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The Perception of Students and Lecturers towards Using The OME System in Learning Business Finance in Vocational Colleges, Malaysia

Zi Jian Oh[1], Mustapa Hj Kamar[2], Marina Rahman[3], Siti Khadijah Ahmad Ramli[4], Syaiffuldin Mohamad[4] and Hwei Chin Chin[5]

[1]Department of Business Management, Batu Lanchang Vocational College, Penang, Malaysia, [2]Department of Business Management, Sultan Ahmad Shah Vocational College, Pahang, Malaysia, [3]Quality Assurance Sector of Tun Hussein Onn Vocational College, Johor, Malaysia, [4]Department of Business Management, Port Dickson Vocational College, Negeri Sembilan, Malaysia, [5]Department of Business Management, Butterworth Vocational College, Penang, Malaysia

Email: ohzijian@gmail.com

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Abstract

Analysis ratio is an important concept that students who study Business Finance need to capture when they enroll in the Diploma of Business Management program in vocational colleges. However, students are facing difficulties in calculating the ratios correctly which handicaps their understanding of the topic and consequently makes wrong decisions in determining a company's performance. It has been identified that the reason for their struggles is the many ratio formulas that they need to remember. Therefore, researchers took the initiative to create the OME System to assist students to memorize financial ratio formulas and evaluate a company's performance correctly. In terms of originality, the OME system is the first innovation in the vocational education setting for the Business Finance course. This study aims to describe the OME System and the perception of students and lecturers towards using the OME system in learning analysis ratios in business finance. Quantitative data were gathered from 80 students and 17 lecturers from nine vocational colleges located in the states of Penang, Pahang, and Negeri Sembilan, Malaysia by using a survey. The sampling technique used in this study was convenient sampling. The findings showed that the OME system could serve as instructional and learning materials for Business Finance educators and students in vocational colleges. Besides, the system helped strengthen the memorization of financial ratio formulas among lecturers and students. In addition, students were able to evaluate and make appropriate decisions on a company's performance based on the application of the system

accurately. On top of that, students could compare financial statements across timeframes and industry average ratios efficiently. The system is time-saving in determining financial ratios instead of calculating them manually. Further research will be taken into consideration to extend the potential of the OME system across business programs offered by vocational colleges in Malaysia.
Keywords: Business Finance, OME System, Instructional and Learning Materials, Vocational College

Introduction

Digital accounting has emerged as a result of globalization, with new ways of sharing information and, in particular, the digitalization of the profession. Accounting-based subjects in business management programs must keep pace with technological advancements in order to prepare students for the challenges of Industrial Revolution 4.0 environments. In early 2020 when the COVID-19 struck the world, companies and educational institutions, among others, were reluctantly fast to make adjustments in their working and teaching routines. What was used to be done through physical encounters and meetings had shifted to a remote format. As a result, lecturers and students had to adjust to a new way of completing the chores that they had previously done in person. One of the most difficult issues that teachers encountered during the suspension of face-to-face classes was figuring out how to use technology to make teaching more efficient and effective (Bastos et al., 2022). This situation is particularly distressing for Business Management lecturers in Malaysian vocational colleges, especially those who teach business finance. Business finance is one of the difficult subjects which lecturers emphasize less due to heavy workload and pressure compared with other examination subjects (Khoo et al., 2020). Hence, effective tools are needed to enhance students' understanding of one of the key concepts in business finance (Yin et al., 2022).

Students and technology are aligned to create new learning possibilities, therefore, there is a need for educators to develop digital learning tools, such as systems, to enhance students' understanding. Furthermore, in order to contribute to students' learning achievement, teaching and learning approaches are always improving (Ribeiro et al., 2022). Lecturers must also be innovative in their use of their techno-pedagogy skills, which refers to their ability to make lessons entertaining through technology and imaginative ways (Yusof et al., 2019). A variety of relevant training methods will provide lecturers with suggestions for changing their teaching styles in order to better prepare the next generation for the workplace, especially in the vocational college context (Alias et al., 2022).

However, a previous study by Mat et al (2022) showed that online learning has a scarcity of high-quality learning materials to rely on. Besides, in order to improve student performance in business finance, there must be greater time for revision and research of each topic. Therefore, online learning must be integrated with various learning methodologies in order to assist and improve students' learning. Meanwhile, the lecturer is up against challenges in getting students to grasp the analysis ratio concept and develop problem-solving skills to tackle a real-world situation. Students' lack of logical, creative, and critical thinking leads to flaws in problem-based learning implementation (PBL) (Kadar et al., 2021). Understanding the obstacles could be useful for lecturers in their attempts to provide a platform for creative ways to student-centered learning for 21st-century learners (Haron et al., 2021). Due to advancements in technology, improved accessibility, user acceptance, and

