

*Full Length Research Paper*

# Marketing mix (7P) and performance assessment of western fast food industry in Taiwan: An application by associating DEMATEL and ANP

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To cope with consumer's behavioral change, the number of fast food has increased year by years, from 260 stores in 1995 to more than 700 stores today, the growth is more than three times. There are even four or five fast food stores in one kilometer, which shows its severe competition state. In such severe competition environment, some fast food stores might stand out but some fast food stores have to withdraw from the market due to bad business operation. When the supplier has to think how to enhance the business operation performance continuously, how to, aiming at core issues, perform the most effective improvement, thus becomes so important. However, in Taiwan's fast food industry, what is the key successful marketing mix (7P) is the focus to be investigated by this research. Therefore, in this study, through Decision Making Trial and Evaluation Laboratory (DEMATEL) and through expert's view point, the mutual relationship among marketing mix (7P) perspectives in the fast food industry is found out. Then, through Analytic Network Process (ANP), expert's view of important rankings of marketing mix (7P) in fast food industry is thus investigated so as to perform the most effective improvement. Finally, Simple Additive Weighting (SAW) method is used to evaluate the performance of the western chain store fast food industry and to analyze the current status of each fast food industry and to provide suggestions for them.

**Key words:** Fast food, marketing mix, Decision Making Trial and Evaluation Laboratory (DEMATEL), Analytic Network Process (ANP), Simple Additive Weighting (SAW).

## INTRODUCTION

In a small Taiwan with population of only 23 million, there are as many as 714 fast food stores, and such high density is really unbelievable. The importance of fast food to the general public is so clear. Thus, it can be seen that lots of fast food suppliers withdrew from Taiwan market in the period 1995 to 2010, some fast food suppliers even show negative growth, and some show stable growth, that is, the development result shows two extreme cases. In such competitive environment, each fast food supplier has its marketing way, some succeed and some fail. The research motivation of this article is that under fast food industry of severe competition, it is interesting to know what kind of marketing mix can be proved to be outstanding in this battle. In this research, by using DEMATEL (Decision Making Trial and Evaluation Laboratory) method, the mutual influence of marketing

mix (7P) in fast food industry is going to be investigated. From questionnaire survey performed on experts, we try to use ANP (Analytic Network Process) to understand the importance ranking of marketing mix (7P) in fast food industry, and SAW (Simple Additive Weighting) helps to do performance evaluation of five Taiwan's western chain store fast food suppliers.

## LITERATURE REVIEW

### The marketing mix

McCarthy's 4Ps mix has increasingly come under attack with the result that different marketing mixes have been put forward for different marketing contexts. It contends

that the numerous and ad hoc conceptualizations undermine the concept of the marketing mix and proposes that Booms and Bitner's (1981) 7Ps mix for services be extended to other areas of marketing. Mohammed and Pervaiz (1995) show how the 7Ps framework can be applied to consumer goods and reports the results of a survey of UK and European marketing academics which suggest that there is a high degree of dissatisfaction with 4Ps. It also suggests that the 7Ps framework has already achieved a high degree of acceptance as a generic marketing mix among both groups of respondents. Overall, it provides a fairly strong support for the view that Booms and Bitner's 7Ps framework should replace McCarthy's 4Ps framework.

Therefore, services marketing theorists have taken great pains to distinguish services marketing from product marketing. A major portion of this effort has focused on rethinking the marketing mix and showing how it is different for services. By demonstrating that the marketing of services requires different decisions than goods marketing requires, these thinkers present services marketing as a unique and distinct type of marketing. The services marketing mix differs chiefly from the 4Ps by the addition of three new decision responsibilities that must be integrated to form a coherent and effective services marketing mix. By adding people, physical assets, and process to the marketing mix forming the 7Ps, services marketing theorists staked out a new field of management theory and practice separate from the marketing of tangible goods (Lovelock, 1996; Goldsmith, 1999). This conceptual advance has, in turn, caused a re-evaluation of traditional marketing management thought by obscuring the boundary between goods and services, forcing the realization that many products consist of elements of both tangible goods and intangible services (Goldsmith, 1999).

### **The definition of marketing mix 7Ps**

According to Booms and Bitner (1981) describe that marketing management is the concept of the marketing mix (Figure 1). The marketing mix is not a theory of management that has been derived from scientific analysis, but a conceptual framework which highlights the principal decisions that marketing manager's make in configuring their offerings to suit customers' needs. The tools can be used to develop both long term strategies and short term tactical programs (Palmer, 2004). Booms and Bitner (1981) defined 7Ps of the marketing mix as follows:

- i. Product - It must provide value to a customer but does not have to be tangible at the same time. Basically, it involves introducing new products or improving the existing products.
- ii. Price - Pricing must be competitive and must entail profit. The pricing strategy can comprise discounts, offers,

and the like.

iii. Place - It refers to the place where the customers can buy the product and how the product reaches out to that place.

