

EFFICIENCY AS COMPETITIVE ADVANTAGE IN MICE EVENTS OF MEDIUM SIZE HOTELS IN THAILAND

Panutporn Ruangchoengchum, Khon Kaen University
Numpung Sripui, Khon Kaen University

ABSTRACT

Many meeting, incentive, convention, and exhibit (MICE) events organized in medium size hotels generate substantial income in Thailand. Among the classified groups, medium size hotels represent the major group, but they cannot operate the business really well to support MICE events. This study aims to explore the efficiency of medium size hotels in operations management to organize MICE events. This study applies the mixed methods of questionnaire and in-depth interview to gain crucial information from participants who have worked in medium size hotels. The collected data are analyzed with Data Envelopment Analysis program. Results show that medium size hotels need to prepare operational cost, offer more conference rooms, hire more staff, provide more parking areas, create certain facilities, lend conference accessories, and arrange airport transferring vehicles. To improve efficiency as competitive advantage in MICE events of the medium size hotels in terms of operations management, lean management is suggested. The results of this research can be useful to medium size hotels in Thailand and other countries with similar business culture and beneficial to entrepreneurs in the business service sector.

Keywords: Hotels, Efficiency Improvement, Data Envelopment Analysis, MICE, Operations Management

INTRODUCTION

Significance of Meeting, Incentive, Convention, and Exhibit Events

Hotel business for MICE has provided enormous income to several organizations in many countries, including Thailand. The income from the MICE industry, a major branch of tourism in Thailand, is approximated to be higher than 10% of the tourism earning in 2018 (before the outbreak of the COVID-19 pandemic in December 2019) and the figure is increasing every year in Thailand (Martin, 2019). Among tourism strategies, MICE plays an important role in increasing the gross income in Thailand. Therefore, enhancing the efficiency in term of operations management of involved businesses and stakeholders is a major task considered by the government and relevant organizations (Thailand Convention and Exhibition Bureau or TCEB, 2018).

In an effort to promote MICE events, TCEB was established in 2002, performing as a public organization to promote and develop business events in Thailand. Since 2004, TCEB has worked toward establishing Thailand as Asia's premier business events destination by providing flexible, service-oriented support to meeting-goers, incentive winners, convention attendees, and exhibition participants (TCEB, 2018). TCEB considers some provinces established as business hubs scattered over the country to support MICE events. Indeed, MICE events are typically held in hotel conference rooms or at convention centers (TCEB, 2018).

However, after the COVID-19 pandemic, the scale of potential destruction of the MICE events in the hotel sector is alarming (Rwigema & Celestin, 2020). Manasakis, Apostolakis & Datsaris (2012) found that local hotel business has the most potential for efficiency improvement

owing to the flexibility of the single ownership. On the contrary, mega size international hotel business has the lowest capacity in efficiency improvement. In comparison, large size hotel business has more capacity in efficiency improvement due to flexibility of adaptation. Efficiency improvement can be determined by considering input-and output-oriented measurement. Input-oriented measurement estimates the efficiency of production factors to produce the goods within the constant return to scale or CRS (Coelli, Rao, O'Donnell & Battese, 2005). By contrast, output-oriented measurement estimates technical efficiency in terms of the exceeded productions while employing the same amount of production factors (Coelli et al., 2005).

Over the past few decades, efficiency improvement is studied in various fields. Several studies address the possibility in improving the efficiency of operations management. For example, Fried, Lovell, Schmidt & Schmidt (2008) summarized that productive efficiency can be measured by technical efficiency and allocative efficiency, causing economic efficiency. Harnhirun (2007) concluded that technical efficiency is an ability of a production unit to produce the maximum goods by employing the available resources. Allocative efficiency is reflected by price efficiency from applying production factors that consume the lowest capital of a production unit (Fried et al., 2008). Allocative efficiency also presents the ability of the production unit given an appropriated portion of the production factors and applied technology from the lowest capital (Leal Paço & Cepeda Pérez, 2013; Arbelo, Pérez-Gómez, & Arbelo-Pérez, 2017)). Productive efficiency concerns the optimum balance between the maximum values of productivity response to the required products (De Jorge & Suárez, 2014). By contrast, minimal literature focuses on operational efficiency as competitive advantage in MICE events of medium size hotels in Thailand. For this reason, the researchers are interested in this very topic. The results of this research are useful to medium size hotels in Thailand and other countries with the similar business culture and beneficial to the entrepreneurs in the business service sector for overcoming COVID-19 related crisis and increasing the competitive advantage of MICE events of medium size hotels.