the affordances of mobile devices, the use of educational mobile apps in teaching and learning is becoming increasingly popular (Zakaria et al., 2019). Significant research has shown that a growing number of teachers are getting used to digital-related devices and platforms in their teaching and learning sessions. However, not much research has been done to find out how teachers and students react to using digital platforms in a vocational college setting in Malaysia. In order to encourage readers to gain a deeper understanding of this topic, it is necessary to conduct this study to solve the problem faced by lecturers and students who teach and take Business Finance course, particularly in understanding analysis ratios, which the researchers have taken the initiative to develop the OME system. It is also set to be the first financial ratio mobile application that uses Bahasa Malaysia as its medium, which can be an interesting feature for many vocational colleges and government-aided educational institutions since Bahasa Malaysia is their main medium in teaching, learning and assessment. The main objective of this study is to describe the OME system and the perception of students and lecturers towards the OME System in vocational colleges.

Literature Review

The OME System

The delivery method in teaching business finance to vocational students may have an impact on their learning outcomes. With that in mind, the OME System was developed to assist students to memorize and apply financial ratio formulas correctly which later will help them evaluate a company's financial status accurately. Then, the evaluation of the company's financial status will further guide them to make appropriate decisions for the company. When this cycle is completed successfully, learners or students are considered as being able to grasp the key concepts of financial ratios in business finance subject.

The team created the OME System using Microsoft Excel. In a study on spreadsheet usage, Ghani and D'Mello (1993) examined the learning experience of a sample of graduate students who were assigned a spreadsheet-based finance case study to understand the motivational aspect of learning with spreadsheets. Dania et al (2019) surveyed individuals who enjoyed spreadsheet-based activities and were more likely to repeat it, thereby refining their understanding of the applicable subject matter and spreadsheet usage skills. The implication for instructors integrating spreadsheets as a teaching tool is that they should design instructional flow for the course which creatively blends discipline as well as spreadsheet knowledge. The innovative features of the OME system are data will be analyzed automatically, users will have easy access and mobility, the system is user-friendly; and formulas are calculated automatically. This infinite technology allows teaching and learning to take place at any time, without the need for students to be in a classroom. It also aids in the improvement of teacher-student communication (Osman, 2021). The interface of the OME System is displayed in Figure 1 and the overview of system functionalities are visually described in Figure 2.