This is done through different channels, like internet, wholesalers and retailers.

iv. Promotion - It includes the various ways of communicating to the customers of what the company has to offer.

It is about communicating about the benefits of using a particular product or service rather than just talking about its features.

v. People -This refers to the customers, employees, management and everybody else involved in it. It is essential for everyone to realize that the reputation of the brand that you are involved with is in the people's hands.

vi. Process - It refers to the methods and process of providing a service and is hence essential to have a thorough knowledge on whether the services are helpful to the customers, if they are provided in time, if the customers are informed in hand about the services and many such things.

vii. Physical (evidence) - It refers to the experience of using a product or service.

When a service goes out to the customer, it is essential that you help them see what they are buying or not. For example- brochures, pamphlets, etc., serve this purpose. Therefore, in this study, through Decision Making Trial and Evaluation Laboratory (DEMATEL) and through expert's view point, the mutual relationship among marketing mix (7P) perspectives in the fast food industry is found out.

Then through Analytic Network Process (ANP), expert's view of important rankings of marketing mix (7P) in fast food industry is thus investigated so as to perform the most effective improvement.

### **The current situation in Taiwan fast food industry**

In this study, through Decision Making Trial and Evaluation Laboratory (DEMATEL) and through expert's view point, the mutual relationship among marketing mix (7P) perspectives in the fast food industry is found out. The most famous western chain store fast food brands in Taiwan is basically categorize in Table1.

### **The applications of the DEMATEL model**

Tseng (2008) applies an effective solution based on a combined ANP and DEMATEL method to assist the expert group evaluating different MSW (municipal solid waste) management solutions. Some scholars (Ou et al., 2009) provide applications for a novel model using the VIKOR technique based on DEMATEL and the ANP to solve the problem of conflicting criteria with dependence and feedback. The result show the proposed method is

**Table 1.** Taiwan's Western chain store fast food suppliers.

Category	Brand name
Burger supplier	( McDonald, Burger King, MOS Burger)
Fried Chicken supplier	( Kentucky Fried Chicken, TKK Inc.)

suitable and effective in real-world application. The Decision Making Trial and Evaluation Laboratory (DEMATEL) can not only convert the relations between cause and effect of criteria into a structural model, but also can be used as a way to handle the inner dependences within a set of criteria.

**RESEARCH METHODS**

In this research, 30 questionnaires were sent to the experts of fast food industry (including top managers in fast food firms and scholars) and 21 questionnaires were returned. Through expert's questionnaire survey of fast food industry and through the use of Decision Making Trial and Evaluation Laboratory (DEMATEL), Analytic Network Process (ANP) and Simple Additive Weighting (SAW), we have investigated the mutual influence among marketing mix (7P) and the important rankings of marketing mix (7P) in the fast food industry. Then empirical way is used to evaluate the performances of five fast food suppliers in Taiwan (Appendix 1).

**DEMATEL method and operation steps**

Tzeng et al. (2007) pointed out that decision making test and experimental assessment method can effectively solve complicated and entangled social issues and understand complicated cause and effect relational structure, then, through the observation of paired influence between the principles and through the use of matrix and related mathematical theory, the structural relationship and influential strength between principles is then calculated.

**Five steps of DEMATEL operation process**

Step 1 - Setup of assessment scale: Through the use of mutual comparison among principles, each expert's recognition on the influence of principle is evaluated. Meanwhile, the assessment scale 0, 1, 2, 3 and 4 is used as assessment standard, which represents respectively no influence (0), low influence (1), medium influence (2), high influence (3) and extremely high influence (4).

Step 2 - Calculation of initial matrix: The calculation equation is as in Equation (1). Through the mutual comparison of level of influence among principles, we are going to obtain  $n \times n$  original and direct influential matrix  $A$ , and  $a_{ij}$  means the level of influence of  $i$  factor on  $j$  factor:

$$A = \begin{bmatrix} a_{11} & \cdots & a_{1j} & \cdots & a_{1n} \\ \vdots & & \vdots & & \vdots \\ a_{i1} & \cdots & a_{ij} & \cdots & a_{in} \\ \vdots & & \vdots & & \vdots \\ a_{n1} & \cdots & a_{nj} & \cdots & a_{nn} \end{bmatrix} \tag{1}$$

Step 3 - Normalize the initial matrix: Normalization will have direct influence on the matrix, and Equations (2) and (3) can be used, let all of the values are smaller than 1, and let the principle can be mutually compared:

$$X = \frac{A}{s} \tag{2}$$

$$s = \max \left( \max_{1 \leq i \leq n} \sum_{j=1}^n a_{ij}, \max_{1 \leq j \leq n} \sum_{i=1}^n a_{ij} \right) \tag{3}$$

