# The Significance Of Service Efficiency Analyses For Marketing Communications And Its Implementation On The Tourism Sector Using The Data Envelopment Analysis Method

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Abstract: The success of the marketing communications method oriented towards the tourism sector is closely related to service production efficiency. Service efficiency analyses are highly significant with regards to marketing, publicity and public relations activities. Marketing executives and employees have to structure their styles of action, future plans and marketing strategies accordingly. Especially in units with output deficiency, marketing, publicity and public relations activities must be reviewed and customer oriented activities must be concentrated upon in order to develop alternative strategies. Efficiency, a concept the significance of which is constantly increasing in contemporary business management approach, is one of the topics that the marketing communications executives working in the lodging sector—which holds a significant portion in the tourism industry—pay a lot of attention. This study emphasizes the significance of efficiency in service production and service efficiency measurement analyses with regards to marketing communications activities. Using a performance measurement method-data envelopment analysisthe relative service production activities of ski hotels and lodging businesses active in Turkey is examined. In light of the findings, the hindering or inefficient service units of these lodging businesses were identified, and recommendations were made following an interpretation of the findings from the marketing communications point of view.

**Keywords:** Marketing communications, efficiency, data envelopment analysis, tourism sector, marketing communications.

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M. Serdar ERCİŞ-Ayhan DOĞAN 350 / Sait Sinan ATILGAN Meryem OKUMUŞ-Hakan ÜN

Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi 2015 19 (1): 349-360

# Pazarlama İletişimi Yönetimi Açısından Hizmet Etkinlik Analizlerinin Önemi ve VZA Yöntemiyle Turizm Sektörüne Yönelik

# **Bir Uygulama**

 $\ddot{O}$ zet: Turizm sektörüne yönelik pazarlama faaliyetlerinde pazarlama iletişim yönetiminin başarısı, hizmet üretim etkinliğiyle yakından ilgilidir. Pazarlama, Tanıtım ve Halkla İlişkiler faaliyetleri açısından hizmet etkinlik analizleri oldukça önemlidir. Pazarlama yöneticileri ve elemanları bu sonuçlara göre hareket tarzlarını, ileriye dönük planlarını ve pazarlama stratejilerini oluşturmak mecburiyetindedirler. Özellikle cıktı eksiği olan birimlerde pazarlama, reklam ve halkla iliskiler faaliyetlerini yeniden gözden geçirmek ve daha alternatif stratejiler geliştirerek müşteri odaklı faaliyetleri yoğunlaştırmak gerekmektedir. Çağdaş işletmecilik anlayışında önemini her geçen gün daha fazla artıran etkinlik kavramı, turizm sektörünün önemli bir kısmını oluşturan konaklama sektöründe faaliyet gösteren pazarlama iletişim yöneticilerinin üzerinde ilgiyle durduğu konulardan biridir. Bu çalışmada pazarlama iletişim faaliyetleri açısından hizmet üretim etkinliğinin ve hizmet etkinlik ölçüm analizlerinin önemi vurgulanmıştır. Bir performans ölçüm metodu olan veri zarflama analizi kullanılarak Türkiye'de faaliyet gösteren kayak otellerinin/konaklama isletmelerinin göreceli hizmet üretim etkinlikleri gözlenmiştir. Elde edilen bulgular doğrultusunda konaklama işletmelerinin hizmette aksayan veya etkin hizmet üretemeyen birimleri belirlenmiş ve elde edilen sonuçlar pazarlama iletişimi yönetimi açısından yorumlanarak öneriler getirilmiştir.

Anahtar Kelimeler: Pazarlama İletişim yönetimi, performans, veri zarflama analizi

## Introduction

In our quickly improving, changing and globalizing economy, the number of service production businesses is increasing every day and competition is reaching ferocious levels. This quick growth in service economy and the conditions of competition make examining service businesses and improving their institutional performances inescapable. This quick growth and increasing competition is very significant for the tourism sector, which holds a large share in the service sector. In recent years in Turkey, considerable progress has been made in the tourism sector and in the lodging sector – which constitutes a significant branch of the tourism sector. This progress highlights both a tourism boom, and related lodging marketing practices with regards to firms. When looked from this point of view, marketing communications management and practices gain significance for ensuring efficiency in service production in the lodging sector. The importance of service efficiency analyses from the marketing-communications-management point of view can be seen clearly at this stage. While the research examines the efficiency of lodging businesses in service production using the data envelopment analysis technique, it also provides some valuable information to the marketing executives active in tourism and lodging sectors for constructing their action plans and strategies regarding marketing The Significance Of Service Efficiency Analyses For Marketing Communications And Its Implementation On The Tourism Sector Using The \_\_\_\_\_351 Data Envelopment Analysis Method

communications practices. The research also attributes a guiding trait in elucidating ways of efficiency.