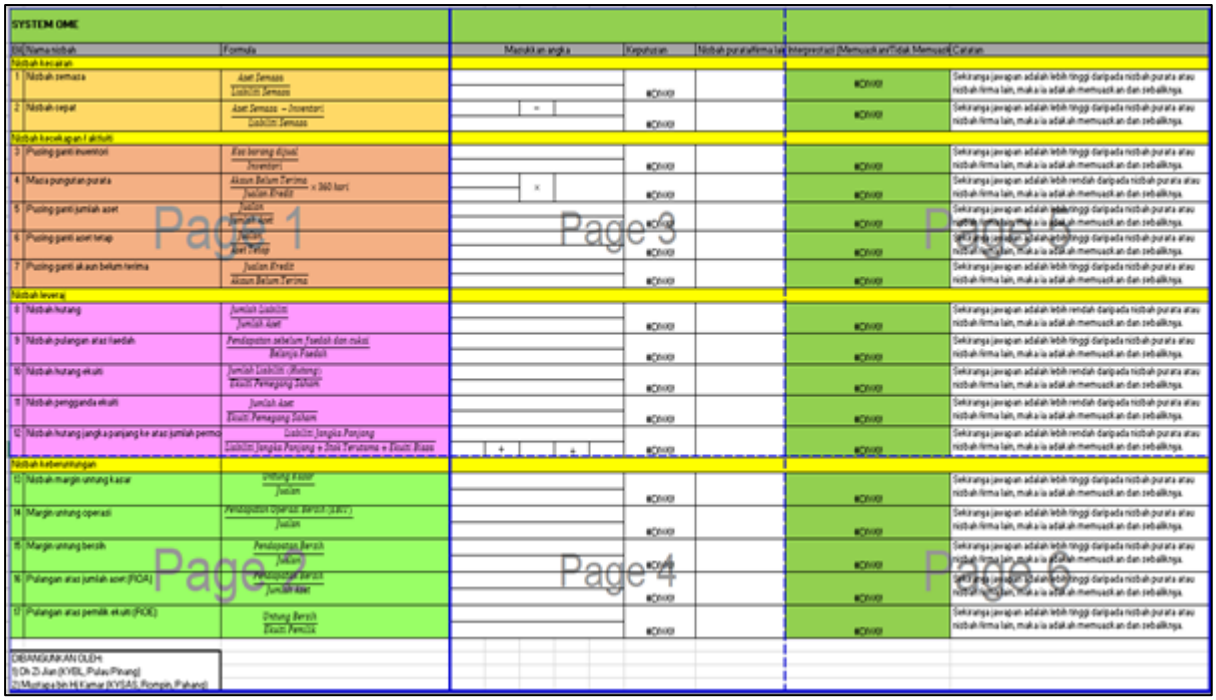


Figure 1: OME System

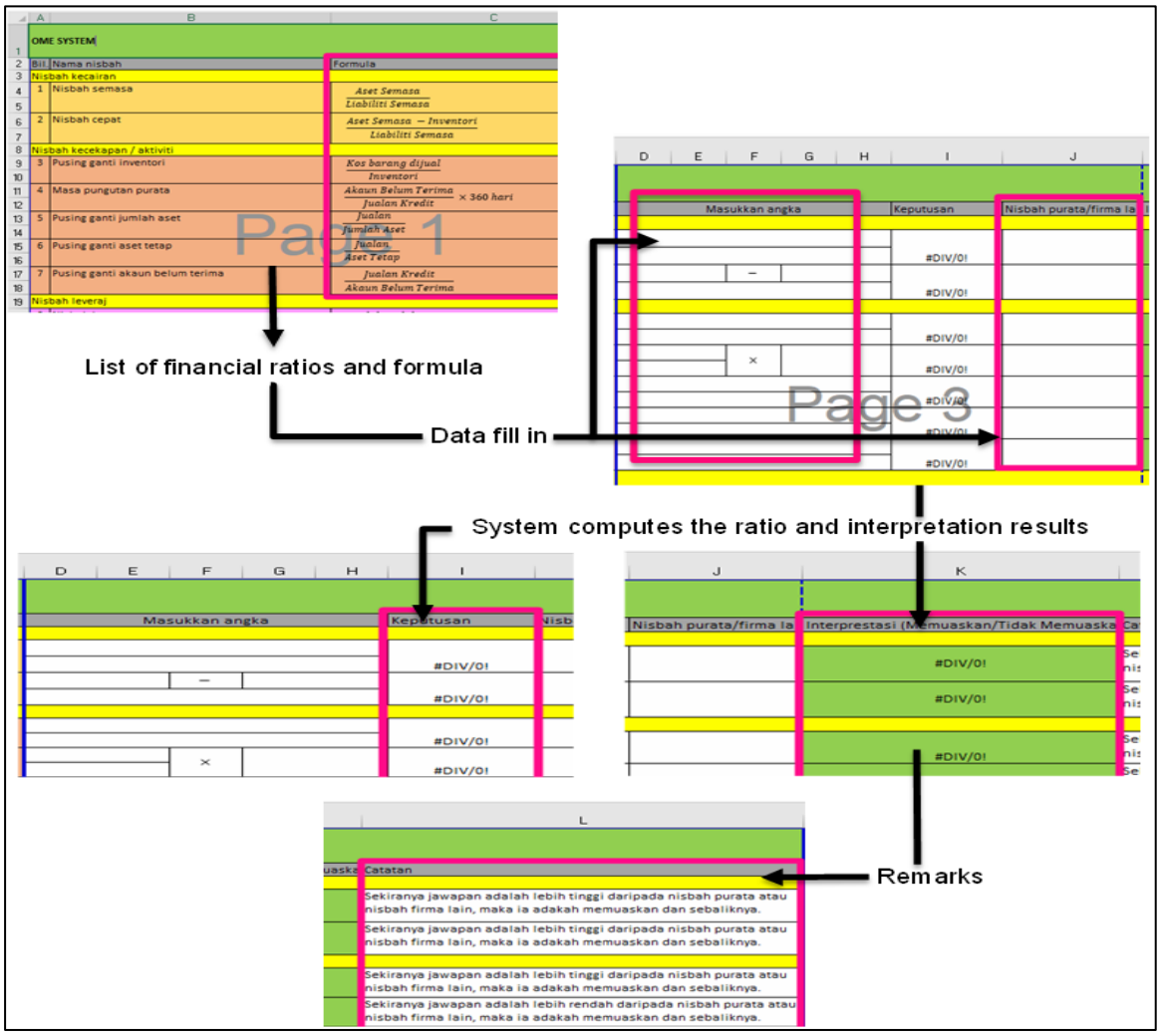


Figure 2: Overview of system functionalities

This OME System is using Microsoft Excel and its interface lists 17 financial ratios and displays the formula for each ratio (Figure 3). This displayed formula (Figure 4) can assist students to unconsciously memorize and calculate all financial ratios related to the Business Finance course. To run this OME system, students need to key in the data. At this stage, it is critical that students key in the data correctly in the given formula. Students need to key in data based on the displayed formula (Figure 5) and key in the industry average ratio as given in the question (Figure 7). Then, the system will automatically generate the result of the calculation (Figure 6) and generates an interpretation (Figure 8) of the company's performance which is derived from the comparison of Figure 6 and Figure 7. The explanation for the interpretation (Figure 9) of company performance will assist students to make decision on a company's performance based on the interpretation results.

