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MEASURING SERVICE QUALITY EFFICIENCY USING DINESERV

Abstract: Many Instruments that are developed and used to measure and evaluate the service quality do not provide a metric for firms to reference in order to adjust their resources to improve service quality. To address this deficit, this study aims at measuring the relative service-quality efficiency of fast food restaurants in a franchise system using data envelopment analysis (DEA). According to the results of the DEA model, efficient and inefficient outlets in the franchise system are identified even though there are no statistically significant differences between the restaurants in regard to their respective service quality scores. The findings open up a new discussion on how would service provider view service quality while taking into consideration efficiency of their business since the results suggest that when firms focus strongly on service quality, a decline in efficiency may result. Keywords: DINESERV, Data envelopment analysis, Service

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1. Introduction

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Since the proposal of Service Dominant (S-D) Logic (Vargo & Lusch, 2004), service providers with an S-D logic orientation have placed their customers at the heart of their business activities. That is, such service providers have focused on the factors that impact customer satisfaction and loyalty and ultimately service quality has come to be seen as an essential factor in driving financial performance. In fact, firms that excel in terms of service quality can show a distinct competitive advantage, which leads to consistently superior performance as compared to that of other firms.

To retain their customers in a competitive market, service providers must ensure that consistent service quality is maintained in order to satisfy customers' needs, which can be wide-ranging and complex (Wang, Wang,

& Tai, 2016). However, because of the unique attributes of service quality in the service industry and the fact that service quality is assessed by customer perception and the interaction between the service provider and the customer (co-production), service providers have to understand how customers perceive the quality of services provided and how these perceptions translate into customer satisfaction and loyalty (Olorunniwo et al., 2006; Tse & Wilton, 1988). In fact, Hult et al. (2017) tested the drivers for customer satisfaction using three factors: perceived quality, perceived value, and customer expectations. Their structural model results show that perceived quality has a strong and positive influence on both perceived value and customer satisfaction.

One business model that offers substantial advantages for consistent service quality is franchising (Knott, Corredoira, & Kimberly,

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2008). In a franchise system, customers expect to receive the same standard of service or quality regardless of a store or service's location and regardless of the form of management at any given operation, thus the need to ensure consistent service quality ends up to be an essential strategic competency for franchisor who are likely interested in building superior customer satisfaction and loyalty and well eventually help in building a strong brand. Cao & Kim (2015) argued that customer perception of underperforming service quality in one unit could potentially lead to poor perception about the brand as a whole.

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The franchise system has been is prominent part in the hospitality industry where franchisees can provide franchisor with the specialized knowledge in product design and marketing. In addition, franchising can facilitate building a competitive advantage for the franchisor since they can offer managerial and financial resources to ensure the business success of the franchisor (Stanworth et al., 2004). Sun and Lee (2018) argued that providing such needed support in equipping the franchisor with knowledge and resources that would aid in building their competitive advantage is more critical in the hospitality industry compared to other service industries. However, hospitality industry is very competitive which would require high quality services that may provide competitive advantage for service provider (Zaibaf et al., 2013). In fact, Zaibaf et al. (2013) results indicate a positive and significant effect of perceived quality on customer satisfaction in the hospitality industry.

In the management literature, many models and instruments have been used to assess service quality. The earliest and most popular assessment tool is the SERVQUAL instrument based on the GAP model (Parasuraman, Zeithaml, & Berry, 1985). (For a comprehensive review of service quality instruments see Seth, Deshmukh, and Vrat (2005). The SERVQUAL instrument was then pursued by many other models that

sought to develop the generic SERVQUAL. One such model, which is of interest to this research, is DINESERV (Stevens, Knutson, & Patton, 1995), which is used to measure service quality in restaurant-type settings. The DINESERV instrument has been used in many restaurant settings, including fine dining (Knutson, Stevens & Patton, 1996), casual dining (Kim, McCahon, & Miller, 2003), fast food (Adeinat & Gregg, 2018; Bougoure & Neu, 2010; Wang, Lin & Tsai, 2018), food courts (Keith & Simmers, 2011), chain restaurants (Polyorat & Sophonsiri; 2010), and school dinning (Kim, Ng, & Kim, 2009).