Research Questions

This study addresses the following two research questions:

- (1) How can the efficiency of medium size hotels in Thailand in terms of operations management to organize MICE events be explored?
- (2) What are some practical suggestions for educating medium size hotels to improve efficiency as competitive advantage in MICE events?

Research Objectives

The objectives of this research are (1) to study the efficiency of medium size hotels in Thailand in term of operations management to organize MICE events, (2) to identify the remarkable issues stemming from the lack of efficiency in operations management of these medium size hotels, and (3) to propose alternative solutions for improving the efficiency in operations management of the medium size hotels in Thailand.

LITERATURE REVIEW

Concepts and Theories of Efficiency Improvement

Data Envelopment Analysis (DEA) program was applied in this study to analyze the collected data. DEA is a nonparametric method applied in operations research, in particular, efficiency measurement (De Jorge & Suárez, 2014; Kittiyankajon, Chetchotsak & Ruangchoengchum, 2019). Cooper, Seiford, and Zhu (2011) presented a mathematic model used

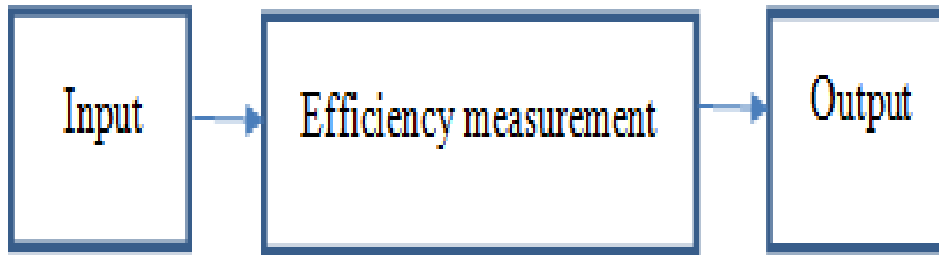
for measuring the efficiency of production unit that applies production factor and provides the product, which is presented as CRS, which is formulated as:

$$\begin{aligned}
 & \text{Min } \sum_{i=1}^m \omega_i x_{ij0} \\
 & \sum_{j=1}^n \mu_r y_{rj0} = 1, \\
 & \sum_{j=1}^n \mu_r y_{rj} - \sum_{i=1}^m \omega_i x_{ij} \leq 0 \\
 & \mu_r, \omega_i \geq \varepsilon > 0 \quad ; i = 1, \dots, m, r = 1, \dots, s, j = 1, \dots, n \quad (1)
 \end{aligned}$$

Where x_{ij} is the number of input i of production unit j ,
 y_{rj} is the number of product r of production unit j ,
 μ_r is weighted product r ,
 ω_i is weighted input factor i ,
 n is the number of input factor,
 s is the number of product,
 m is the number of production unit, and
 ε is the small sum value.

Conceptual framework

Based on the theoretical background in the literature, the two kinds of measurement typically considered in DEA are input- and output-oriented measurement. To examine the efficiency of entrepreneurs and determine the optimum point of production processes, Cooper, Seiford, and Zhu (2011) suggested applying input-oriented measurement via CRS and variable return to scale (VRS). The established conceptual framework is shown in Figure 1.



**FIGURE 1
 CONCEPTUAL FRAMEWORK**

RESEARCH METHODOLOGY

This study applied mixed research methods to explore the efficiency of medium size hotels. The researchers selected the area of Khon Kaen province, which is in a business hub in the northeastern region that has been promoted as a MICE city in Thailand and the door to the Indo-China region. The Provincial Development Plan (2018–2022) has also promoted Khon Kaen to be a center of business and services to support national and international conferences owing to the huge potential of hotel businesses (Khon Kaen Metropolitan Municipality, 2021). This plan can make generate substantial profits for hotels, but many medium size hotels lack the efficiency to organize MICE events. Sripui & Ruangchoengchum (2016) demonstrated that the major group of hotel businesses in Khon Kaen comprises medium size hotels. To prevent an enormous loss

from these hotels, studying the businesses of medium size hotels in Khon Kaen in further detail is crucial to shed light on feasible solutions. Thus, four major sections were explored using questionnaires, namely, general information of responses, general information of medium size hotels, financial information of medium size hotels, and semi-structured in-depth interviews about the hotel operations management.