Figure 3: OME System (List of financial ratios)

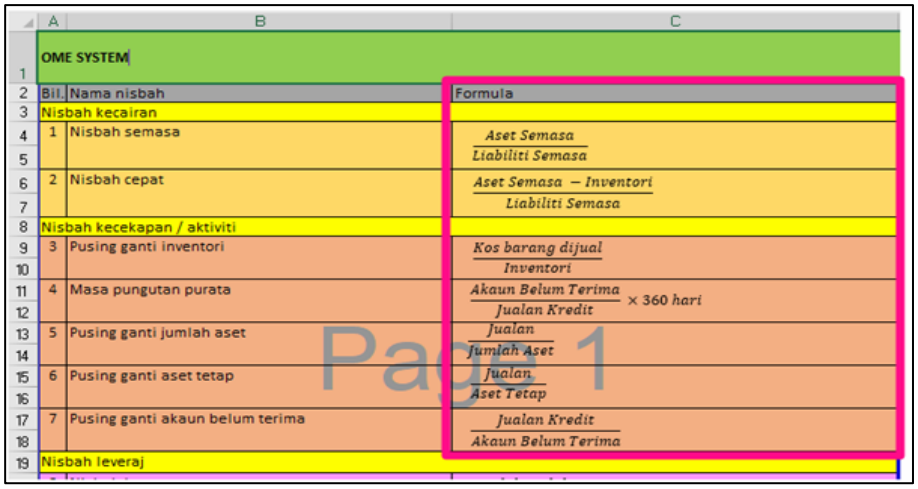


Figure 4: Formulas

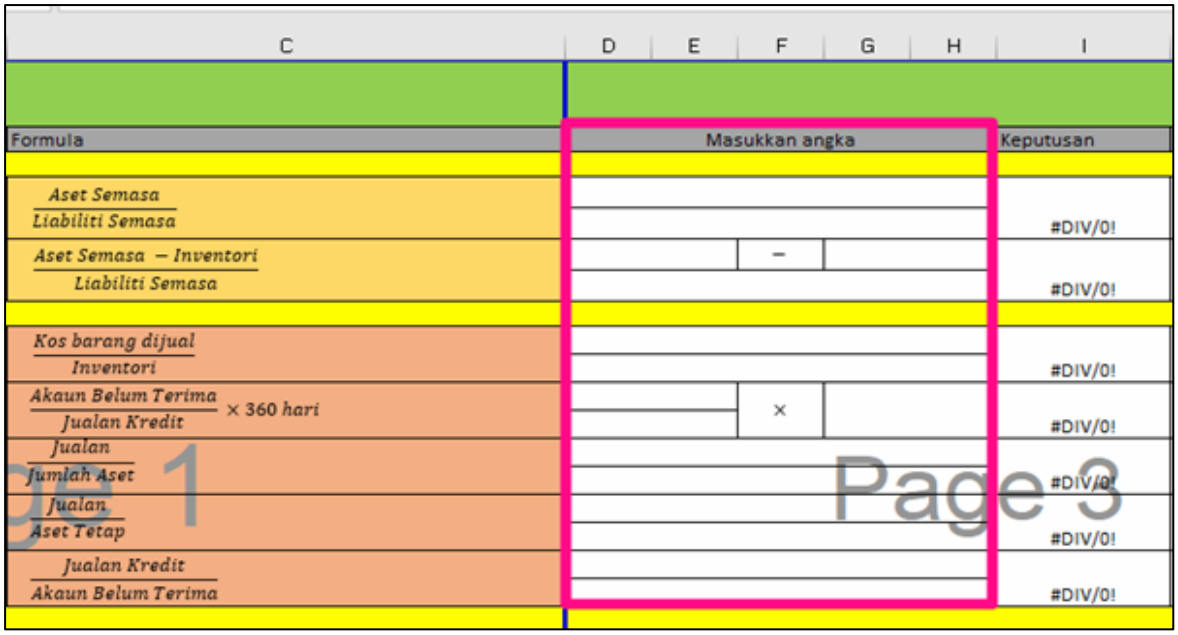