DINESERV is of great use in measuring the performance of restaurants because it has the ability to compare the overall quality scores service units with the average of performance of a set of similar service units under consideration in order to identify those that are underperforming, those that are performing to an average standard, and those that are performing to the highest standards. However, this approach, though useful in terms of a general indicator of standards provides little guidance to service providers in regard to the specific quality dimension(s) that underperforming service units should focus on in order to effect needed improvements.

To address this limitation, the present paper relies on data envelopment analysis (DEA) to determine the efficiency of individual service units. DEA is a linear programming tool used to measure the relative efficiency of decision-making units (DMUs) with complex relations between multiple inputs and multiple outputs. DEA does not assign any prescribed functional forms or any prescribed weights to each input and output. Paradi and Zhu (2013) In addition, emphasized that DEA can be used successfully to provide benchmarking guidelines for inefficient DMUs by assigning efficient DMUs to function as role models. In fact, in the fast food industry Min and Min (2011) stressed out that benchmarking ET VERSION is considered an effective way to sustain

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Although DEA was originally developed to measure the efficiency of DMUs with multiple inputs and multiple outputs, dealing with service quality in this context is challenging as the relevant service-quality dimensions are more difficult to identify as an input or output than is the case with conventional production processes. Using the SERVOUAL gap as a pure input model, Charles and Kumar (2014) assessed the service of 13 major banks in Malaysia. Other researchers have considered service-quality dimensions as an output of the DEA model (Lee & Kim; 2014; Najafi, Saati, & Tavana, 2015; Soteriou & Stavrinides, 2000).

However, the links in the framework of the service profit chain (SPC) proposed by Heskett et al. (1994) clearly show that service quality constitutes an input to customer satisfaction and customer loyalty. Many researchers have confirmed the positive significant relationship between service quality and customer satisfaction and customer loyalty (see Adeinat & Kassim, 2019; Kamakura et al., 2002; Maddern et al., 2007; Maritz & Nieman, 2008; Pritchard & Silvestro, 2005; Silvestro & Cross, 2000; Yee et al., 2011, among others) in different industries and in developing and developed countries. Therefore, the present study utilizes the gap in the dimensions of service quality as the inputs for the DEA model and use customer satisfaction and loyalty as the outputs for the model. This approach is used to determine the service quality of fast food restaurants in a franchise system.

In order to evaluate these DMUs, the study control for ownership and location to obtain a group of DMUs that are similar in terms of inputs, outputs, and management style. Whereas Adeinat and Gregg (2018) assessed the service quality of fast food franchises owned by the same franchisee and found evidence of consistent service quality across them. This present study consider how to rate differences in service quality and efficiency across franchise units. It is ET VERSIO

expected to find that the relative DEA efficiency score will provide insights into any difference in efficiency between DMUs, establishing thereby а basis for benchmarking the DMUs in terms of both efficiency and service quality.

The remainder of this paper is organized as follows. In Section 2, the mathematical model related to DEA is presented. In Section 3, the DINESERV instrument employed to measure service quality in restaurant settings is introduced and described. Section 4 comprises descriptions of the data collection procedure and the study sample, and Section 5 presents the finding and analysis. Finally, in Section 6, the results are explored further and the implications of the research findings are discussed.

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2. Mathematical model

DEA is a linear programming model designed to determine the relative efficiency of decision-making units' performance as characterized by multiple attributes. First proposed by Charnes, Cooper, and Rhodes (1978) (CCR, hereafter) based on the work of Farrell (1957), DEA is considered a powerful management tool for determining the efficiency of similar entities. In fact, a wide variety of DEA applications have been implemented in various settings such as hospitals (Miller et al., 2017; O'Neill et al., 2008), airports (Lozano, Gutiérrez, & Moreno, 2013; Yoshida & Fujimoto, 2004), banks (Staub et al., 2010; Schaffnit, Rosen & Paradi, 1997), and schools (Sagarra, Mar-Molinero & Agasisti, 2017).