## 1. The Tourism Sector and Lodging Businesses

The tourism sector, as an economic activity, is based on making profit from the visits of foreigners. This sector is one that is protecting, stimulating and fascinating and covers different services and activities as touristic events, catering events, and retail shops under the same umbrella: Olalı and Korzay (1999, p.7). This protecting, stimulating and fascinating feature of the tourism sector is derived from its various functions and contributions to the economy.

This sector has a nature of providing jobs for countries of high unemployment rates, and therefore keeps unemployment from reaching record levels. As is known, Turkey is a country with a population that is very young. The energy and dynamism of this young population has to be made use of as a production input. Tourism sector plays a vital role in economic development, and has a potential of employing a significant portion of the young population. Of the 18.5 million employed in the Turkey of 1992, 2 million was working in the tourism sector. In the year 2000, this number was 3.5 million out of 20; and in 2002, it has reached 4 million, which is above 5% among all sectors: WTO (2003, pp.10-15).

Lodging businesses hold a significant place in tourism, both for they are affected from heavy tourism activities, and for they affect tourism activities as the display window of the tourism market. Lodging businesses are mercantile establishments of particular standards that operate to serve, firstly, the temporary accommodation, and secondly, dining needs of people that reside in other locations: Barutçugil (2006, p.95). The term "lodging businesses" covers not only holiday tourism and hotels that serve this aim, but also motels, hostels, villages popular for holiday tourism, and camping places: Yalçıntaş (2002, p.21). For these businesses, ensuring service efficiency in a competitive environment has a decisive role. Beginning from the arrival of the customer, efficient and quality service in all units that have considerable interaction with the customer-including reception, room, restaurant, and bar, disco-has a vital significance; because the primary factor in sustaining a successful service performance is making an efficient use of all resources. The operation of a system for the efficient use of all resources in lodging businesses is closely related to a good performance management system and the process through which this system will be practiced. In this regard, an efficient performance management system for lodging businesses can be defined as a management approach – and all the methods of implementing this approach—that aims to elevate the resource use capacity as well as the quality and efficiency of the service by ensuring the effective and efficient use of all resources related to lodging service: Mattson (2004, p. 45). The aim of a performance management system regarding lodging businesses is to create an environment where the employees will be able to work efficiently and effectively. When performance is wellplanned, well-managed and made use correctly, such an environment contributes to a work

|       | M. Serdar ERCIŞ-Ayhan DOGAN |  |
|-------|-----------------------------|--|
| 352 / | Sait Sinan ATILGAN          |  |
|       | Meryem OKUMUŞ-Hakan ÜN      |  |

Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi 2015 19 (1): 349-360

process with high motivation. For lodging businesses that have an efficient performance management, such a contribution represents superiority in competition.

## 2. Performance and Efficiency

Performance, today, is a concept that businesses in all sectors pay a lot of attention. Businesses assess their success in a given time frame according to their performance levels. The assessment of performance levels differs according to the sector, branch, structure, and even the inner composition of the branches in which the firm is active. Performance is the quantitative and qualitative expression of how close an individual, a group or an entrepreneur is to their goals: Besen (2004, p.28). According to another definition, it is "the level to which a duty is accomplished based on the previously defined aims, the level to which those aims are reached, or the ability to complete a task: Lebas (2005, pp. 23-35). "Performance", literally, means the level to which capacity is used.

