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APPLICATION OF KASAVANA & SMITH MENU ENGINEERING MODEL TO MENU OF A RESORT RESTAURANT- A CASE STUDY APPROACH

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ABSTRACT

Purpose- The aim of this paper is to evaluate 10 selected items of a restaurant menu of an independent resort of North India on Kasavana & Smith Matrix Model.

Design/Methodology/Approach- The study was conducted on a restaurant menu of an independent resort property using Kasavana and Smith Matrix Model (Menu Engineering). The paper is a case study approach.

Findings- The findings indicate that four parts of menu matrix i.e. plowhorse, star, dog, puzzle should have different strategies to promote them and how best the management can do to get maximum out of the menu and what possible changes can be done.

Research Limitations/Implications- The paper demonstrates that the current study is limited in its generaliseability as the case study methodology is used. This gives researchers and the hoteliers a base, in India, in implementing menu engineering matrix to their food and beverage menus.

Originality/Value- This paper presents the results of menu engineering matrix on 10 selected menu items of a resort restaurant. It is valuable for management in evaluating the menu items of any food and beverage outlet through Kasavana and Smith method, which will help in achieving guest satisfaction and organizational objectives.

KEYWORDS- Menu, Plowhorse, Star, Dog, Puzzle.

INTRODUCTION

Menu is integral part of any food and beverage outlet. It creates an image of operation in guest's mind. As Radico and Arpaia (1986) stated that the menu becomes an extension of the personality of the restaurant. For a restaurateur, the purpose of menu is twofold; first it attracts guest and second, it maximizes profit or revenue. Menu's sensory qualities e.g. layout, quality of paper, typing, placement of menu items etc. helps in marketing. Its marketing importance has been well proved by researchers (Goldstein, 1997; Frei, 1995; Main, 1995; Scanlon, 1995). But according to Masse (1986), Stoner (1986) and Zuckerman (1988), the second purpose supersedes the first one. Hence, menu, essentially, is known as a profit making tool.

It is worth mentioning that attracting large number of guests doesn't mean maximum profit. There is every possibility that they might be ordering, more frequently, those dishes which contribute less toward overall profit of the outlet. So in order to best contribute to restaurant profitability, it is essential that the menu promote items generating strong returns while providing value and satisfaction to the customer (Bowen and Morris, 1995).

Menu is interpreted differently by both the guests and host. Khan (1991) suggests that "menus are statements" of the food and- beverage items provided by a foodservice establishment, primarily based on consumer needs and/or demands and designed to achieve organisational objectives. Mooney (1994) and Kreck (1984) note that menu can be interpreted as a list of product range that a restaurant offers and the same time it can be a piece of literature or display used to communicate the product range to the customer. A study by Seaberg (1991) argues that "menus are more than the conventional function of a communications and selling tool but also a research and experimentation device that can be studied to increase restaurant profit". The primary function of a successful menu is communication and selling. It is the single most important marketing tool employed by a restaurant.

So it can be said that the success or failure of any food and beverage operation depends on the fact that how carefully the menu is conceived. According to Hayes and Huffman (1985) that there is no question that a well designed, properly priced menu is invaluable to restaurant operators trying to succeed in an increasingly competitive atmosphere. Selecting the

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best menu combination is not an easy task. A thorough analysis of menu is necessary, Atkinson and Jones (1994) defined menu analysis as a range of techniques and procedures that enable more effective decision making both with respect to marketing and operating the menu. Various menu analysis matrixes can be used to find out the profit and loss centers of the menu. These matrixes help in dividing various categories under different headings depending upon their performance in a given period for a menu.

KASAVANA AND SMITH MATRIX (MENU ENGINEERING MODEL)

Miller (1980, 1987) was the first to develop a matrix model that focused on food cost and product mix to analyze menu item profitability. Kasavana and Smith (1982) used the Boston Consulting Group Portfolio Analysis as the basis for the Menu Engineering matrix approach to menu analysis. LeBruto, Ashley and Quain (1997) said that it is an analysis tool that labels menu items within a competing menu group using their respective popularity and contribution margin to place them in a category.

Kasavana and Smith matrix is also known as "menu engineering". They incorporated volume and contribution margin, which they defined as the difference between the sales price of an item and the cost of food product consumed to produce that item (more commonly referred to today as 'gross profit'). Furthermore, Kasavana and Smith considered high gross profit and low food cost as mutually exclusive.

They formed a matrix and divided menu items in four categories i.e. Stars, Puzzles, Plowhorses and Dogs. They took contribution margin on the horizontal axis and volume on the vertical axis.is matrix has 4 sections as shown in the figure 1

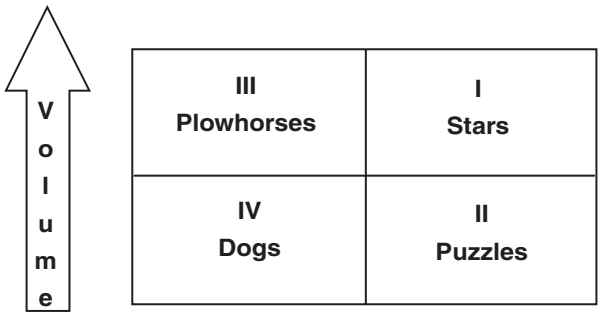

Figure 1 Kasavana & Smith Matrix

	Volume	Contributing margin
I Stars	High	High
II Puzzles	Low	High
III Plowhorses	High	Low
IV Dogs	Low	Low

Here, **Volume** is number of items sold, and **contributing margin** is the difference between an item's selling price and its direct cost (Contribution Margin= Selling Price- Food Cost).

The method is very useful in evaluating any menu but it do have certain limitations. These are:

First and most seriously, the model fails to address labor cost, arguably the greatest expense category in restaurant operations. According to Horton (2001), this model limitation is due primarily to the faulty assumption that labor is a differential cost. Differential costs are difficult to obtain accurately and inexpensively. Furthermore, labor costs are not easily assigned to individual menu items. Nevertheless, as Reynolds and Biel (2007) have argued, any functional assessment of restaurant performance, including measures of menu-related revenue effects, must include labor costs.

Another problem with such a matrix approach is variable interdependency. As the gross profit for a single menu item is increased, for example, the mean gross profit used as the normalizing factor is changed. This fluidity in the convergence of primary vectors, while useful for mapping purposes, makes it impossible to quantify objectively different pricing, promotion, or positioning strategies.

Recent research indicates that menu analysis is not purely on the "process of analysing costs and sales data in order to manipulate products on the menu [but understand] in-depth customers' need and perceptions" (Jones, 1994)

It is not possible for any menu to have all items falling in Stars category i.e. which are high in both popularity and margin contribution. A menu will have items under all these categories.

METHODOLOGY

The "exploratory case study" method was selected to carry out the primary data collection as the aim of the study is to explore and explain the Kasavana and Smith Matrix (Menu Engineering Model) in a resort

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restaurant. Yin (2003) and Adler & Ziglio (1996) found that the case study method is appropriate when no experimental control can be exercised in the data collection process and when a researcher seeks to answer to what, how and why questions. In this research, 10 menu items were selected. Two criterion were taken to select the dishes i.e. availability of data and seasonal availability. Here, it is important to mention that formal records are not available for all the menu items. As the research was carried out in a particular season so not all the ingredients of all the dishes were available. For this research, data collected was menu item's selling price, food cost and quantity sold.

DISCUSSION AND CONCLUSION:

We took up a menu illustration of 10 items of a resort restaurant for this study and calculated the item cost, item price, item sale, gross profit and percentage of each item sold as shown in table below.

Item Name	No. Sold	Item Cost	Total Item Cost	Item Price	Total Item sales	Gross Profit	Total Item Gross Profit	Item % of Total Sold
A	36	10	360	50	1800	40	1440	12.00
B	30	40	1200	100	3000	60	1800	10.00
C	24	30	720	70	1680	40	960	8.00
D	10	25	250	100	1000	75	750	3.33
E	50	12	600	60	3000	48	2400	16.67
F	15	50	750	100	1500	50	750	5.00
G	33	70	2310	140	4620	70	2310	11.00
H	39	20	780	80	3120	60	2340	13.00
I	45	18	810	36	1620	18	810	15.00
J	18	30	540	120	2160	90	1620	6.00

Table-1; Menu Illustration

Total no. of items sold = 300
Total Item Sales = Rs. 23500
Total Gross Profit = Rs. 15180
Total Food Cost = Rs. 8320
Avg. Gross Profit = Rs. 50.6

Plowhorses- A, E, I	**Stars**- B, G, H
Dog- C, F	**Puzzle**- D, J

Figure-2 *Classification of menu items in matrix*

From the information given above, we can conclude-

- ***Stars*** i.e. B, G and H are highly popular and more profitable which means that they are contributing heavily to the margin and popularity of the restaurant than others. These dishes are your specialties in the market so you don't have to worry about these but you must go for maintaining quality and quantity standards of the dishes.
- ***Puzzles*** i.e. D and J is highly profitable but less popular. It means that these items are can contribute heavily to the profits if their popularity can be increased. So some popularity increasing techniques will do and this can be done by-
  - Place them at the most visible part of menu, i.e. focal point, to capture the guest attention. This will increase their sale and as they are already highly profitable which means in the end their contribution to the restaurants profits will be high.
  - Another strategy can be giving add-ons. It will increase the popularity.
  - Price can be decreased to increase popularity. This can be very good technique. But it is very important to note that by decreasing prices we will be decreasing profits from them. So proper pricing strategy should be coined.
- ***Plowhorses*** i.e. A, E and I are highly popular but less profitable. It means we have to increase the profit margins from these. For this management can-
  - Go for appropriate profit increasing techniques e.g. increase price. People will not mind paying more as they love these items but it should be noted that it doesn't mean an unreasonable hike in prices. A thorough study of the market will reveal the appropriate price and pricing strategy for these.
  - Reducing portion size can be another useful strategy to increase margins as it will decrease food cost.
  - Place them away from focal point in the menu. This will not affect their sale as they are already very popular items of this menu, but it will help in increasing sale of other items.
- ***Dogs*** i.e. C and F is neither profitable nor popular. The best possible strategy for these items is to remove these from the menu and introduce some new items.

As we have discussed above the limitation of the technique, it is not possible to construct a menu which have all the stars and no dog. The aim of any food and beverage outlet should be to maximise both, the profits and popularity. Based on the finding of the research the management removed the dogs and introduced new items and increased their margins by margin. It is very significant because the study was carried out only on 10 dishes of the menu. An analysis of full menu will require more data and technical expertise to calculate and interperate results, for which the management was uneasy, as it will cost them heavily. LeBruto et al. (1997) have also found that the hotel sector is not reacting as quickly to implement technology. Whereas, it can be very helpful in data collection and decision making.

The use of case study methodology helps to focus the research in one particular situation, but it also gives people i.e. academics and industry a glance of what is happening in the industry. The current study is limited in its generalizabilty, but it helps to create a starting point for food and beverage industry in the wider domain of growing hospitality and tourism industry. More research is required and multiple methods should be used to minimise the possibility of uncertainty. Qualitative research should complement these analysis so as the behavioural aspects of human nature can be studied and more precise results can be obtained.

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