The defining purpose of DEA is to determine the efficiency of DMUs while estimating the relative efficiency of each. Consider a set of j restaurants. Each restaurant in the set has a vector of inputs $X = (x_{1j}, x_{2j}, ..., x_{ij})^T$ that a vector of outputs Y =produce $(y_{1i}, y_{2i}, \dots, y_{ri})^T$. The relative efficiency (ϕ) is then defined as the ratio of the ET UP98-SION weighted sum of its outputs to the weighted

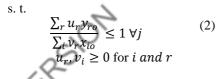
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sum of its inputs and is calculated as follows:

$$\phi = \frac{\sum_{r} u_r y_{ro}}{\sum_{i} v_r x_{io}} \tag{1}$$

where u_r is the weight given to input x_{io} and v_i is the weight given to output y_{ro} . The relative efficiency ϕ is used to determine the relative ratios of the DMUs as the CCR construction of reducing the multiple-output/multiple-input situation for each DMU. In this model, each DMU determines its own optimal weights and achieves its highest level of efficiency. The CCR model can then be stated as

$\max \phi$



To transform this CCR model into a linear programming (LP) model, the denominator is fixed to a constant value, which translates into a new constraint on weight v_i . This transformation results in the following model:

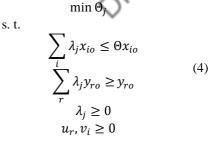
$$\max \sum_{r} u_{r} y_{ro}$$
. t.
$$\sum_{i} v_{r} x_{io} = 1$$

$$\sum_{r} u_{r} y_{ro} \leq \sum_{i} v_{r} x_{io} \forall j$$

$$u_{r}, v_{i} \geq 0 \text{ for } i \text{ and } r$$
(3)

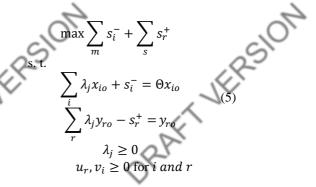
In general, the efficiency score is usually given by a number between 0 and 1. The efficiency score of any one DMU shows its efficiency relative to that of the other units in the sample. To compute the CCR model, a dual LP model is preferable. Thus, the dual CCR model can be stated as

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As noted above, DEA is also used to benchmark the DMUs and to set target values for the inputs and outputs for an inefficient DMU to achieve. For example, the target value for an input is set by multiplying the input value by the optimal efficiency score and then subtracting the slack values. Then, the slack values can be determined using the following LP model:



3. Measuring Service Quality: DINESERV Instrument

Knutson, and Patton (1995) Stevens. introduced the DINESERV instrument to assess customers' perceptions of the service quality at restaurants. Adapted from the SERVQUAL model developed by Parasuraman et al. (1985), DINESERV is considered a reliable and relatively simple tool for determining how customers view a restaurant's quality. In fact, the DINESERV model has been validated by scholars in multiple dining settings. Specifically, Stevens, Knutson, and Patton (1995) validated the use of DINESERV for ET VERSION measuring service quality in three distinct restaurant settings: quick

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JRAFT VER casual/theme, and fine dining restaurants. Kim, McCahon, and Miller (2003) validated the service dimensions of DINESERV in casual dining restaurants in Korea while highlighting possible differences between them in terms of the perceived service quality of each.

> Kim, Ng, and Kim (2009) investigated the relative importance of the five dimensions of the DINESERV instrument for customer satisfaction with dining facilities at a US public university. Their results show that each of the five dimensions had a significant positive effect on customer satisfaction. Using a similar approach, Polyorate and Sophonsiri (2010) utilized the five dimensions of the DINESERV instrument to determine the potential influence of each dimension on customer satisfaction with and loyalty to chain restaurants in Thailand. Their results show that only two of the five dimensions have a significant influence on customer satisfaction and customer loyalty: namely, tangible and empathy.

> The DINESERV instrument comprises a 29item service-quality scale covering five dimensions of quality: tangible (TAN), reliability (REL), responsiveness (RES), assurance (ASS), and empathy (EMP). Some studies present a modified version of DINESERV and include other dimensions of quality such as the taste of the food, price, cleanliness, location, amenities, safety, employee courtesy, operating hours, and the availability of healthy menu choices (Kara, Kaynak, & Kucukemiroglu, 1995; Min & Galle, 1996; Tsai, Shih, Chen & 2007).