The performance of a system is the output or level of work in a given time. It also can be read as the level to which the goal or duty is completed. Based on these definitions, performance can be defined as all the efforts put in for completing a task; and performance evaluation can be defined as the measurement of these efforts: Akal (2002, p.1). When spoken of the concept "performance practices", one thinks of performance measurement, performance management, and performance monitoring processes. Performance measurement is the evaluation of what an organization aims to acquire, what financial and physical resources it uses, using what methods and techniques it transforms its resources into its aims, the clear effects of the product and service output on the goals when the goals are acquired directly, and other large scale and indirect factors affecting other secondary aims: Coşkun (2000, p.51).

The place and significance of measurement in a performance evaluation system is evident. Therefore firms also have to internalize that measurement and evaluation are invariable and essential parts of the management process: Aslan (2001, p.25). The goals might have been carefully designated, and a very effective system might have been assumed, but if the assumed levels cannot be measured, none of the efforts would be of significance: Tsang and Harvey (1999, p.691). Efficiency is one of the most important aspects of performance, and can be identified as "the level to which organizational systems achieve their identified aims following their efforts in achieving them": Tosun (2000, p.11). Paul Matt, on the other hand, has stressed the organizational feature of efficiency, and has defined the efficiency of an organization as activating production centers, adapting to changes, and finding solutions in urgencies: Tatlises (2004). All methods for coming up with productive results in all businesses are called "efficiency". In other words, efficiency represents an ability, a style, a conscious attitude aiming a positive outcome, or shortly, all reasonable human attitudes and efforts. Through these features, businesses increase their efficiency and reach success in change: Shermarhorn (2003, p.411).

The efficiency of a firm means a positive progress in all its activities. In other words, there is constant improvement in effective firms. Efficiency is a conscious quest. Those

## The Significance Of Service Efficiency Analyses For Marketing Communications And Its Implementation On The Tourism Sector Using The \_\_\_\_\_353 Data Envelopment Analysis Method

who ensure efficiency constantly seek ways of improvement. There surely are persons who well-organize, well-manage, and provide thought for the firm, and those who adopt those thoughts and acknowledge them as their guide. This means that efficiency is an intellectual effort as well as a stance based on this effort, and is a concept that has to be measured constantly for ensuring business success. It is the reflection of the duties held by a firm for achieving its short and long term goals. Efficiency, for it began being used together with the concept of prolificacy, has become a very meaningful performance indicator both for organizations of economic motives, and for organizations of social motives. Measurements that cannot be conducted in places where output measurement is difficult—such as service firms—are mostly made by efficiency and prolificacy indicators. An efficient firm may not be prolific, a prolific firm may not be efficient, or a firm may be neither efficient nor prolific. While a very effective firm may go bankrupt due to low prolificacy, a highly prolific firm may also go bankrupt due to wrongdoings and low efficiency. Therefore no matter how efficient a firm may be, it may have a risky future in terms of success if its prolificacy is low or the output does not contribute to the goals and aims of the organization. The connection between efficiency and prolificacy can be defined as follows: Drucker (1977, p.44): efficiency in firms is vital for success, and prolificacy is a factor that strengthens this success. The activities that contribute to the success of a firm can affect the outcomes of the firm at levels as high as 80-90%. Thus, the duties affecting the outcome in firms have to be pre-defined and fulfilled effectively.

The efficiency of firms can be measured based on the production functions identified by data technologies. The function of production is the function that defines the connection between the input and the output, and also defines the production limit when acknowledged as the higher threshold: Zaim (2001, pp.10-25). The activities in service businesses can be defined only when they are expressed in quantitative terms with a numerical value such as money. The results of comparative productivity analyses show that superior institutions or firms have reached these results by using efficiency. Efficiency can be compared to an intangible and spiritual capital: on one side it is related to human existence, knowledge, capabilities, creativity, and values; and on the other side it is related to social, political and economic structures: Gürsoy (2005, p.324).