Participants

One hundred questionnaires were launched to all medium size hotels in Khon Kaen via random sampling. Thirteen participants responded with complete information. The in-depth interviews were arranged to gain more insights from the 13 participants.

Data Collection

All hotels in Khon Kaen can be divided into three major groups: large, medium, and small size hotels. Medium size hotels represent the major group, accounting for 62% of the total number of hotels in the province (see Figure 2).

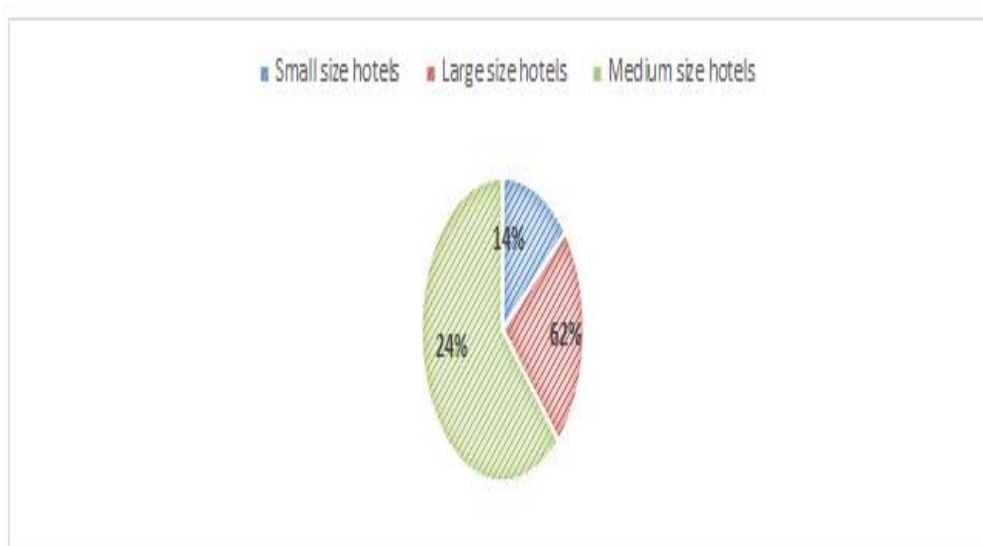


FIGURE 2
PERCENTAGE OF HOTELS IN KHON KAEN

In addition, the researchers selected medium size hotels that normally have 60–145 rooms, provide airport transferring service, prepare for optional organization cost, and assist customers with English speaking staff on a case-to-case basis.

Moreover, the general information of the medium size hotels was explored using questionnaires and semi-structured interviews. Secondary data were collected from textbooks, journals, governmental reports, news, and academic articles. For this reason, a considerable amount of general and in-depth information about 13 medium size hotels in Khon Kaen were gathered and analyzed to present efficiency in organizing MICE events. Regarding the data collection, 11 topics were collected from participants operating the medium size hotels by using questionnaires. These topics are (1) numbers of the conference rooms, (2) maximum capacity for conference participants, (3) size of the conference rooms, (4) provisional facilities, (5) conference accessories, (6) number of airport transferring vehicles, (7) number of staff facilitating the conference organization, (8) parking area, (9) food and beverage cost, (10) organizational cost, and (11) total income.

Data Analysis

This study applied the VRS according to the efficiency measurement of the medium size hotels that relies on the trustworthiness of the hotels. Table 1 shows that the coefficient VRS is higher than the coefficient CRS in every hotel unit. The CRS border line shown as a linear line is beyond or equal to the VRS border line. Regarding the highlighted result of the DEA, Cooper, Seiford & Zhu (2011) concluded that unequalled values of TEcrs and TEvrs present the inefficiency of business operation of the studied business.