The survey used in this study comprises the 29 DINESERV items. The respondents were asked to rate each of the 29 statements using a 7-point Likert scale. In addition, as part of the survey, the respondents were asked to rate their level of satisfaction with and loyalty to the restaurant. In particular, four items designed to measure customer satisfaction (SAT) were developed to assess the customers' level of satisfaction with the purchased meal, the service provided, the ET VERSION

transaction, and handling of customer dissatisfaction. In terms of customer loyalty (LOY), five items were developed to assess the extent to which customers were likely to make more purchases in the future and to recommend the restaurant to others. The complete survey used in this study can be found in the Appendix.

4. Sample and data collection

To control for franchisee ownership, three restaurants owned by the same franchisee were selected. The name of the chain restaurant is withheld due to a nondisclosure agreement with the franchises management. The three selected DMUs are located in south Kanas City in the US. DMU1, the oldest location, opened in 1997, followed by DMU2, which opened in 2000, and DMU3, which opened in 2005. The DMUs range from between 3,000 to 4,500 sq. ft. The average number of customers served daily varied considerably between the DMUS: DMU2 had the highest daily average of 375 customers; DMU1 came in second with 366 customers, followed by DMU3 with only 150 customers.

the three DMUs The customers at constituted the target population for the study. The respondents were targeted at the DMUs, where the author distributed the surveys in person after the customers had ordered their food and was sitting down ready to eat. The customers were asked to fill out the survey after they had finished eating and to bring the completed survey to the counter at the front of the restaurant. The author gave the respondents a chance to ask any questions they might have while filling out the survey and to add their own comments at the end of the survey if they wished. The fieldwork took place over a one-month period.

One hundred and twenty surveys were handed out equally in each of the DMUs of which ninety surveys were obtained, of ET UPSESION which seven were excluded because of

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The sample missing data. was size determined using Cochran's sample size formula (Barlett et al., 2001). In which, sample size $n=(z^2 p(1-p))/m^2$, where z =1.645 for 90% confidence interval, m: margin of error which generally ranges from 3% to 7% in social science research, and p: is the estimated value of the proportion of a sample that will respond a given way to survey questions. The respondents represent a diverse sample in terms of educational level, gender, and age. In terms of educational level, the highest level achieved by 12% of the respondents was a High School diploma, for 72% the highest level was a bachelor's degree, and for about 16% the highest level was higher education.

The respondents ranged in age as follows: 13% were aged between 18 and 24, 24% were between 24 and 34, about 15% were between 35 and 44, 30% were between 45 and 60, and the rest were 20 years of age and older. In regard to gender, 40% of the respondents were male and 60% were female. Table 1 shows the respondents' profile for each of the three DMUs.

		DMU1	DMU2	DMU3
Gender	Male	53.57%	40.74%	25.00%
	Female	46.43%	59.26%	75.00%
Educational level	High school diploma	10.71%	11.11%	14.29%
4	Bachelor's degree	60.71%	74.07%	82.14%
C	Higher Ed.	28.57%	14.81%	3.57%
Age group	18–24	14.29%	11.11%	14.29%
S	25–34	17.86%	25.57%	28.57%
	35–44	14.29%	14.81%	14.29%
NV.	45-60	28.57%	44.44%	17.86%
1	>60	21.43%	18.52%	14.29%

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Source: Survey data

Analysis and findings

Next, the reliability of the measure is established used for the survey. The reliability measurement instrument was determined using Cronbach alpha coefficients (Cronbach, 1951). Table 2 shows that the Cronbach alpha coefficient for all the constructs ranged from 0.742 to 0.937, which is considered a very high level of reliability

Table 2. Reliability Test	Table	2. R	leliat	oility	Test
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	DMU1	DMU2	DMU3
TAN	0.876	0.922	0.910
REL	0.782	0.937	0.787
RES	0.816	0.749	0.848
ASS	0.854	0.914	0.816
EMP	0.835	0.856	0.742
SAT	0.865	0.852	0.841
LOY	0.798	0.793	0.756

Based on DINESERV, Table 3 reports the results for the expectation and perception score for each of the five dimensions for each DMU. The items with the highest expectation scores were REL and EMP. For example, DMU1's highest expectation scores were for REL and RES, DMU2's highest expectation scores were for REL and ASS, and DMU3's highest expectation scores were for REL and ASS. On the other hand, the highest perception scores were also REL and EMP: DMU's1 highest perception scores were for REL and EMP, DMU2's highest perception scores were for REL and ASS, and DMU3's highest perception scores were for REL and ASS. In summary, REL seems to be the most valued attribute from the customer point of view for each of the DMUs.

