

Chapter I

Introduction

Sales forecasting is an essential tool for the planning function of corporate restaurant management. Accurate sales forecasts allow functional areas, such as marketing, advertising, human resources, and finance, to effectively develop programs to advance the company. Examples of these programs include budgets, promotion and advertising campaigns, training programs, and capital equipment proposals. Research in restaurant sales forecasting will aid restaurant corporations in properly allocating resources for more efficient utilization.

Statement of the Problem

Limited empirical research has been conducted on restaurant sales forecasting at the firm level. Based on this fact, an investigation of the corporate restaurant sales forecasting process and how the process affects the accuracy of sales forecasts and the level of satisfaction that managers have with their sales forecasting process was conducted. Mentzer, Kahn, & Bienstock (1996; 1999) developed a descriptive sales forecasting benchmarking model using manufacturing, retailing, and distribution corporation settings. The Mentzer et al. (1996; 1999) model describes the integrated efforts of the sales forecasting process. In this study, the Mentzer et al. (1996; 1999) model was applied in the commercial restaurant setting.

Purpose

The purpose of this study was to explore the relationship that the dimensions of the sales forecasting benchmarking model, developed by Mentzer et al. (1996; 1999), has with the level of accuracy of sales forecast within a commercial restaurant corporate setting. This study explored the relationship that the dimensions of the sales forecasting benchmarking model (Mentzer et al., 1996; 1999) had with the level of satisfaction that restaurant-forecasting managers have with their current sales forecasting process in the corporate restaurant setting. Ultimately, this research will assist corporate restaurant forecasting managers in developing an efficient and effective forecasting process.

Definitions

The commercial restaurant industry includes various segments based on service styles. For the purpose of this research, commercial restaurants will include limited-service and full-service restaurant companies. A sales forecast is the fraction of the company sales potential that the company estimates to capture (Sands, 1969). Forecasts are typically at two broad levels: macro and micro. In macro forecasting, the firm will make forecasts about the economy in general since those conditions will have an impact on the firm. Micro forecasts are those forecasts related to a firm's own unique situations. Micro forecasts include forecasts of sales, equipment needs, personnel needs, materials, etc. (Kress, 1985). This study addressed restaurant sales forecasting at the micro level of the corporate forecasting process.

Research Questions

The following research questions guided this investigation:

- 1) What is the relationship of the four dimensions of the sales forecasting benchmarking process (Mentzer et al., 1996; 1999) with the level of accuracy of the sales forecast in the commercial restaurant setting?
- 2) What is the relationship of the four dimensions of the sales forecasting benchmarking process (Mentzer et al., 1996; 1999) with the level of managers' satisfaction with their sales forecasting process in the commercial restaurant setting?

Justification of the Study

Trends in Restaurant Sales

The restaurant industry employs more than 9.5 million people and accounts for 45.3% of the food dollar. The restaurant industry is comprised of eating and drinking establishments (both full-service and limited-service) (National Restaurant Association, 2000).

Restaurant Sales in 1998.

Restaurant industry sales reached \$336.4 billion at the conclusion of 1998, up 4.7% from 1997. The commercial restaurant segment of the restaurant industry reached

\$305 billion in 1998 (National Restaurant Association, 1998). Within the commercial restaurant segment, sales in full service restaurants reached \$110.3 billion in 1998, a 5% increase from 1997. Strategies for maintaining these figures in the full-service segment include cultivating customer loyalty, providing a value for the customer dollar, creating a satisfying experience, and enticing first-time diners (National Restaurant Association, 1998). Within the commercial restaurant segment, sales in limited-service (fast food) restaurants were projected to reach \$105.7 billion in 1998, a 2.1% increase over 1997. Strategies used to maintain these figures in limited service include continuing a value-for-the-dollar approach, convenient service, and limited-service establishment differentiation. The year 1998 marked the seventh consecutive year of real growth for the restaurant industry (National Restaurant Association, 1998).

Restaurant Sales in 1999

Restaurant industry sales rose in 1991 due to a positive economic environment and continued gains in consumers' real disposable income, which had a 3.1% gain in 1998. In 1999, restaurant industry sales reached a record \$354 billion. The restaurant industry had firmly established itself as an integral part in the American lifestyle with more than 44% of the food dollar being spent away from home. The commercial restaurant segment reached \$321.4 billion in 1999. This is an increase of 4.8% from 1998. Within the commercial restaurant segment, full-service establishments exceeded \$117 billion in 1999. This is a gain of nearly \$5.5 billion, or 4.9%, over 1998 sales. Strategies used to maintain these sales include catering to value-conscious consumers, reworking workplace cultures, and caring for customers. In the limited-service (fast food) segment of the commercial restaurant industry, sales topped \$110.4 billion in 1999, a 4.6% increase over sales in 1998. The increases in sales can be attributed to delivering value to the consumer, retaining employees, and extensive marketing plans (National Restaurant Association, 1999).

Restaurant Sales in 2000

The restaurant industry sales are projected to reach \$376.2 billion in 2000, a 5% increase over 1999. Within the commercial restaurant segment, full-service restaurants

are projected to total \$128.1 billion, a 5.9% increase over 1999. Limited-service restaurants are expected to reach \$114.7 billion, a 4.4% gain over 1999. Strategies for maintaining this growth include increasing service to meet the consumers' growing desire for convenience, value, and an entertaining environment away from home (National Restaurant Association, 2000).

Research in Foodservice Forecasting

Currently, forecasting research in the foodservice industry is somewhat limited. The empirical studies conducted in foodservice forecasting have centered on the forecasting of food production requirements (Miller, 1986; Ralston, 1992; Sanchez, 1994).

The Miller (1986) study attempted 1) to ascertain the state of practice in forecasting in both academic and operational settings, and 2) to develop and evaluate self-instructional modules for improving skills in menu item forecasting. The results of the study revealed that naive models were used most in foodservice operations. When mathematical techniques were employed, the moving average technique was most often used. In addition, two self-instructional modules were developed to enhance the level of practice and education.

Ralston (1992) in her study attempted to describe and understand managerial decision-making and production planning within commissaries. The study showed that production planning within commissaries was informal. In addition, management decisions could be characterized as operation-oriented, short-term, rational, future-oriented, utilizing planned routines, and responsive to immediate contingencies.

In the Sanchez (1994) study, the researcher attempted to develop a simple expert system model to replicate the knowledge, experience, creativity, judgment, and intuition of the forecasting expert in foodservice. The result of the study was the development of an expert system model that forecasted various combinations of menu items.

These studies were conducted on a property or unit level. Moreover, the research was limited to noncommercial or institutional foodservice establishments (i.e., hospitals and university dining facilities). Miller (1986) and Sanchez (1994) concentrated on forecasting menu items using particular forecasting techniques. The Ralston (1992) study

was conducted in a food commissary. Ralston (1992) introduced the idea of a structured forecasting process in commissary foodservice and the behavioral aspects of the management function within the forecasting process.

Prior to the empirical research mentioned above, Messersmith, Moore, & Hoover (1978), Cullen, Hoover, & Moore (1978), and Chandler, Norton, Hoover, & Moore (1982) pioneered research in forecasting menu item production requirements. Additional studies include Miller, McCahon, & