

The Impact of Scorecard in Operations Management Course: A Case Study at the Faculty of Business Management (FPP), UiTM Pahang

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Abstract: Operations Management is a compulsory course for all diploma students of Business Management in Universiti Teknologi MARA (UiTM). This course is taken by two programs in UiTM Pahang: Diploma in Business Studies and Diploma in Banking. The 2012 final examination report indicated a high failure rate of this course at twenty percent. Due to this reason, lecturers have used an alternative method in teaching and learning by introducing the use of scorecard to reduce the failure rate. This scorecard is called Operations Management Performance Scorecard (OMPScard). This study explores the impact of OMPScard orientation among diploma students in the Faculty of Business Management at UiTM Pahang. The results showed a reduced failure rate to less than 3 percent in 2014.

Keywords: Operations Management, Scorecard, Student, Subject

1. Introduction

All faculties in UiTM are implementing the Outcome Based Education (OBE) in their syllabus requirement. This means students do not have authority to choose alternative courses. The faculties have already designed the course requirements in each semester for diploma and undergraduate students. The Operations Management course seems to be challenging to Business Management students especially those at the diploma level because they need to study the theories and at the same time apply the calculation and technical practices. The business theories that they have learned from the previous courses may need to be practiced in Operations Management and this leads to most of the students finding the course as difficult. The scorecard is used to identify the best and worst chapters in that course so that some improvement can be taken toward problematic chapters. In 2012 and 2013, the Operations Management course was listed as a course that contributed to the high failure rate in the final examination report. The percentages were twenty percent in 2012 and more than ten percent in 2013. The difficulties faced by students in understanding the course have led to the creation of Operations Management Performance Scorecard (OMPScard), aimed at improving students' performance. This study explores the impact of Operations Management Performance Scorecard (OMPScard) orientation among diploma students in the Faculty of Business Management at UiTM Pahang.

2. The Use of Scorecard and Operations Management in Organization

Zhijun et al. (2014) investigated the current status of balanced scorecard (BSC) application and its impact on hospital performance in China. The results showed that hospitals that adopted BSC with performance measures in the four perspectives namely financial/operational, customers/ patients, service quality/operating procedures, and learning and growth achieved better organizational performance and individual satisfaction, compared to

the non-adopters. BSC is also applied to deal with the analysis of the concept of Balance Scorecard and performance measurement in a tourism company using the case study method. They found that the Balance Scorecard method (BSC) can be applied as a performance measurement to an industry in Greece (Nikos et al., 2013). Chia et al. (2011) proposed a sustainability balanced scorecard (SBSC) framework to measure the sustainable performance of the semiconductor industry. The results indicated that the five most important measures of sustainable performance were profitability, green innovation and investment, green image, customer satisfaction, and sustainability awareness of the top management. This shows that the application of scorecard is not limited to one particular industry but also stretches to other sectors as well where it is used to improve the performance.

3. The Use of Scorecard and Operations Management in Academic Field

Scorecard can be applied in the academic field. In their research, Turki Alolaha et al. (2014) used the balanced scorecard framework philosophy to develop a systematic approach for measuring Saudi school safety performance. By using scorecard, they found that workforce safety culture had a significant effect on safety performance. This means that scorecard is able to improve safety performance in Saudi schools. According to Meghan et al. (2013), the main objective of her research is to find associations between teacher–child relationships and children's academic achievement in elementary schools. Results revealed significant effects of high-quality teacher–child relationships in kindergarten on math achievement in first grade. This practice acquired the similarity to the application of Operations Management Performance Scorecard (OMPScard), because it is also used to improve the grade in the course. The difference is the level of education: kindergarten and diploma level students. The application of scorecard also provides an engaging tool for teaching the principles of the Balanced Scorecard (BSC) with an emphasis on the relationships between lead and lag performance measures. The results showed that by using color-coding score card and emphasizing the passage of time in the cause-effect relationships, students are able to see the importance of anticipating the effects of the manager's investment (or lack thereof) in the lead indicators of future financial performance (Monte, 2010).