Figure 5: Fill in the data

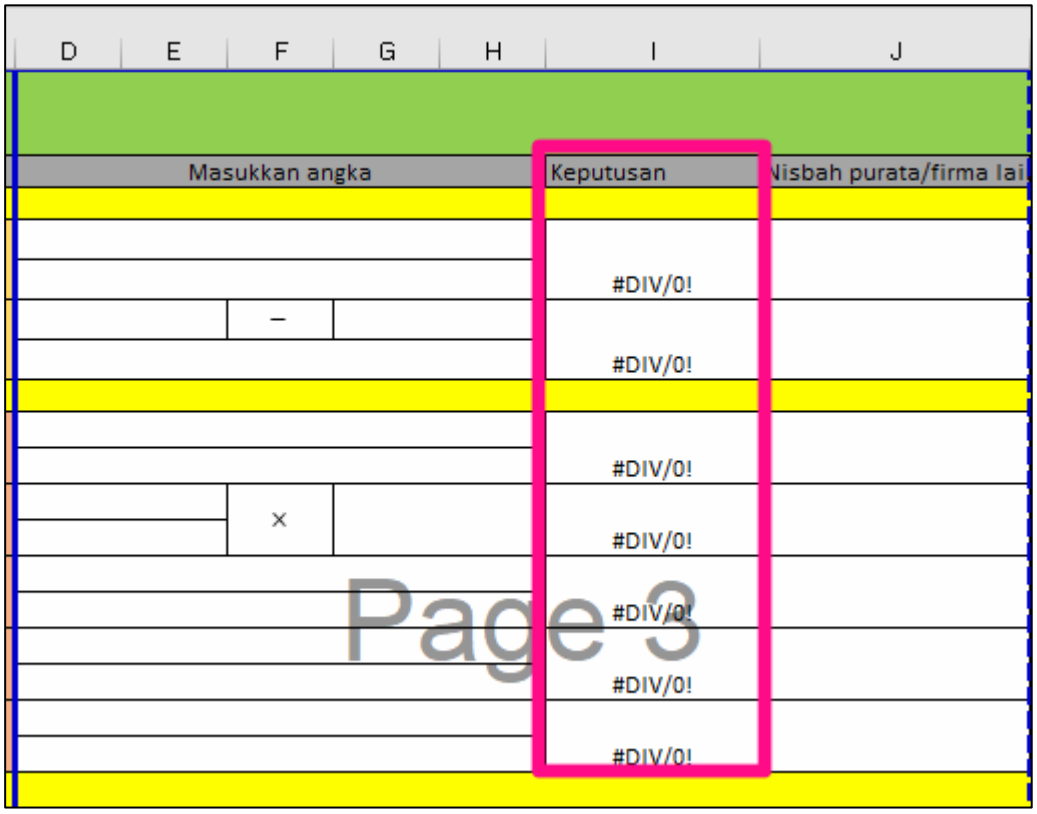


Figure 6: Result

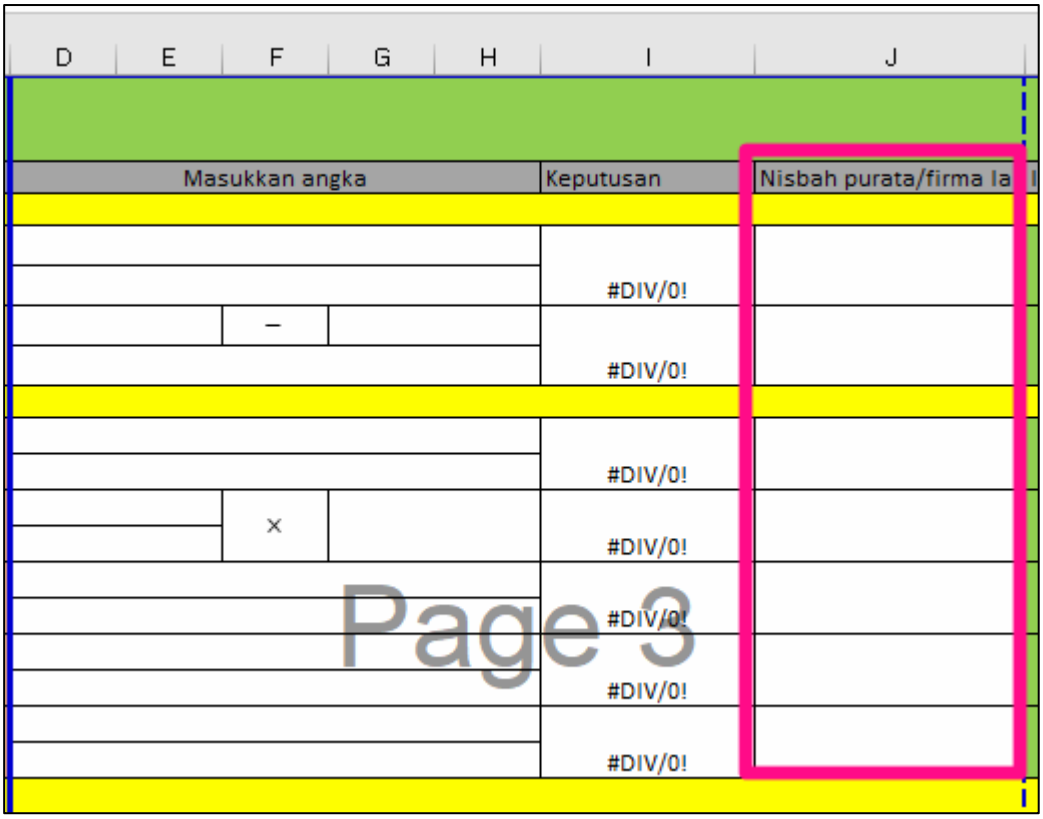