# 3. Data Envelopment Analysis (DEA)

Data envelopment analysis is widely used in the efficiency analyses of numerous organizations producing goods and services, because this method has some advantages. One of the most important of these advantages is that more than one input or output can be used in this method. The efficiency and prolificacy analyses are very important tools of management in understanding the level to which input is used for acquiring the intended outputs: Schroder and Anderson (2005,p.4). In situations where performance analysis and efficiency measurement methods, and especially ratio analysis and parameter methods are not satisfactory (especially for multi-input and multi-output situations), the DEA method provides wide range of opportunities for finding solutions: Gülcü (2001, p.119).

| M. Serdar ERCİŞ-Ayhan DOĞAN | Atatürk Üniversitesi Sosyal Bilimler              |
|-----------------------------|---|
| 354 / Sait Sinan ATILGAN    | Enstitüsü Dergisi 2015 19 (1): 349-360            |
| Meryem OKUMUŞ-Hakan ÜN      | 2.1.5.1.5.5.5.2.2.3.5.2.2.2.2.2.1. (1).0.1.3.0.00 |

DEA is a multifaceted efficiency measurement model for measuring the relative efficiency of similar (homogeneous) decision-making units. An efficiency score with multi-input and multi-output factors can be defined as follows:

Efficiency = Weighed Output / Weighed Input

Data Envelopment Analysis is a mathematical programming technique that calculates the relative efficiency of multi decision-making ratios with multi-input and output: Sink (2005, p.8).

Data Envelopment Analysis is a non-parametric method for calculating the technical efficiency of decision making units. The technical efficiency of the decision making unit "k" can be measured by either maximizing the output for a given input level, or minimizing the input for a given output level. This method can define the level and reasons of the lack of efficiency in all decision-making units. This way, the method can be a guide as to see the requisite levels of input decrease or output increase: Farrel (2007, p.253).

Data Envelopment Analysis can only be applied on decision making units that have a similar organizational structure and where same rules are practiced. In order to assess the efficiency of the decision making bodies, the input and output variables regarding these units have to be defined. In order to increase the discretisation ability of the DEA model, there has to be a large number of input and output. Therefore the highest possible number of input and output components has to be chosen, but these input and output components must be in use by all decision making units: Banker (2004, p.44). The DEA method has a dual use feature oriented towards input and output. The input-oriented DEA models, in order to produce an output composition in the most effective way possible, seek the best possible input composition. The output-oriented DEA models, on the other hand, seek the largest level of output composition possible for a given input composition: Charnes ve Cooper (2004, p.12).

## 4. Efficiency Analysis and the Findings

22 ski hotels active in Turkey constitute the major sample group of our research. All of the lodging businesses have been included in the research, and a complete inventory method is used. The lodging businesses in the sample group were subjected to the same examination due to the assumptions that they all were administrated according to the same administrative and legal principles, that they all attain the same output by using the same input, and that they all are homogeneous. In the study, the relative service activities of these lodging businesses for the year 2014 were examined—the examination was conducted using the codification system. The ski resorts that constitute the decision making bodies in the research are: 1.Polat Renaissance Ski Hotel, 2.Palandöken Dedeman Ski Hotel, 3. Tourinn Palan Ski Hotel, 4. Çamkar Sarıkamış Ski Hotel, 5. Simer Ski Hotel, 6. Karabağ Ski Hotel, 7. Toprak Ski Hotel, 8. Class Ski Hotel, 9. Gümüşkayak Ski Hotel, 10. Bozdağ Ski Hotel, 11. Yıldız Ski Hotel, 12. Ilgaz Mountain Ski Hotel, 13. Le Chalet Ski Hotel, 14. Ilgaz Doruk Ski Hotel, 15. Ilgaz Dağbaşı Ski Hotel, 16.Sirene Davras Ski

## The Significance Of Service Efficiency Analyses For Marketing Communications And Its Implementation On The Tourism Sector Using The \_\_\_\_\_355 Data Envelopment Analysis Method

Hotel, 17. Ace Erciyes Ski Hotel, 18. Mirada Del Mar Ski Hotel, 19. Grand Eras Erciyes Ski Hotel, 20. Erciyes Dedeman Ski Hotel, 21.Bülent Ski Hotel, 22. Class Ski Hotel.