Step 4 - To get the total influence relational matrix  $T$ :  $T$  is the total influence matrix, which represents the direct influence and indirect influence. The influence after  $m$ th order is as in Equation (4), when  $m$  approaches infinity, it means the influence after infinite order:

$$T = X + X^2 + X^3 + \cdots + X^m$$

When  $m \rightarrow \infty$ , then  $T = X(I - X)^{-1}$  (4)

Step 5 - To get Prominence and Relation: For total influence matrix  $T$  as in Equation (5), sum up each row and column as in Equation

(6), we can then obtain the sum of each row and each column  $T_r$  and  $T_d$ . Suppose  $T_r$  means the sum of each row of total influence matrix  $T$ , that is, the total influence of that principle on other principle,  $T_d$  means the sum of each column of total influence matrix  $T$ , that is, the total influence of that principle by other principle. The variable  $T_r$  of determinant operation means factor that affects other factors,  $T_d$  means factor affected by other factors,  $T_r + T_d$  means the relational strength among factors,  $T_r - T_d$  means factor influential or be-influenced strength, that is,  $T_r + T_d$  and  $T_r - T_d$  is respectively Prominence and Relation:

$$T = \begin{matrix} & C_{11} & \cdots & C_{1j} & \cdots & C_{1n} \\ C_{11} & \left[ \begin{matrix} t_{11} & \cdots & t_{1j} & \cdots & t_{1n} \\ \vdots & & \vdots & & \vdots \\ C_{i1} & t_{i1} & \cdots & t_{ij} & \cdots & t_{in} \\ \vdots & \vdots & & \vdots & & \vdots \\ C_{n1} & t_{n1} & \cdots & t_{nj} & \cdots & t_{nn} \end{matrix} \right. & & & & & \end{matrix} \tag{5}$$

**Table 2.** The Profile of Taiwan’s Western Chain store fast food suppliers.

Brand name	Year of establishment	Company	Capital	Number of stores (2010)
McDonald	1984	McDonald (USA)	NT 200 (M)	348
Kentucky Fried Chicken	1984	Jardine restaurant group(HK)	NT 190 (M)	130
MOS Burger	1990	TECO corp. (Taiwan)	NT 120 (M)	151
Burger King	1991	Greatwall group.(HK)	NT 200 (M)	38
TKK Inc.,	1974	TKK Inc.,(Taiwan)	NT 200 (M)	47

Source: 2010 fast food special report.

**Table 3.** Total influence relational table.

Total influence relational matrix	Product	Price	Promotion	Place	People	Physical evidence	Process	R
Product	0.98	1.062	1.084	1.044	0.91	1.021	0.944	7
Price	1.026	0.803	0.98	0.937	0.804	0.902	0.829	6.3
Promotion	1.07	0.989	0.877	0.993	0.855	0.943	0.869	6.6
Place	1.012	0.922	0.972	0.799	0.798	0.897	0.824	6.2
People	0.932	0.845	0.904	0.862	0.652	0.828	0.789	5.8
Physical evidence	0.951	0.874	0.895	0.87	0.773	0.728	0.784	5.9
Process	0.86	0.765	0.815	0.796	0.72	0.77	0.615	5.3
L	6.831	6.259	6.525	6.3	5.51	6.089	5.654	

$$T_r = \left[ \sum_{j=1}^n t_{ij} \right]_{n \times 1}, T_d = \left[ \sum_{i=1}^n t_{ij} \right]_{n \times 1} \tag{6}$$

**ANP method and operation steps**

ANP method can be divided into five steps. Step 1 is to ensure decision making question and set up question structure. After question is clearly described, it is decomposed into network hierarchy structure; step 2 is the paired comparison between perspective and principle; step 3 is to use ANP method to set up the non-weighted average matrix of super matrix; step 4 is to set up weighted average matrix and to normalize the non-weighted average matrix; and step 5 is limiting super matrix, that is, weighted average super matrix is performed with anti-duplication to get the weighting average. In order to simplify the paired comparison of each principle in the questionnaire survey, this research is going to use the ANP method, that is, the result obtained by DEMATEL is applied in ANP method so as to obtain important factor of store manager function of chain store retail supplier. The operation steps are described as in the followings.

**Simple additive weighting method**

Using ANP method, we can obtain the weighting average of each principle, then using Simple Additive Weighting; we can calculate the total score of each western fast food enterprise.

Meanwhile, based on the level of this score, we can make the rankings so as to judge the performance of each fast food supplier in marketing mix (7P). The calculation formula is as follows:  $S = \sum (S_i * W_i)$   $S_i$ : The score of its assessment principle of the fast food enterprise;  $W_i$ : The weighting of its assessment principle.