Figure 7: Industry average ratio

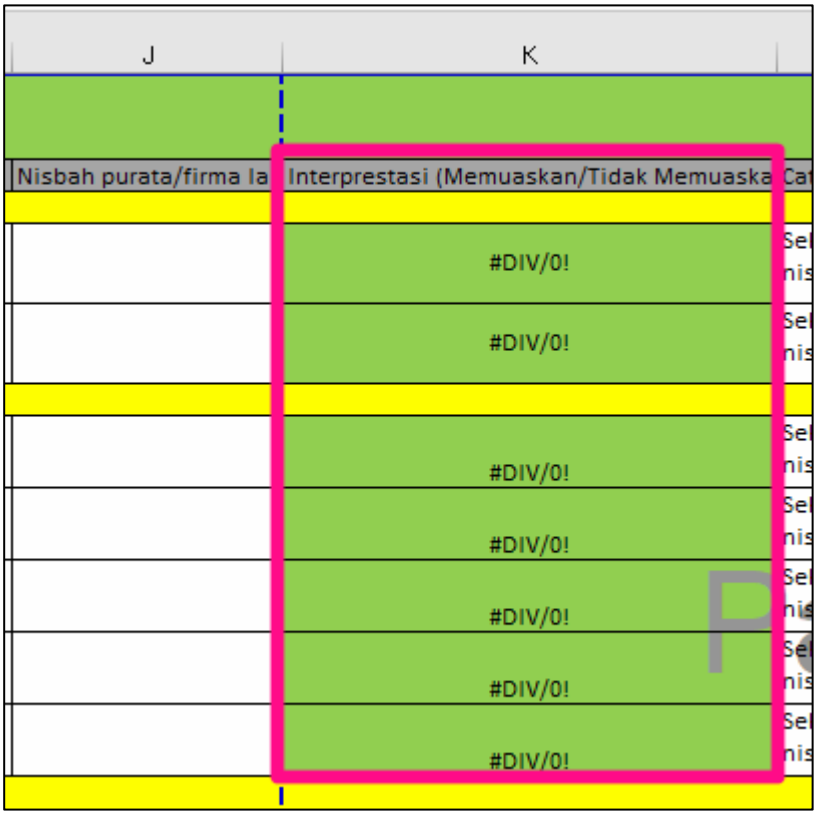
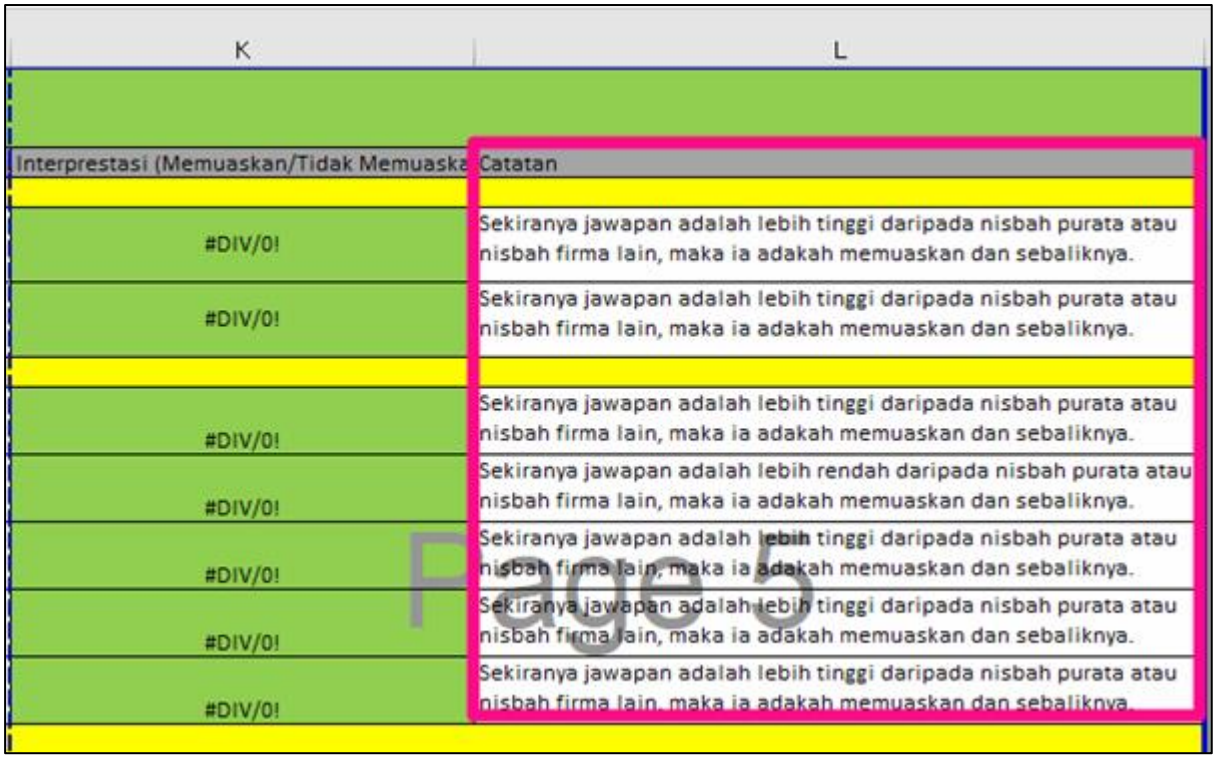