3.1 The Use of OMPScard in Operations Management Course in Faculty of Business Management (FPP), UiTM Pahang

The major challenge in this course is to bridge students' understanding on chapters especially the calculation part. Thus, a different approach to encourage changes in the previous teaching and learning process of this course is a must. Using Operations Management Performance Scorecard (OMPScard) is one way in which students and lecturers' learning experiences can be understood holistically especially in the calculation section. In addition, the learning process can be really effective to students as the use of OMPScard allows immediate feedback on students' performance. The scorecard is prepared with every chapter that contains three different levels of questions to identify the students' performance - easy, medium and hard levels. These three levels are used to test students' understanding on every chapter in the syllabus when students do the exercises.

Operations Management Performance Scorecard (OMPScard)													
NAME/ID:													
CHAPTER	LEVEL OF QUESTIONS												TOTAL
	E1	S	E2	S	M1	S	M2	S	H1	S	H2	S	
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
LOQ (E= EASY LEVEL, M= MEDIUM LEVEL, H= HARD LEVEL)												TOTAL SCORE	
SCORE MARKS (S) = 1 IS LESS THAN HALF MARKS = 1, 2 IS HALF MARKS = 3 & 5 IS LESS THAN FULL MARKS =3												PERCENTAGE	

Fig. 1 Operations Management Performance Scorecard (OMPScard)

Diploma in Business Studies and Diploma in Banking students at UiTM Pahang were equipped with this card in 2014. The total number of students was 429 from which 292 of them were females and the remaining (137) males, aged between 20-22 years old. They became the participants to use the scorecard. All students were given the OMPScard at the beginning of the semester. They were required to bring the OMPScard for every lecture especially when the lecturer conducted an exercise in class. Starting from chapter 1 until chapter 11, the lecturer assisted the students to fill up the scorecard and calculate their performance immediately. The process involved three different levels of questions to identify the students' performance - easy, medium and hard levels. Students' understanding on each chapter, shown through the scorecard would straightaway tell what the students need to do to get a better score.

Operations Management Performance Scorecard (OMPScard)													
NAME/ID: 2011916915													
CHAPTER	LEVEL OF QUESTIONS												TOTAL
	E1	S	E2	S	M1	S	M2	S	H1	S	H2	S	
1	3	5	3	5	3	5	3	5	3	5	3	5	30
2	3	5	3	5	3	5	3	5	3	5	3	5	30
3	3	5	3	5	3	5	3	5	3	5	3	5	30
4	3	5	3	5	3	5	1	1	1	1	1	1	18
5	3	5	3	5	3	5	2	3	2	3	2	3	24
6	3	5	3	5	3	5	1	1	1	1	1	1	18
7	3	5	3	5	3	5	3	5	3	5	3	5	30
8	3	5	3	5	3	5	1	1	1	1	1	1	18
9	3	5	3	5	3	5	3	5	3	5	2	3	28
10	3	5	3	5	3	5	3	5	3	5	3	5	30
11	3	5	3	5	3	5	3	5	3	5	3	5	30
LOQ (E= EASY LEVEL, M= MEDIUM LEVEL, H= HARD LEVEL)												TOTAL SCORE	286
SCORE MARKS (S) = 1 IS LESS THAN HALF MARKS = 1, 2 IS HALF MARKS = 3 & 5 IS LESS THAN FULL MARKS =3												PERCENTAGE	86.70%

Fig. 2 Example 1: OMPScard from a student with high percentage

Operations Management Performance Scorecard (OMPScard)													
NAME/ID: 2011916915													
CHAPTER	LEVEL OF QUESTIONS												TOTAL
	E1	S	E2	S	M1	S	M2	S	H1	S	H2	S	
1	3	5	3	5	3	5	3	5	3	5	3	5	30
2	3	5	3	5	3	5	3	5	3	5	3	5	30
3	3	5	3	5	3	5	3	5	3	5	3	5	30
4	3	5	3	5	1	1	1	1	1	1	1	1	14
5	3	5	3	5	2	3	2	3	1	1	1	1	18
6	2	3	2	3	1	1	1	1	1	1	1	1	10
7	3	5	3	5	3	5	2	3	1	1	1	1	20
8	2	3	1	1	1	1	1	1	1	1	1	1	8
9	3	5	3	5	2	3	2	3	1	1	1	1	18
10	3	5	3	5	2	3	2	3	2	3	2	3	22
11	3	5	3	5	3	5	3	5	3	5	3	5	30
LOQ (E= EASY LEVEL, M = MEDIUM LEVEL, H= HARD LEVEL)												TOTAL SCORE	230
SCORE MARKS (S) = 1 IS LESS THAN HALF MARKS = 1, 2 IS HALF MARKS = 3 & 5 IS LESS THAN FULL MARKS = 3												PERCENTAGE	69.70%