**EMPIRICAL ANALYSIS**

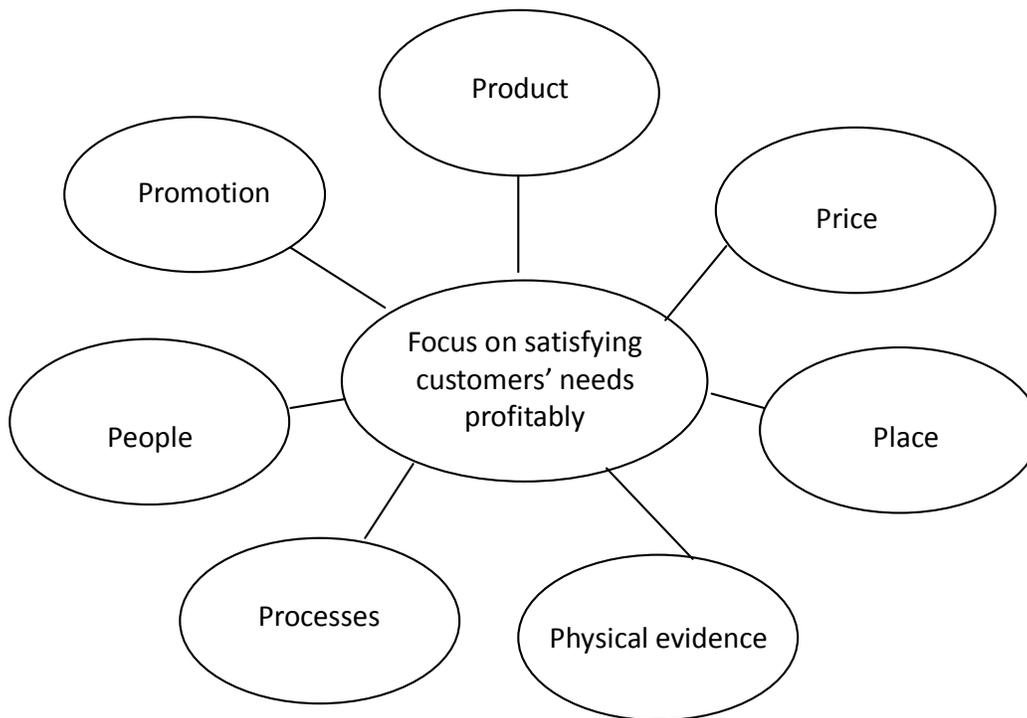
**The verification of DEMATEL relational influence**

In this research, (Table 2) illustrates the profiles of top 5 of Taiwan’s western chain store fast food suppliers. And DEMATEL is used to confirm decision making question structure and to analyze the mutual influential relation of seven perspectives of those five companies. Through the acquired total influential relational matrix, the total influence relational table (Table 3) can be obtained. It can be seen that in expert’s recognition, the most influential perspective is People, and the least influential perspective is Process. For Prominence, the maximum is Product and the minimum is Process, for Relation, the maximum is People and the minimum is Process. After the survey questionnaire summarization, we have used Microsoft Office Excel software to do initialization, matrix normalization, and to find out total influence relational matrix (Table 3) of chain store western fast food marketing mix (7P). Later on, we will calculate L value (level of being influenced), R value (level of influence), L+R value (Prominence) and L-R value (Relation). Finally, empirical analysis will be done according to the results. According to Table 4, we sum up the row and column of influential relational matrix to get L+R (Prominence) and L-R (Relation).

When L+R (Prominence) gets larger, it means the importance that this principle occupies to the entire assessment factor becomes larger. When L-R (Relation) becomes larger, it means that this principle will have higher influence to the entire assessment factor.

**Table 4.** Level of influence, level of being influenced, prominence and relation of marketing mix.

Variable	Level of influence (L)	Level of being influenced (R)	Prominence(L+R)	Relation(L-R)
Product	7.044	6.831	13.876	0.213
Price	6.281	6.259	12.540	0.022
Promotion	6.595	6.525	13.120	0.070
Place	6.223	6.300	12.523	-0.078
People	5.811	5.510	11.321	0.301
Physical evidence	5.875	6.089	11.964	-0.214
Process	5.340	5.654	10.994	-0.314
			X axis	Y axis



**Figure 1.** Adapted from Palmer (2004).

Through the numerical data of row and column sum (L+R) and row and column difference (L-R) of Table 4, we can plot the perspective cause and effect chart (Figure 2). In perspective cause-and-effect chart, X axis is L+R, which is (Table 4) Prominence, Y axis is L-R, which is (Table 4) Relation, finally, each perspective's intersection at L+R and L-R is pointed out, then based on the influential relation, the relational connection line is then drawn.