In this study, each of the ski resort or lodging businesses is defined as a decision making unit. The decision making units will be subjected to analyses according to a given order. At this stage of the research, quantitative expressions of the input and output regarding the included decision making units will be defined and be prepared for analysis. Because the tourism and lodging sector designate their prices by indexing prices to USD, in order to make the evaluations easier, investment costs, seasonal industrial costs such as the input-output values were all taken and subjected to analysis in USD value. The input to be analyzed are investment costs (IC), seasonal industrial costs (SIC), number of personnel (NP), and number of beds (NB). The output to be analyzed are occupancy rate (OR), and profitability ratio (PR). The input-output data regarding the units to be analyzed are represented on Table 1.

| No YM DİG PS YS DO KO |            |         |            |     |       |       |  |  |  |
|-----------------------|------------|---------|------------|-----|-------|-------|--|--|--|
|                       |            |         |            |     | -     |       |  |  |  |
| 1                     | 15.610.000 | 210.000 | 123        | 550 | 50.05 | 20.09 |  |  |  |
| 2                     | 17.000.890 | 180.000 | 105        | 455 | 57.90 | 26.75 |  |  |  |
| 3                     | 10.000.000 | 110.000 | 95         | 250 | 32.30 | 21.35 |  |  |  |
| 4                     | 1.200.000  | 7.000   | 7.000 15 5 |     | 11.14 | 9.06  |  |  |  |
| 5                     | 1.230.000  | 5.690   | 11         | 49  | 10.34 | 8.90  |  |  |  |
| 6                     | 1.180.000  | 8.921   | 10         | 43  | 15.55 | 9.09  |  |  |  |
| 7                     | 2.350.000  | 14.310  | 45         | 87  | 25.11 | 17.00 |  |  |  |
| 8                     | 1.670.000  | 30.000  | 68         | 81  | 18.80 | 8.96  |  |  |  |
| 9                     | 980.000    | 12.000  | 11         | 35  | 11.90 | 5.80  |  |  |  |
| 10                    | 700.123    | 21.111  | 21         | 32  | 9.03  | 6.11  |  |  |  |
| 11                    | 650.000    | 15.500  | 14         | 25  | 7.15  | 6.20  |  |  |  |
| 12                    | 540.110    | 18.112  | 18.112 12  |     | 5.99  | 7.90  |  |  |  |
| 13                    | 900.00     | 19.000  | 25         | 85  | 6.79  | 9.50  |  |  |  |
| 14                    | 440.000    | 11.350  | 10         | 50  | 7.10  | 9.99  |  |  |  |
| 15                    | 350.000    | 10.06   | 10         | 45  | 6.11  | 8.01  |  |  |  |
| 16                    | 300.000    | 8.00    | 8          | 32  | 5.90  | 6.90  |  |  |  |
| 17                    | 350.000    | 9.20    | 15         | 50  | 7.85  | 8.80  |  |  |  |
| 18                    | 900.000    | 13.050  | 55         | 110 | 49.00 | 45.00 |  |  |  |
| 19                    | 950.000    | 19.00   | 40         | 200 | 41.00 | 60.00 |  |  |  |
| 20                    | 15.000.000 | 150.000 | 100        | 450 | 47.90 | 36.75 |  |  |  |
| 21                    | 450.000    | 10.00   | 15         | 45  | 7.90  | 41.00 |  |  |  |
| 22                    | 400.000    | 15.00   | 25         | 80  | 9.90  | 54.11 |  |  |  |

**Table 1.** The Input-Output Data to be Analyzed for the Year 2014

| M. Serdar ERCIŞ-Ayhan DOGAN | Atatürk Üniversitesi Sosyal Bilimler   |
|-----------------------------|--|
| 356 / Sait Sinan ATILGAN    | Enstitüsü Dergisi 2015 19 (1): 349-360 |
| Mervem OKUMUS-Hakan ÜN      |  |

The system of analysis used here is a relative and input-driven system. The multiinput and multi-output data that constitutes the data values of the lodging businesses were compared using relative analysis system, and as a result of this comparison, service efficiency scores of these businesses were compared. Additionally, the lodging businesses that are insufficient (ineffective) were identified, and their inefficiency scores were presented as ratios. According to the Data Envelopment Analysis, the efficiency usage ratio of the units is 1. This ratio represents a perfect harmony between the inputs and the outputs of the lodging businesses. After naming the effective and ineffective units, effective and ineffective decision making units that resemble each other the most were picked by the analysis system, and were designated to be pilot models called "reference sets". In order to have the ineffective firms resemble the effective reference sets, the required changes in input-output levels and the quantity of these changes were evaluated. The EMS analysis results of the input-output data regarding lodging businesses are represented in Table 2.