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Source: SPSS output

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RAFTVER In addition, service quality scores (SQ) can be determined as the average of customers' perceptions for service quality dimensions. All three DMUs have relatively had very high score on service quality. DMU2 received the highest score (SQ=6.41)followed by DMU1 (SQ=6.38) and finally DMU3 (SQ=6.33). Further to test if any statistical difference between the SQ at these DMUs exist ANOVA test is carried out. The ANOVA result suggest that no statistical difference in the level of service quality F(2,86) = 0.66, p = 0.52.

> To test whether service quality scores differ based on gender amongst respondent, one way ANOVA was carried out for the entire sample size and the result suggest that there is no statistical difference among female and male group F(5, 83) = 1.69, p = 0.15. In addition, the ANOVA results for the individual DMU suggests no statistical difference between gender groups in both DMU1 (F(3, 25) = 1.09, p = 0.37) and DMU 2 (F(3, 26) = 1.69, p = 0.14), but it does indicate that a statistical difference between female and male view on service quality in DMU3 F(2, 27) = 3.46, p = 0.05, which could be explained by the disproportioned sample in regard to gender in DMU3 compared to the two other DMUs (see Table 1).

Table 3. Customers' Expectations and Perceptions

Terep	uons				
	TAN	REL	RES	ASS	EMP
Custome	rs' expect				
DMU1	6.50	6.69	6.60	6.58	6.65
DMU2	6.52	6.71	6.63	6.83	6.65
DMU3	6.56	6.70	6.61	6.67	6.66
Custome	rs' percep				
DMU1	6.18	6.52	6.40	6.47	6.32
DMU2	6.28	6.55	6.35	6.63	6.23
DMU3	6.24	6.48	6.33	6.36	6.24
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Source: SPSS output

As discussed, the focus of the present study is the gap score—i.e., the difference between the customers' expectations and the customers' perceptions each on ET VERSIO

DINESERV dimension as inputs to the DEA model, with SAT and LOY serving as the model outputs. Najafi, Saati, and Tavana (2015) argued that the CCR model without inputs (or without outputs) is meaningless. In fact, an input- (or output-) oriented CCR model coincides with the corresponding Banker-Charnes-Cooper (BCC) model (Banker, Charnes & Cooper, 1984). On this basis, the model has five inputs and two outputs for each DMU included in the study, as reported in Table 4.

It is worth noting that the highest gap scores were for TAN, EMP, and RES. More specifically, DMU1's highest gap scores were for TAN and EMP, DMU2's highest gap scores were for RES and EMP, and DMU3's highest gap scores were for TAN and EMP. The disparities of service quality gap scores are not surprising given that different level of management evolvement in these DMUs, as reported by employees, even though it is the same investor. In addition, it is clear that the gap score in EMP was found in all DMUs which indicate that customers of this franchise feel that they are not given attention to their needs. Management should focus on giving proper training to their employees to address customer needs and reduce the gap between customer perception and expectation in regard to empathy. Adeinat and Kassim (2019) argued that investment in frontline employees in the service industry is critical to customers' perception of service quality and so management in the service industry should recognize the need to revamp recruiting and training practices.