Summarized from the mentioned cause-and-effect chart (Figure 2), it can be seen that experts and scholars thought that "People", "Product" and "Promotion" are the most important key decision making assessment factors of marketing mix assessment, because the rankings of L+R (Prominence), L-R (Relation) are in the first three

places. Moreover, "Place", "Physical evidence" and "Process" stand at the last three rankings of L+R (Prominence) and L-R (Relation), which show that these three assessment factors and other factors have relatively smaller influence, hence, more remedies need to be found from individual problem or other factors. Through DEMATEL, we can understand the influence of the assessment factor in fast food industry, then, we can provide the fast food enterprise with good improvement cutting points.

**ANP importance and ranking**

Based on DEMATEL method, we can perform ANP

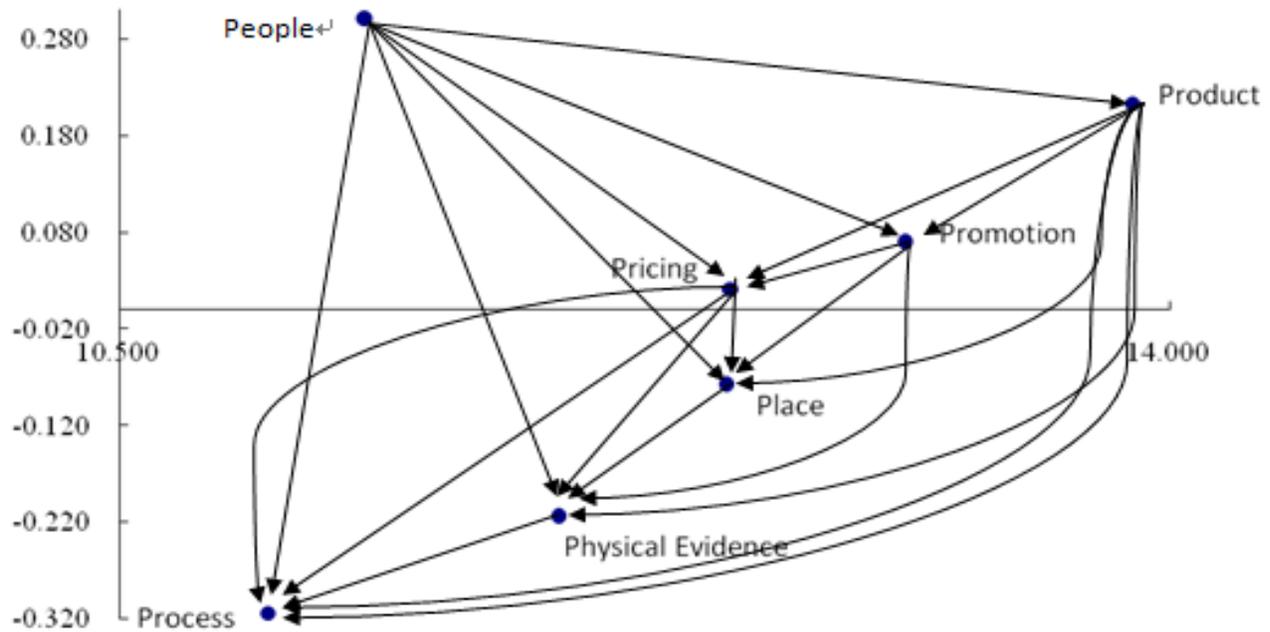


Figure 2. Cause-and-effect chart of seven perspectives.

Table 5. Importance ranking table of perspective and principle (ANP).

Product	0.158
Promotion	0.151
Place	0.146
Price	0.145
Physical evidence	0.141
Process	0.131
People	0.128

operation. Performing transform using total influence matrix T of DEMATEL method, we can get the non-weighting matrix of ANP method, then we perform on it with actual influential value weighting to get the weighting matrix of ANP, then, through the limiting super matrix of ANP method, we can obtain the Global Weight of each principle, then we sum up the importance of principle under the same perspective to get the Local Weight of that perspective, then we divide both of them to get the Local Weight of each principle, then we rank the table (Table 5).

From the weighting, it can be seen that three major perspectives are in the order of "Product" (0.158), "Promotion" (0.151), "Place" (0.146). Therefore, among the seven principles, the experts and scholars think that "Product" is the most important one, "Promotion" is the next important one, and "Price" (0.145) is also one of the important principles as seen by the experts and scholars. Therefore, the fast food enterprise can use this result as an important reference.

### Associating DEMATEL (Figure 2) and ANP (Table 5) research,

From the association of DEMATEL and ANP, we find the following points:

(1) Although experts think "Product" is important perspective, but Figure 1 shows that "People" affects "Product", "Promotion", "Price", "Place", "Physical evidence" and "Process", hence, it can be seen that if the supplier improves "Product" directly, although the level of that single factor can be enhanced, yet it is not the most effective method, hence, if the supplier performs improvement from the source "People", other factors will benefit from it indirectly, and the entire facet can then be improved.