Efficiency level	Medium size hotels					
	CRS		VRS		SE	
	Frequency	%	Frequency	%	Frequency	%
1	5	23.8	7	33.32	5	23.8
0.81–0.99	2	9.52	3	14.28	4	19.04
0.61–0.80	3	14.28	3	14.28	2	9.52
0.41–0.60	3	14.28			1	4.76
0.21–0.40	-	-	-	-	-	-
0.00–0.20	-	-	-	-	-	-
Average	0.807		0.9203		0.894	
Minimum	0.5		0.618		0.511	
Maximum	1		1		1	

RESEARCH RESULTS

Efficiency of Medium Size Hotels in Operations Management to Organize MICE Events

Of the 13 hotels, only five hotels (i.e., Hotels F, H, K, Q, and R, see Table 2) show high efficiency in organizing MICE events. The coefficient VRS is equaled to 1.000, which is the same result as size efficiency (SE) and CRS. Therefore, these hotels present high efficiency for potentially organizing MICE events. The factors considered in organizing the conferences are number of airport transferring vehicles, maximum capacity for participants, parking area, number of provisional facilities, number of staff servicing in the conference events, affordable operational cost, affordable food and beverage cost, and income from the MICE events.

Order	Hotel names	Efficiency scores			Efficiency
		CRS	VRS	SE	
1	Hotel F	1.00	1.00	1.00	High
2	Hotel G	0.50	0.62	0.81	Low
3	Hotel H	1.00	1.00	1.00	High
4	Hotel I	0.83	0.84	0.98	Low
5	Hotel J	0.59	0.76	0.77	Low
6	Hotel K	1.00	1.00	1.00	High
7	Hotel L	0.51	1.00	0.51	Medium
8	Hotel M	0.73	1.00	0.73	Medium
9	Hotel N	0.79	0.85	0.92	Low
10	Hotel O	0.68	0.68	1.00	Low
11	Hotel P	0.87	0.97	0.90	Low
12	Hotel Q	1.00	1.00	1.00	High
13	Hotel R	1.00	1.00	1.00	High

Remarkable Issues Stemming from Lack of Efficiency in Operations Management of Medium Size Hotels

Regarding the efficiency of medium size hotels in Khon Kaen in term of operations management to organize MICE events, only five medium size hotels (Hotels F, H, K, Q, and R) exhibit the highest efficiency. The remaining eight hotels remain inefficient in operations management. The results of the study also identify remarkable issues due to the lack of efficiency in operations management of these eight medium size hotels. These medium size hotels can increase their income as high as possible to increase the optimum operational cost. Furthermore, present situations are compared with the target of the medium size hotels to identify the efficiency improvement of the medium size hotels by the explored factors (see Table 3).

Table 3
TARGET VALUE FOR EFFICIENCY IMPROVEMENT OF MEDIUM SIZE HOTELS

Medium size hotels	F1		F2		F3		F4		F5		F6		F7	
	Present	Target	Present	Target	Present	Target	Present	Target	Present	Target	Present	Target	Present	Target
Hotel F	1324000	1324000	150	150	6	6	80	80	64	64	5	5	4	5
Hotel G	979604	604976	450	180	20	7	76	47	40	19	11	7	1	1
Hotel H	4229100	4229100	1500	1500	10	10	50	50	99	99	27	27	1	2
Hotel I	4872165	4093833	1300	1092	38	29	300	234	84	71	32	13	3	2
Hotel J	604500	461027	140	107	10	4	80	57	29	22	5	4	2	2
Hotel K	3853350	3853350	570	570	10	10	300	300	66	66	4	4	1	2
Hotel L	194700	127793	100	85	5	4	70	41	13	11	8	5	0	1
Hotel M	11100	11100	80	80	5	5	50	50	17	17	6	6	1	2
Hotel N	521000	443896	250	142	20	5	50	43	37	27	15	5	2	2
Hotel O	352900	240685	820	127	14	6	300	48	33	11	8	5	1	1
Hotel P	4089150	3971792	570	464	7	7	100	89	41	40	12	9	1	1
Hotel Q	581407	581407	150	150	5	5	50	50	37	37	4	4	1	2
Hotel R	22006	22006	80	80	3	3	50	50	9	9	3	3	0	1

Remarks: F1 = operational cost (baht), F2 = capacity of conference room (number of people), F3 = number of staff (number of people), F4 = parking area (number of vehicles), F5 = provisional facilities (units), F6 = conference accessories (units), and F7 = airport transferring vehicle (number of vehicles).