| No | Score  | YM   | DIG  | PS   | YS   | DO   | KO   | Benchmark         | YM   | DIG  | PS   | YS   | DO   | KO   |
|----|--------|------|------|------|------|------|------|-------------------|------|------|------|------|------|------|
| 1  | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 20                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 2  | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 1                 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 3  | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 2                 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 4  | 56,77% | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 2{1,04},12{5,79}  | 0,00 | 0,23 | 0,12 | 0,00 | 0,11 | 0,00 |
| 5  | 45,10% | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 19{4,55}          | 0,00 | 0,00 | 0,21 | 0,16 | 0,89 | 0,32 |
| 6  | 79,33% | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 15{3,99},11{5,80} | 0,01 | 0,05 | 0,00 | 0,09 | 0,25 | 0,67 |
| 7  | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 8                 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 8  | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 7                 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 9  | 82,18% | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 16{1,04},12{5,79} | 0,00 | 0,08 | 0,10 | 0,00 | 0,09 | 0,03 |
| 10 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 19                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 11 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 10                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 12 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 18                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 13 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 13                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 14 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 22                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 15 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 16                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 16 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 21                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 17 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 14                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 18 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 19                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 19 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 11                | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 20 | 100%   | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 3                 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| 21 | 67,12% | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 3{4,69}           | 0,05 | 0,02 | 0,00 | 0,06 | 0,11 | 0,09 |
| 22 | 74,00% | 1,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 1{1,94},15{2,70}  | 0,00 | 0,08 | 0,03 | 0,00 | 0,06 | 0,12 |

Table 2. The 2014 Efficiency Analysis Results of the Lodging Businesses

## The Significance Of Service Efficiency Analyses For Marketing Communications And Its Implementation On The Tourism Sector Using The \_\_\_\_\_357 Data Envelopment Analysis Method

Out of the 22 ski hotels subjected to analysis, 16 were effective in service production. The ineffective units in service production are the lodging businesses #4, 5, 6, 9, 21, and 22. Experimental results present the reasons for the inefficiency of the firms as follows:

- The efficiency score of unit #4 is 56.77, which translates as an inefficiency score of 43.23. The reason for this score is excessive input and low output. This decision making unit has high levels in Seasonal Industrial Costs (0.23) and Number of Personnel (0.12), or a low level in Occupancy Rate (0.11). If these shortcomings are overcome, they can become efficient in the service sector by taking the lodges #2 and #12 as exemplars.
- The efficiency score of unit #5 is 45.10, which translates as an inefficiency score of 54.90. The reason for this score is excessive input and low output. This decision making unit has high levels in Number of Personnel (0.21) and number of beds (0.16), or a low level in Occupancy Rate (0.89) and Profitability Ratio (0.32). If these shortcomings are overcome, they can become efficient in the service sector by taking the lodge #19 as an exemplar.
- The efficiency score of unit #6 is 79.33, which translates as an inefficiency score of 20.67. The reason for this score is excessive input and low output. This decision making unit has high levels in Investment Costs (0.01), Seasonal Industrial Cost (0.05) and Number of Beds (0.09), or a low level in Occupancy Rate (0.25) and Profitability Ratio (0.67). If these shortcomings are overcome, they can become efficient in the service sector by taking the lodges #11 and #15 as exemplars.
- The efficiency score of unit #9 is 82.18, which translates as an inefficiency score of 17.82. The reason for this score is excessive input and low output. This decision making unit has high levels in Seasonal Industrial Costs (0.08) and Number of Personnel (0.10), or a low level in Occupancy Rate (0.09) and Profitability Ratio (0.03). If these shortcomings are overcome, they can become efficient in the service sector by taking the lodges #12 and #16 as exemplars.
- The efficiency score of unit #21 is 67.12, which translates as an inefficiency score of 32.88. The reason for this score is excessive input and low output. This decision making unit has high levels in Investment Costs (0.05), Seasonal Industrial Costs (0.02) and Number of Beds (0.06), or a low level in Occupancy Rate (0.01) and Profitability Ratio (0.09). If these shortcomings are overcome, they can become efficient in the service sector by taking the lodges #3 as an exemplar.
- The efficiency score of unit #22 is 74.00, which translates as an inefficiency score of 26.00. The reason for this score is excessive input and low output. This decision making unit has high levels in Seasonal Industrial Costs (0.08) and Number of Personnel (0.03), or a low level in Occupancy Rate (0.06) and Profitability Ratio (0.12). If these shortcomings are overcome, they can become efficient in the service sector by taking the lodges #1 and #15 as exemplars.