(2) "Product" affects "Promotion", "Price", "Place", "Physical evidence" and "Process", which means that if the supplier wants to improve "Promotion", it should start from "Product".

**Table 6.** The performance of five western fast food suppliers at Taiwan.

Variable	McDonald	Kentucky Fried Chicken	MOS Burger	Burger King	T.K.K. Inc.
Product	0.404	0.492 (1)	0.567 (1)	0.392(1)	0.333 (1)
Price	0.404	0.397	0.374	0.320 (3)	0.313 (2)
Promotion	0.557 (1)	0.469 (2)	0.406 (3)	0.318	0.255
Place	0.522 (2)	0.438	0.361	0.269	0.238
People	0.397	0.377	0.383	0.309	0.262
Physical evidence	0.445(3)	0.430(3)	0.430 (2)	0.326 (2)	0.275 (3)
Process	0.365	0.372	0.392	0.296	0.241
Total performance	3.095	2.974	2.914	2.231	1.917
Ranking	1	2	3	4	5

(3) "Promotion" affects "Price", "Place", "Physical evidence" and "Process".

(4) "Price" affects: "Place", "Physical evidence" and "Process".

(5) "Place" affects "Physical evidence" and "Process".

(6) "Physical evidence" only affects "Process".

(7) "Process" is affected by all perspectives.

From these conclusions, it can be seen that if an enterprise wants to improve marketing strategy in business operation, it can follow first the importance of ANP to rank the priority to improve marketing mix (7P), then it can follow the DEMATEL perspective cause-and-effect chart to observe the mutual influence of marketing mix (7P), finally, it can find out the source to perform improvement and to maximize the efficiency.

#### Performance assessment of each fast food supplier

The setup of relative weighting among different perspectives must rely on subjective judgment with professional quality and practical experience, and the judgment process must reach certain level of consistency, hence, through the use of ANP method, we can obtain the weighting of each perspective as in Table 5. Then using Simple Additive Weighting (SAW), we can calculate the total score of each fast food supplier, then based on this score, the marketing mix (7P) performance of the fast food supplier is then ranked.

From Table 6, it can be seen that the total performance ranking of each fast food supplier is in the order of McDonalds (3.095), Kentucky Fried Chicken (2.974), MOS Burger (2.914), Burger King (2.231), and T.K.K. Inc. (1.917). We can find that McDonalds, Kentucky Fried Chicken and MOS Burger have very close total performance, but Burger King and T.K.K. Inc. show obvious difference to the above three ones, hence, it can be divided into two war zones, first class war zone is McDonalds, Kentucky Fried Chicken and MOS Burger, and the second class war zone is Burger King and T.K.K.

Inc.. The first class war zone is fast food supplier of high market share and with large scale; the second war zone is fast food supplier of low market share and low growth rate.

#### CONCLUSIONS AND SUGGESTIONS

This research has applied DEMATEL method of multiple decision making analysis. It finds out the influential relationship among marketing mixes (7P) from expert's survey questionnaire, and "People" is the most important source. From ANP, we can rank the importance of marketing mix (7P), and it was found that "Product" is the most important factor perspective among fast food suppliers.

In this study, in order to get more practical verification, Taiwan's current five western chain store fast food suppliers are put into the afore research. After assessing its entire performance, we further summarize the following conclusions.

#### The importance of marketing mix (7P) perspective of the fast food supplier

Through ANP weighting ranking Table 5, the first three rankings of importance of marketing mix (7P) can be seen. Product is the most important one in expert's eye. In addition to good product, in order to attract customer's eye, good promotion project is needed to promote the product, and it is hoped that customer can understand new information from fast food supplier and customer's purchase desire can be triggered.

To fast food supplier, "Place" has deeper influence as compared to other industry, fast food put great emphasis on convenience and speed, and the number of "Place" will affect whether it is convenient or not, hence, to fast food supplier, the selection of Place thus becomes very important.

### **Marketing mix (7P) perspective influential relationship**

Marketing mix (7P) is mutually influential. From the expert questionnaire survey result, we can plot the perspective cause-and-effect chart (Figure 2), and it can be found that people will affect all the perspectives. Therefore, we see that if an enterprise is to improve the performance of other marketing mixes (7P), it is needed to start from the source of people, for example, the enhancement of employee quality, employee recruitment and selection, work design and analysis, employee training and development, enhancement of competitiveness, enhancement of the adaptation of the employee, encouragement of the morale and exploration of the potential of the employee, salary and pay management, employee safety and hygiene issue, retaining of work relation, assessment of work performance of the employee, employee's welfare management, organization and career management, analysis of the current human resource supply, human resource project implementation, forecast of future human resource need and assessment and correction. When the enterprise can make good human resource management, the entire performance can also be enhanced. Improve from the very source is the easiest way to save efforts.