Figure 8: Interpretation



K	L
Interprestasi (Memuaskan/Tidak Memuaska	Catatan
#DIV/0!	Sekiranya jawapan adalah lebih tinggi daripada nisbah purata atau nisbah firma lain, maka ia adakah memuaskan dan sebaliknya.
#DIV/0!	Sekiranya jawapan adalah lebih tinggi daripada nisbah purata atau nisbah firma lain, maka ia adakah memuaskan dan sebaliknya.
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#DIV/0!	Sekiranya jawapan adalah lebih rendah daripada nisbah purata atau nisbah firma lain, maka ia adakah memuaskan dan sebaliknya.
#DIV/0!	Sekiranya jawapan adalah lebih tinggi daripada nisbah purata atau nisbah firma lain, maka ia adakah memuaskan dan sebaliknya.
#DIV/0!	Sekiranya jawapan adalah lebih tinggi daripada nisbah purata atau nisbah firma lain, maka ia adakah memuaskan dan sebaliknya.
#DIV/0!	Sekiranya jawapan adalah lebih tinggi daripada nisbah purata atau nisbah firma lain, maka ia adakah memuaskan dan sebaliknya.

Figure 9: Remarks

Teachers' and Students' Perceptions towards the System

Teachers who are knowledgeable, capable and skilled can be a contributing factor in the quality of their teaching and students' learning. These teachers are also competent to develop efficient instructional material for students which later on be able to enhance students' understanding in all the subjects that are being taught in the schools or colleges through the delivery methods, contents and activities by using the system, database or spreadsheet. Spreadsheets are one of the most widely and frequently used general software packages in businesses and emphasis on education towards variety of subjects (Serra et al., 2018). Based on previous research, there are different perceptions from teachers and students towards using systems and spreadsheets as instructional material. The use of a spreadsheet as an instructional or educational tool by encouraged students to develop in-depth mathematical concepts and apply as an activity-based learning strategy so that students are more interactive and the delivery methods will be more focusing on student-centered (Agyei & Voogt, 2014). Meanwhile, Serra et al (2018) suggested that users regard automated spreadsheet correctors as a useful learning tool, with students who received a high final grade being those who have been positively assessed in sessions utilizing the automated spreadsheet corrector. Besides, students' perception assessments show that they had a positive experience learning with the automated spreadsheet corrector. Apart from this, teachers gain more time and workload reduced.

In addition, students who are on the online mode revealed higher anticipated learning from spreadsheet-based application assignments. Besides, there is a finding indicating that perceived usefulness and user attitudes influenced interest in implementing a technology-based cost of production automated calculating system in the learning process, particularly in cost accounting courses (Totanan et al., 2018). This shows that students are more interested in software, databases, and spreadsheets that will help them to gain a better

understanding of their learning process. In other subjects, a post-test revealed that Modelling Instruction in Biology with Excel (MBI-E) students outperformed conventional classrooms in both natural selection and population ecology concepts and it showed a better passion for science (Malone et al., 2018). However, Mezhennaya and Pugachev (2019) stated that gender inequalities were discovered in the ability to use Mathcad and Excel; female students performed better compared to male students, and female students predicted that they prefered to use Microsoft Excel in the future than male students. On top of that, Thohir (2018) suggested that spreadsheets are more practical and recommended to be used in designing a course because it is simple, flexible and inexpensive. Nevertheless, it's about a system for managing a large amount of data and information that can be retrieved, processed, analyzed, and disseminated quickly (Helal et al., 2021). Some institutions are attempting to deploy new applications and features that will improve the quality of teaching and learning (Almehrzi, 2022). As a result, it is possible to conclude that the OME system has a significant impact on teaching and learning.

METHODS

Research Instrument

This study employed a survey method to collect data. Using this data collection procedure will assist the researcher to congregate truthful data, reduce bias, and increase the quality of data being collected (Creswell, 2015; Sekaran & Bougie, 2010). This study was conducted at 9 vocational colleges located in three states in Malaysia namely Penang, Pahang, and Negeri Sembilan. A survey questionnaire was modified based on the previous literature review.

Sample

This study employed convenient sampling to gather 97 survey questionnaires from lecturers who teach at vocational colleges. This sampling technique was applied due to the researcher's ease of access to these students and their willingness to engage in the study (Kivunja, 2015). The survey questionnaires were answered by respondents on a voluntary basis.