Table 5 reports the efficiency score for each DMU. The scores show that two of the three restaurants. DMU1 and DMU2. are operating efficiently, whereas DMU3 is considered inefficient. This result suggests that similar service-quality scores across restaurants do not indicate that they are operating at a similar level of efficiency in terms of inputs and outputs. In fact, Brissimis and Zervopoulos (2012) argued ET UPSRSION that an increase in perceived service quality

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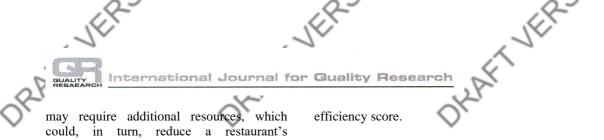


	Table 4. I	Inputs and	Outputs for	or the l	DEA Model
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		Inputs			Out	puts	
	TAN	REL	RES	ASS	EMP	SAT	LOY
DMU1	0.32	0.17	0.20	0.11	0.33	6.59	6.15
DMU2	0.24	0.16	0.28	0.20	0.42	6.75	6.36
DMU3	0.32	0.22	0.28	0.31	0.42	6.16	5.32
CCDCC							

Source: SPSS output

Table 5 reports the results for the  $\lambda$  (lambda) weights, which are estimated by solving the dual version of the LP in (Eq. 4). The  $\lambda$ scores represent the efficiency reference set for each inefficient DMU. Thus, the inefficient DMU3 can be benchmarked with both DMU1 and DMU2. The  $\lambda$  weights are very close in value for DMU1 and DMU2; however, the immediate goal of DMU3 would be to become more like DMU1 rather than more like DMU2, as observed from the respective  $\lambda$  weights of DMU1 and DMU2  $(\lambda 1 = 0.498, \lambda 2 = 0.427, \text{ respectively})$ . It is worth noting that Table 5 does not report a reference set for the efficient DMUs, which indicates that such DMUs function as their own benchmarks.

Table 5. Efficiency Scores

	Score	Rank	Reference set
DMU1	1.000	1	/
DMU2	1.000	1	/
DMU3	0.818	3	DMU1 ( $\lambda = 0.498$ ) DMU2 ( $\lambda = 0.427$ )

Source: DEAP output

 Table 6. Projection Values

to which the inputs and outputs for the inefficient DMU must improve in order for that DMU to operate efficiently. Table 6 shows the target value for each input and output for each DMU. The target values are a measure of the slack value added to the proportional reduction amount for each input needed to improve outputs. As can be seen from the table, the target values for efficient restaurants are equivalent to their original values. However, the projection indicates that DMU3 must improve its customer satisfaction level by 22.29% and its customer loyalty level by 32.74%. For DMU3, this can be achieved by reducing the gap score for ASS by 44.74%, REL by 15.02% and RES by 4.35%. It is worth mentioning that the highest reduction in all three DMUs is related to EMP dimension, management can start working on setting training course to their employees that would help in reducing

In addition to providing a basis for

benchmarking, DEA also indicates the extent

their employees that would help in reducing the gap score regarding empathy dimension of quality.

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	ojection values							
		TAN	REL	RES	ASS	EMP	SAT	LOY
DMU1	Original	0.32	0.17	0.20	0.11	0.33	6.59	6.15
	Projection	0.32	0.17	0.20	0.11	0.33	6.59	6.15
DMU2	Original	0.24	0.16	0.28	0.20	0.42	6.75	6.36
	Projection	0.24	0.16	0.28	0.20	0.42	6.75	6.36
DMU3	Original	0.32	0.22	0.28	0.31	0.42	6.16	5.32
	Projection	0.32	0.19	0.27	0.17	0.42	7.53	7.07

Source: DEAP output

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# International June 6. Conclusion and Implications

Service-quality instruments have been used extensively in the literature to measure and evaluate the average performance of many types of service firms. However, these instruments fail to provide a metric whereby firms can adjust their resources to improve service quality. To overcome this issue, the DEA approach is used herein to measure the relative efficiency of firms that are similar in regard to inputs and outputs in order to determine which firms are operating efficiently and which are operating inefficiently. The approach proposed herein also offers inefficient firms a benchmark for best practices and projections in order to improve their inputs and/or outputs as needed according to the benchmarking protocol.

Scholars who have used DEA to assess service quality have addressed servicequality dimensions as either inputs or outputs on the grounds that it is considerably more difficult to identify the service-quality dimensions than is the case for conventional production processes. In this study, servicequality gaps-i.e., the difference between customers' expectations and customers' perceptions-were considered inputs to the DEA model whereas customer satisfaction and customer loyalty were considered as outputs from the DEA model. According to the results of the analysis, two efficient firms and one inefficient firm were identified and the latter was provided with a reference set as a benchmark for best practices. Another interesting result of this paper is that even firms with similar service quality scores do not necessarily function at a similar level of perceptive.

efficiency. It could be that this result is attributable to the fact that a firm's focus on perceived service quality requires additional resources, which may reduce the efficiency score.