### **The entire performance assessment of five fast food suppliers**

When we take a look from the performance, although McDonalds stands in the first place in the entire performance, yet, its product is the worst in the first class war zone. When it is compared to MOS Burger (0.567), difference is pretty large. However, product is the most important one in the weighting analysis recognized by the experts. From Table 6, it can be seen that the Promotion, Place, Physical evidence, Price and People of McDonalds, as compared to that of other fast food suppliers, shows great lead. It is clear that McDonalds has done pretty good job in Promotion, Place, Physical evidence, Price and People. In other words, although McDonalds is currently the leading brand in fast food, yet it still has room to be improved, if its product can be further improved, maybe its consumer group can be further expanded. For the second place Kentucky Fried Chicken, although it does not have too much difference in its score to the first place McDonalds, it does not have outstanding place either. Currently, the highest score of seven perspectives of Kentucky Fried Chicken is Product (0.492), yet it is still lower than the Product (0.567) of MOS Burger. This research draws to a conclusion that its marketing strategy in the market is unclear. As compared to Kentucky Fried Chicken, MOS Burger is also staying in the first class war zone, yet it has very clear marketing positioning. Although the score of Product is the highest

among all the fast food suppliers, yet the Place (0.361) of MOS Burger is the lowest among the first class war zone, in ANP weighting analysis, place stands in the third place, hence, it is clear that place is pretty important among seven perspectives, and this item could be the improvement of the first priority by MOS Burger in the future.

For Burger King (2.231) in the second class war zone, although it is not outstanding in all the perspectives, yet its product (0.392) is the best among the second class war zone. Meanwhile, its product is not in too much difference to the Product (0.404) of McDonalds in the first class war zone, if its product can be further improved, or multi-element product can be developed, it must be able to attract more consumers. In price (0.320), Burger King has the second highest score, but it does not show too much difference to the next one T.K.K. Inc. Price (0.313). The entire performance (1.917) and all the perspectives, T.K.K. Inc. stands in the last place among all the western fast food suppliers, which means that it has large room to be improved in terms of entire market operation and management and the marketing strategy.

### **Important management meaning**

Based on earlier discussion and in association with the mutual influence of seven perspectives of marketing mix, this research has proposed the following important management meanings.

**The reinforcement of people quality and service quality:** Through DEMATEL, it can be seen that "People" is the influential source of lots of factors, hence, management practice has to be watched more in the future by the fast food suppliers.

In human resource development, it is very important to reinforce human resource recruitment standard, human resource selection system so as to find suitable personnel: In fast food industry or store service, the personality of people should be passionate and kind. Lots of personality attributes assessments such as MBTI test can help you recruit employees with the related attributes that are needed by the service industry.

i. Related policies for employee encouragement: Since fast food industry needs long working hours, employees have to stay in the first line to face with many different kinds of customers, in hardworking and tedious routing job, the salary and welfare provided to the employee and the encouragement system thus becomes very important. In the food service industry in Taiwan, for example, Wang Group leaps to the leader position in Taiwan within just several decades. As many people might know that president Sheng-Yi Tai has broken the traditional rule to share the corporate profit with all the employees. In this company, there are lots of complete and thorough

encouragement policies, and the employees can strongly feel the good will and care provided by the company, and of course, all the employees would like to walk the last mile for the company.

ii. Use educational training to enhance employee's quality and service quality: The development of an organization comes from the growth and development of each employee within the organization. Perfect educational training not only can enhance employee's professional technique, but also can enhance employee's adaptive and innovative power when facing with variant environment. The quality enhancement of the lower level employee is going to affect product quality, physical evidence and process. The quality enhancement of management job can enhance the entire decision making direction, hence, the fast food suppliers must put more efforts on human resource planning so as to achieve the all-round improvement.

iii. Prepare better standard operation procedures (SOP) and implement them strictly so as to enhance work efficacy and efficiency.

**Product's resort to health:** In recent one or two years, consumers put more emphasis on eating quality. Fast food is usually seen as high calorie and oily junk food, which can lead to fat accumulation and high blood pressure issue. In the future, the fast food supplier must put more emphasis on "health" element. According to the Chain Store Annals as published by Taiwan Chain Stores and Franchise Association (TCFA) in 2002, fast food supplier was suggested to develop more "baked" food to replace "fried" food. Meanwhile, organic salad and milk of lower calorie and healthier as well as lower calorie butter are launched to meet consumer's future healthy need. In addition, vegetarian and light food concept is also the future trend, in the future, after Taiwan's society steps into a society of aged people, fast food suppliers will have more chance to be suppliers of healthy fast food for the aged people.

