and the study results show this. As Fornell & Larcker (1981) pointed out, the validity of the distinction must be tested by comparing the square root of each item in its AVE to the variable associations of all other things in the study.

Table 3

Discriminant Validity

<table>
<thead>
<tr>
<th>Variables</th>
<th>Accounting Education</th>
<th>Students Perception</th>
<th>University Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting Education</td>
<td>0.852</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Students' Perception</td>
<td>0.741</td>
<td>0.878</td>
<td></td>
</tr>
<tr>
<td>University Policy</td>
<td>0.698</td>
<td>0.674</td>
<td>0.828</td>
</tr>
</tbody>
</table>

R² is used to evaluate endogenous constructs' structural or Inner models. Start by looking at the R² for the latent endogenous construct variable, Accounting Education accomplishes a value of 0.621 (confirm substantial value), which has further shown
62.1% confirm the significant value of the variance students' perception on the use of mobile phones as a learning tool and university/college policy on using mobile phones. Table 4, Explanation of the Variance, shows the value of R Square and R Square Adjusted.

**Table 4.**

Explanation of the Variance

<table>
<thead>
<tr>
<th>Exogenous Variables -&gt; Endogenous (Accounting Education)</th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0.621</td>
<td>0.613</td>
</tr>
</tbody>
</table>

4.5 Hypothesis Testing

Table 5, Path Coefficients, shows the path coefficient of independent variables, students' perception of the use of mobile phones, and university/college policy on using mobile phones with the dependent variable Accounting Education. According to the PLS results, both hypotheses are supported wherein students' perception of the use of mobile phones as a learning tool with accounting education shows \( p < 0.001, t=4.896 \), and university/college policy on using mobile phones with accounting education shows \( p < 0.001, t=4.020 \). This result indicates that students’ Perceptions of using mobile phones as a learning tool and university/college policy on using mobile phones significantly impact accounting education.

**Table 5.**

Path Coefficients

<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Original Sample (O)</th>
<th>Sample Mean (M)</th>
<th>Standard Deviation (STDEV)</th>
<th>t-value</th>
<th>P Values</th>
<th>Supported/Not Supported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students perception -&gt; Accounting Education</td>
<td>0.496</td>
<td>0.492</td>
<td>0.101</td>
<td>4.896</td>
<td>0.000</td>
<td>***Supported</td>
</tr>
<tr>
<td>University Policy -&gt;</td>
<td>0.363</td>
<td>0.372</td>
<td>0.090</td>
<td>4.020</td>
<td>0.000</td>
<td>***Supported</td>
</tr>
</tbody>
</table>
5. Discussion

5.1 Impact of Students’ Perception of using mobile phones in accounting education:

The current study intends to investigate students' opinions of using mobile phones for learning and their insights into their actual use of studying smartphones in accounting education. Students use mobile phones to seek teacher assistance on assignments, communicate with other students on class projects, submit work to teachers, and receive peer tutoring.

The impact of smartphone use on students' participation in scientific activities and examining the hurdles to smartphone use. Students who learn remotely find it easier to utilize a smartphone. The study observed the effects of how students perceived using their phones while taking accounting classes. Based on the examination of Table 5's Path Coefficients, the findings confirmed the first hypothesis, H1, which claimed that students' perceptions of mobile phones as learning tools were positively linked to accounting education, was confirmed by a significant relationship (p 0.001,
t = 4.896). For a variety of reasons, mobile phones are important in accounting teaching.

The reason for supporting the hypothesis, H1, might be that students utilize their mobile devices to ask teachers for help with tasks. This lets them quickly clear up questions and get direction, improving their learning experience. Second, using a mobile device makes it easier for students to work together on class assignments, encouraging active learning and information sharing. Thirdly, students can easily submit coursework using their mobile devices, which reduces the need for physical submissions and increases productivity. Last but not least, students can obtain peer tutoring through their mobile devices, linking them with classmates who are knowledgeable about accounting and creating a positive learning environment. To support this finding, Richardson et al. (2023) found that students may utilize their time wisely thanks to the portability of iPods, especially while traveling, which encourages effective studying and planning. They also observed that iPods benefit visual learners who prefer to learn visually. However, Marzuki et al. (2019) found that since mobile apps have not been incorporated into the accounting teaching techniques, students might not be aware of the potential of mobile app technology in the topic. This is probably because they have not used this tool for learning.