Fig. 3 Example 2: OMPScard from a student with average percentage

Therefore, in order to enhance their performance, students could only focus on the level of questions that they had difficulty in. This scorecard focused on current performance, chapters perceived as difficult by students and levels of difficulty. With this card, lecturers could observe class performance and focused more on chapters with the lowest scores in order to elevate student's performance. The OMPScard could be used to increase students' understanding of this subject and undertake corrective solutions based on the evaluation of students' performance.

4. Discussion and Conclusion

Students provided positive feedback on the use of the OMPScard. With this card, students admitted that they could clearly understand the process of using the scorecard and immediately noticed their performance. This was the first time they used the scorecard especially in gauging their performance in Operations Management course and they suggested the use of this card to observe their performance and support the understanding of the course. Moreover, it was easy for the lecturers to identify the levels of difficulty faced by different students in a particular class so that improvement could only be focused on that part. It is interesting to note that there were few students with low scores showing reluctance in using the card for the immediate feedback they received on their performance. This can be a new challenge for the OMPScard designers and lecturers as they need to encourage those demotivated students to improve their understanding and focus on the course.

Most of the students admitted the difficulties in understanding Operations Management course. With the application of OMPScard, there were still failures in 2014 but with a lower percentage. Although the percentage of pass students had increased, there was still a minority of students with the lowest marks in tests and examinations. Many of them just wanted a chance to improve themselves, especially for those who were able to answer most of the chapters but could not understand certain level of questions in a few chapters. But for those who only attained low scores in that OMPScard and demonstrated incompetence level, it appeared that their final grades were also not good. Given the OMPScard as a guideline, it is supposed to provide an alternative route to achieving better performance in Operations Management course for those who have not achieved a good score. The reduced percentage of failure rate is as follows:

Year	2012	2013	2014
Total students	330	387	413
Pass rate (%)	80%	88.63%	97.58%
Failure rate (%)	20%	11.37%	2.42%

Remark	High failure rate	More than 10% failure rate	Less than 3% failure rate
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Fig. 4 Student's performance for Operation Management Subject from 2012-2014
(Cited in MGT345 Final Examination Report)

OMPScard practice orientation to diploma students in the Faculty of Business Management (FPP), UiTM Pahang is able to reduce the failure rate for this course in 2014. A significant reflection conveyed in this new approach is that using the OMPScard can be a motivating force for students to excel in this course. Lecturer especially can use the OMPScard approach to guide the students who take this course with an appropriate guidance.

One of the quality measurements in tertiary education is low percentage in failure rate among students. Thus, the effort to help the university to reduce failure rate is a good practice and should continue using different approach in teaching and learning. Immediate feedback toward chapter's performance is really difficult especially when students obtain a low score. However, this new approach using OMPScard proves that it is able to help and guide most of the students to achieve excellent grade in the final examination. In addition, this study also demonstrates the value of using OMPScard on students at UiTM Pahang. It is clearly stated in figure 4 that student failure rate was reduced to less than 3 percent in 2014 after lecturers started using this OMPScard.

More importantly, this study has revealed the outcomes of the new approach in an effort to improve the calculation chapters in Operation Management course that need to be learned by students in order to have excellent results. The implications of students performance and lecturer interventions by using OMPScard is reflexive practice which means it becomes more flexible and has corrective roles. Thus, it is important for students to experience using OMPScard approach, in which it is interpreted and responded in practice in order to guide them in learning Operations Management course.

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