Another practical observation is that although the DEA model provides service providers with target values for their inputs and outputs, it is often difficult to eliminate all existing gaps in quality quickly. However, management can use the projected target value estimated by the DEA model to improve service quality in the long term by focusing on the firm's weaknesses and inefficiencies relative to other firms that share same inputs and outputs.

The results of this paper shows that empathy dimension should receive the at most attention as it received the highest gap reduction among the different DMUs under study. This highlights an important managerial implication that shed the light on the importance of improving frontline employees through investment in people and training practices offered to address customer needs.

Finally, some limitations should be addressed. First, this study only examined one fast food service quality from the customer perspective by addressing the gap between their expectations and perception. One of the future scopes of the study could be incorporating management expectations and perceptions towards service quality into the DINESERV to address other gaps in the gap model, the results would be used to benchmark the different DMUs against service quality from the management's

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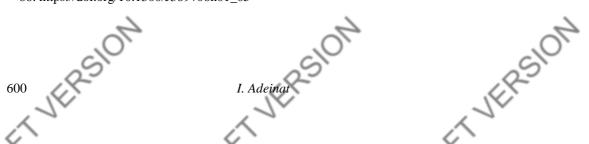
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# Iman Adeinat

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SION A	SION	GION
602	I. Adeinat	LP-S
L'	L'	L'



#### Table A1. Research Questionnaire

	a) Tangible		
	TAN 1	The parking area and the building exteriors are visually attractive	
	TAN 2	Dining area us visually attractive	
	TAN 3	Staff are clean, neat and appropriately dressed	
	TAN 4	The restaurant décor is keeping with its image and price range	
	TAN 5	The menu is easy to read	
	TAN 6	The menu reflects the restaurant's image	
	TAN 7	The dining area is comfortable and easy to move around in	
	TAN 8	The restrooms are thoroughly clean	
	TAN 9	The dining areas are thoroughly clean	
	TAN 10	The seats in the dining room is comfortable	
	b) Reliability		
	REL 1	The food was served in the time promised	
	REL 2	Quickly corrects anything that is wrong	
	REL 3	The service is dependable and consistent	
	REL 4	The bill provided to me was accurate	
	REL 5	I was served the same food that I ordered	
		eness The restaurant	
	RES 1	maintains their speed and quality during busy times	$\cdot \circ$
	RES 2	provides prompt and quick service	
	RES 3	makes extra effort for handling special requests	0
	d) Assurance		*
	ASS1	Employees can answer my questions completely	
	ASS2	The restaurant make me feel comfortable and confide t in dealing with them	
	ASS3	The restaurant's staff are able and willing to give me information about menu items,	
1		their ingredients, and methods of preparation	
0	ASS4	The restaurant makes me feel personally safe	
$\sim$	ASS5 ASS6	The restaurant's staff seems well trained, competent and experienced	
$\sim$		The restaurant seems to give employees support that they can do their jobs well The restaurant	
	e) Empathy T EMP 1	employees are sensitive to my individual needs and wants, rather than always relying on	
		policies and procedures	
	EMP 2	makes me feel special	
	EMP 3	anticipates my individual needs and wants	
	EMP 4	employees are sympathetic and reassuring if something is wrong	
	EMP 5	seems to have customers' best interests at heart	
		Satisfaction I am satisfied with the	
	SAT 1	price of my purchase at this restaurant	
	SAT 2	inquiry service provided by this restaurant	
	SAT 3	customer service in transactions.	
	SAT 4	service of handling customer dissatisfaction in this restaurant	
	g) Customer		
	LOY 1	I intend to do more visits to this restaurant in the coming weeks.	
	LOY 2	I will recommend this restaurant to others	
	LOY 3	I will encourage my friends and relatives to visit from this restaurant	

-r VERSION

-T VERSION