4.2 Impact of University/college policy on using mobile phones in accounting education

The study looked at how mobile phone usage in accounting education was affected by university/college policies. The impact of university/college policy on using mobile phones in accounting education shows a significant relationship (p < 0.001, t = 4.020). This finding supports hypothesis H2, which states that university/college policy influences the use of mobile phones in accounting education, by showing that university/college policy on mobile phone usage has a significant impact on accounting education. Several factors support this notion. First, if the institution or college has a reasonable policy regarding mobile phone use while on campus, students might feel more at ease doing so.
They may fully use the advantages of mobile phone usage in their accounting education because they are less concerned about penalties or stringent limits. Second, allowing students to use their phones whenever they want gives them easy access to instructional tools and information. Unrestricted access encourages interaction with accounting materials and ongoing learning, which can improve students' academic results. Thirdly, students are more likely to view mobile phones as a valid and accepted learning tool if the institution or college has a fair mobile phone policy in place. This viewpoint may improve motivation and interest in using mobile devices for learning, benefiting students' accounting education. Likewise, Kutluk et al. (2015) pointed out that most students who frequently use mobile devices for learning and educational purposes think using such devices for studying accounting would be practical since it would enable instant information access, quicker research and homework completion, and the flexibility to study anywhere. Asghar et al. (2021) stated that for poor students to complete their studies without hindrance during the Covid-19 pandemic, they should be given free cell phones. Students should have access to cloud services through their universities.

6. Conclusion

The current research examines students' perceptions of using mobile phones to learn and their insights into their actual use of smartphones in accounting education. The study sought to test two hypotheses: one that suggested that mobile phone usage would benefit accounting education, and the other that looked at how university/college policies may affect the inclusion of mobile phones in accounting education. Quantitative data was gathered from students in accounting programs at universities in Oman. The data is then analyzed using the Partial Least Square Structural Equation Modelling (PLS-SEM) technique.

Both hypotheses are supported wherein students' perception of using mobile phones as a learning tool with accounting education and university/college policy on using mobile phones has also had significant and positive effects on accounting education. This result indicates that Students' Perceptions of (using mobile phones as a learning
tool and university/college policy on using mobile phones) significantly impact accounting education.

7. Implications

The study's findings add to the body of theoretical knowledge regarding using mobile devices as teaching aids in accounting education. The study sheds light on how mobile phones might be efficiently used in educational settings by studying students' attitudes and usage. This adds to the body of knowledge on technology integration and emphasizes the role of mobile technology in enhancing learning opportunities. The results underscore the importance of developing policies to establish a favorable learning environment that optimizes the advantages of mobile phones while reducing potential distractions. This advances theoretical knowledge of how institutional policies, technology adoption, and educational results interact.

Educators should be aware of the potential of smartphones to improve educational opportunities and consider utilizing mobile applications to accommodate various learning styles, including auditory, kinesthetic, and visual modalities. The importance of university/college regulations on cell phone usage in accounting education underscores organizations' need to set up precise rules. The use of mobile devices for studying should be encouraged by educational institutions, but regulations that handle possible distractions or negative effects of excessive smartphone use should also be developed. Educational institutions should raise awareness about smartphone addiction and take action to help students form good smartphone habits so that their studying and general academic success aren't hindered by excessive phone use. It can increase student engagement, encourage active learning, and better prepare accounting students for the modern workplace by integrating mobile applications and technology-enhanced methods.
8. Limitations and future research directions

Limitations include the study's narrow focus on accounting students in Oman, possible biases in self-reported data, reliance on quantitative analysis without in-depth qualitative research, deletion of certain significant variables, and the time-sensitive nature of technology.

The existing findings can be built upon, and numerous areas of investigation can be addressed in future research initiatives in the domain of mobile phone usage in accounting education. First, researching how well specific mobile applications and learning platforms might improve accounting education results will give teachers and curriculum designers helpful information. To further comprehend the long-lasting advantages, longitudinal studies should be conducted to evaluate the long-term effects of mobile phone integration on students' academic achievement and professional development in accounting. Additionally, investigating how instructors influence and facilitate the use of mobile phones in accounting instruction can provide tactics and best practices for successful deployment.

References