Instrument

The instrument used in this research is a list of questionnaires containing 9 questions relating to the study that was distributed to respondents to gather the necessary response to this study. The questionnaires consisted of two parts (A and B). Part A consists of 2 questions on demographic information while part B consists of 7 questions on the perception of OME System which was adapted by (Yin et al., 2018). This set of questionnaires used a five-point-Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly Agree).

Pilot Study

A pilot study was conducted to test the reliability of the structured instrument and ensure the instrument was fit to the situation and understood by the respondents. According to Mail and Noordin (2015), reliability refers to the ability of certain indicators or variables to have relied consistently on upon. The concept of the validity of a study is closely related to the concept of measurement. Based on Sekaran and Bougie (2010), if the value for the reliability coefficient is near 1, it is considered a high-reliability value, whereas the value of the coefficient 0.6 will be treated as a low-reliability value, 0.7 can be accepted, and 0.8 will be measured as good. To ensure the reliability of the structured instrument meets the standard, researchers conducted a pilot study on 30 students. The result from the analysis showed that

Cronbach's Alpha reliability coefficient is high at 0.949. Therefore, the researchers found that the adopted questionnaire is appropriate to implement in the actual study.

Data Analysis

The data from the questionnaire were analyzed using SPSS version 26.0 (Statistical Package for the Social Science). Descriptive analysis was used to measure the mean to examine the perception of students and lecturers towards the OME System in vocational colleges.

Findings and Discussion

Findings

A total of 97 respondents answered the questionnaires. The analysis of the results has shown in the table as follows.

Table 1
Respondent's demographic

Demographic	Factor	Frequency	Percentage
Status	Student	80	82.5
	Lecturer	17	17.5
State	Penang	46	47.4
	Pahang	16	16.5
	Negeri Sembilan	35	36.1
		97	100.0

Table 2
The result of the perception of student and lecturer towards OME System

	Item	Mean score
1	This OME system can help me remember formulas in the subtopic of ratio analysis.	4.38
2	This OME system can strengthen the memorization of ratio analysis formulas.	4.29
3	This OME system can help me know the financial condition of the company compared to other companies/firms	4.38
4	This OME system can help me assess the financial condition of the company by comparing it with the average value of other companies/firms.	4.34
5	This OME system can help me make decisions based on the findings of ratio analysis.	4.42
6	This OME system is easy to use by users.	4.39
7	This OME system is easy to apply by users.	4.42

"1" = Strongly disagree, "2" = Disagree, "3" = Neutral, "4" = Agree, "5" = Strongly agree

The empirical test shows that the lowest mean was for the question "This OME system can strengthen the memorization of ratio analysis formulas." (mean = 4.29); this indicates that the lecturers and students might be less confident in memorizing the ratio analysis formulas. On the other hand, the question with the highest mean, which is (4.42), and the question is "This OME system can help me make decisions based on the findings of ratio analysis." and "This OME system is easy to apply by users" (Table 2).

Discussion

The finding is in line with the study of Agyei and Voogt (2014) which proved that students managed to deepen their understanding by assisting educational tools like the OME system. Besides, the OME system serves as a useful learning tool for students which brings them a beneficial academic experience that they prefer instead of making the correct decisions in order to answer the questions and achieve a satisfactory result which is similar to the study of (Serra et al., 2018). Besides, the OME system also helped lecturers to ease their teaching and learning process more effectively and efficiently (Totanan et al., 2018) as they can demonstrate to the students what is preferred by them. Positive feedback from students and lecturers who have used the OME system has achieved the thought of the previous scholar (Thohir, 2018; Helal et al., 2021; Almehrzi, 2022).

Conclusion

Overall, this study attempts to describe the OME system and examine the perception of students and lecturers towards the OME System in vocational colleges. The result showed a positive response from the respondents regarding the OME systems when they apply it in Business Finance course. It has been demonstrated that the OME approach is quite effective in learning tough yet important concept in business finance subjec. As a result, incorporating such a system into the teaching and learning process can undoubtedly result in a more efficient learning technique.

Contribution of the Study

These findings have provided new ideas in the teaching of business finance for business management programs as well as assisted the transformation of education in line with the Malaysian Education Blueprint (PPPM 2013-2025), which calls for the use of technology as a medium of instruction. Furthermore, this study will convince lecturers to often apply and use systems or mobile apps in their teaching and learning to engage students in their lessons by using the OME system as recommended by the researchers.

Limitation and Recommendation

Since this study solely focuses on a few Malaysian states, it would be impossible to abrogate the entire Malaysian student and instructor population. However, additional research can be conducted in another state of Malaysia to provide a comprehensive picture of students' and lecturers' comments using the OME system. Besides, the upcoming researchers can improvise the features of the OME system to gather better results in detail.

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Corresponding Author

Oh Zi Jian
Department of Business Management, Batu Lanchang Vocational College, Penang, Malaysia.
Email: ohzijian@gmail.com

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