M. Serdar ERCİŞ-Ayhan DOĞAN 358 / Sait Sinan ATILGAN Meryem OKUMUS-Hakan ÜN Atatürk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi 2015 19 (1): 349-360

When looked at the results of the analysis from the Marketing Communications Management point of view, the decision making units that are unsuccessful in service production have to reconsider their marketing, publicity, and public relations activities. All the firms without an effective score had an output problem. In other words, all six ski hotels are deficient in occupancy rate and profitability ratio. These firms must seek ways to overcome their output deficiency. Therefore, these firms must reevaluate their Marketing Communications, and try to overcome their shortcomings by comparing themselves to the related exemplars in areas of marketing, publicity, and public relations practices.

#### **Conclusions and Recommendations**

The results of the research show that the lodging businesses with a considerable impact on the service sector have a larger number of customers in comparison to those who have a smaller impact; and therefore those with a larger impact have bigger occupancy rates and net profit rates. One of the reasons why lodging businesses cannot establish an effective service is that they acquire less output by using more input. This problem is derived either from the inability of the lodging businesses in creating demands that suit their own capacity, or their inability to correctly designate their capacity due to misguided demand predictions. Hence, lodging businesses must reconsider their prediction policies, and establish new strategies that will allow closer predictions.

Customer satisfaction rate is vital for lodging businesses. Factors such as disruptions in service and quality may negatively affect the preferences of their existing and potential customers. This constitutes a problem requiring urgent solution, and holds a guiding feature for marketing communications management. On the other hand, when looked at the service structure of the lodging businesses, the input costs appear to be of significance. Idle capacity increases the input costs, high input costs directly affect the cost of the service and the annual profit mark-up. As the service price increases based on the costs, both the existing and the potential demand gets affected negatively. When looked from this point of view, the negative effects problem of capacity usage on service efficiency becomes clear, and whether the capacity is used effeciently becomes a vital subject for the lodging businesses. Either way, since it is clear that abandoning of lodging businesses is impossible, these businesses must use their input resources at the optimum level, produce outputs that are in harmony with the input, place service efficiency at the top of their agenda, and periodically monitor their service-related performance by efficiency measurements. Such efforts oriented towards service efficiency, make it obligatory to use multi-faceted measurement techniques for establishing a strong service system for lodging businesses. Through such methods the organizations will be able to determine the level to which they can increase or decrease their input or output, and optimize the distribution and usage of resources in their own systems.

Inefficient and irrational marketing practices have a significant impact in the inefficiency of the lodging businesses. This inefficiency decreases net profits based on

The Significance Of Service Efficiency Analyses For Marketing Communications And Its Implementation On The Tourism Sector Using The \_\_\_\_\_359 Data Envelopment Analysis Method

the rates of expenditures and customer insufficiency. Service efficiency analyses are very important for marketing, publicity and public relations practices. Marketing executives and staff have to structure their styles of action, long-term plans and marketing strategies accordingly. Especially in units that has an output deficiency, reviewing the marketing, publicity and public relations activities, and increasing customer-oriented activities by establishing alternative strategies is a must. The efficiency of marketing communications, publicity and public relations activities have an important role in optimizing outputs such as occupancy and profitability rates. The tourism sector, and the lodging sector which constitutes a significant branch of tourism, has a dynamic nature. Therefore, while the lodging businesses that are active in service production should keep their existing efficiency policies, in order to sustain their effective position, they also have to follow the new developments regarding the sector, the marketing communications policies of their competitors, and adopt a changeable nature that is open to these new developments. Such a style of action is also important for less active lodging businesses for quickly adopting to this dynamic structure high speed of development. The lodging businesses that are inefficient in service production must take the efficient units and practices of their opponents as exemplars, and choose to make use of their service strategies as best as they can.

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