Alternative Solutions for Improving the Efficiency in Operations Management of Medium Size Hotels

Given their low efficiency in organizing MICE events in Khon Kaen, six medium size hotels (Hotels G, I, J, N, O, and P) require immediate improvement based on the different results of CRS and VRS. They are recommended to increase the numbers of conference rooms and airport transferring vehicles, develop human resources in terms of service ability, reduce the total cost including food and beverage, and increase the income from conference organization. Compared with their current situations, Hotels F, H, K, Q, and R almost achieve their target values. The only factor considered in enhancing the efficiency of these hotel businesses is the number of airport transferring vehicles which is insufficient for the group with the highest efficiency. By contrast, Hotels G, I, J, L, M, N, O, and P show inefficiency in operations management due to the operational cost (baht), capacity of conference room (number of people), number of staff, parking area (number of vehicles), provisional facilities (units), conference accessories (units), and airport transferring vehicle (number of vehicles).

DISCUSSION AND CONCLUSION

Alternative solutions are intensively reviewed to propose the guidelines for improving efficiency as competitive advantage in MICE events of medium size hotels in Thailand. The most important point required in efficiency improvement to increase the number of airport transferring vehicles. The outcomes of this research project contribute significantly to the knowledge in this field based on these discussions.

First, lean principles are always implemented in efficiency improvement, so lean services should be implemented to increase organizational competitiveness and customer satisfaction and reduce process variability and wastes. These were consistent with the concepts of Carlborg, Kindström & Kowalkowski (2013) and Andrés-López, González-Requena & Sanz-Lobera (2015). Antosz & Stadnicka (2017) claimed that several operations management of companies can be clearly studied to shed light on the efficiency improvement by applying lean management. Within the scope of reduction of process variability and wastes, eight services must be redefined in medium size hotels. They are (1) overproduction; (2) delay; (3) unnecessary transport or movement; (4) over quality; (5) duplication; (6) lack of standardization; (7) failure demand, lack of customer focus, obsolescence or inadequacy, loss of opportunity, and miscommunication; and (8) under-utilized resources and manager's resistance to change. Regarding these services observed in waste reduction, service value stream management has a practical program that can spot the criticalities of a service and enhance its performance (Andrés-López, González-Requena, & Sanz-Lobera, 2015; Sremcev, Stevanov, Lazarevic, Mandic, Tesic & Kuzmanovic, 2019).

Second, this study suggests following the general steps such as commit to and learn about lean value stream management planning; choose the value stream to be improved; use a new set of icons to meet the need of the service industry; identify the impact of waste and set the target for the improvements; and focus on demand flow and leveling, performance comparison, and implementation plan (Andrés-López et al., 2015). In terms of applying lean management methods in the hotel sector, ABC analysis, 5S and CIP workshops, and idea management can be integrated in the reorganization implementing many measures for saving cost and increasing customer service (Rauch, Damian, Holzner & Matt, 2016). Hadid (2017) demonstrated that ABC analysis can improve the implementation level of lean service and consequently indirectly enhance financial performance.

Lastly, basing on the addressed lean concepts applied with the results of this study, medium size hotels are recommended to increase the number of conference rooms and decrease the organizational cost by relying on the lean concept especially in terms of food and beverage cost. In addition, they are recommended to apply lean principles to downsize the hotel business organization and alternatively consider multiple options for human resource management, such as training program, multiple skill improvement, unemployment, downsizing, non-recruitment, and performance improvement (Honma & Hu, 2012). McIvor (2001); Suppapanya (2014) argued that a high level of interaction between suppliers and customers in the new product development process, customers increasing the level of supplier involvement in the new product development process, and high levels of information exchange in the supply chain possibly show the successful dimensions of design and cost reduction by lean management. These recommendations can go a long way to overcome the challenges of MICE hotels after COVID 19 in Thailand and other countries.

ACKNOWLEDGEMENT

This work was supported by the Rubber Authority of Thailand and College of Graduate Study in Management, Khon Kaen University, Thailand.

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