**Emphasis on environmental protection topic:** Environmental protection topic usually comes after economic growth step. In recent years, global warming becomes serious problem, the sea level is keeping rising, the tropical forest is over-logged, with the continuous promotion from the government and the report in the media, consumer starts to pay more attention to the environmental protection topic. To the fast food supplier with focus on environmental protection topic, this is going to greatly enhance its image in the mind of the consumer and consumer's trust on the product as well. The fast food supplier should select excellent local eating material and should avoid any contamination generated during

logistics transport process. The biscuit should be recycled material to win the image of good social responsibility and to enhance consumer's trust.

**Multi-element product trend:** As more and more fast food suppliers enter the market, there are more replacements available; few products cannot meet the demand of the original consumers. Therefore, detailed market survey and continuous development of new product is important to meet the need of the fast changing market. Multi-element product is needed to attract more different consumers. Moreover, product differentiation is very important to distinguish from the product of other supplier so as to develop its own special consumer section in this ever competitive market. In the future, the aged people market will be one of the target markets that fast food suppliers will invest one after another. Therefore, it is very important to satisfy both the healthy and delicious need of consumers of this group. Furthermore, place and convenient innovative purchase way is also a great challenge to the fast food suppliers in the future.

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**APPENDIX**

**Appendix 1: Key factors for purchase in fast food industry**

**Filling explanation**

This survey questionnaire can be divided into six parts: 1. filling explanation; 2. perspective and standard explanation; 3. filling method; 4. the assessment on influential relationship among sixteen principles; 5. performance in fast food industry; 6. personal information.

**Marketing 7P perspective and standard explanation**

Perspective	Content
Product	1. Service scope; 2. Service quality; 3. Service level; 4. Service brand; 5. Service content; 6. Credit warranty; 7. After-sale service
Price	1. Discount and commission; 2. Terms of payment; 3. Customer perceived value; 4. Match between brand name and price; 5. Service differentiation
Promotion	1. Advertisement; 2. Promotion; 3. Human promotion; 4. Public relation; 5. Sale promotion
Place	1. Location; 2. Distribution channel; 3. Closeness; 4. Distribution scope
People	1. Employee: Training, personal judge, explanation capability, encouragement, appearance condition, interpersonal relationship; 2. Attitude; 3. Job quit rate; 4. Recruitment
Physical evidence	1. Environment: Indoor decoration, color and arrangement; 2. Equipment; 3. Tangible product
Process	1. Service decision; 2. Procedure; 3. Level of automation; 4. Employee's level of judgment; 5. Guidance to the customer; 6. Service process; 7. After-sale service

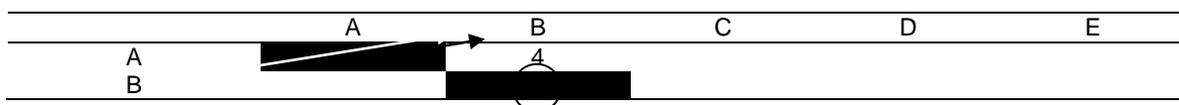
**Filling method**

Filling index explanation: 0. No influence; 1. Low influence; 2. Medium influence; 3. High influence; 4. Very high influence. For example, since A has very high level of influence on B, the location is thus filled with 4.

	Western fast food	McDonald	Kentucky Fried Chicken	MOS Burger	Burger King	TKK Inc.
Marketing mix						
Product						
Price						
Promotion						
Place						
People						
Physical evidence						
Process						

**The assessment on influential relationship among seven principles**

0. No influence; 1. Low influence; 2. Medium influence; 3. High influence; 4. Very high influence)



**Performance in fast food industry**

Please fill your feeling of performance of the following fast food suppliers in marketing mix (7P): 0- Very bad; 1- Bad; 2- Fair; 3- Good; 4- Very good

Perspective	Product	Price	Promotion	Place	People	Physical evidence	Process
Product	█						
Price		█					
Promotion			█				
Place				█			
People					█		
Physical evidence						█	
Process							█

**Personal information**

1. Gender:  Male  Female
2. Education:  College  University  Master  PHD
3. Service company: \_\_\_\_\_
4. Service department: \_\_\_\_\_
5. Job title: \_\_\_\_\_
6. Age:  30 years old (including) and down  30 to 35 years old (including)  35 to 40 years old (including)  40 to 50 years old (including)  Above 50 years old
7. Accumulated working years:  3 to 5 years (including)  5 to 10 years (including)  10 to 15 years (including)  15 to 20 years (including)  Above 20 years.

This survey questionnaire ends here, please check again if you have finished answering all the questions. We appreciate your time spent in filling this form, thank you.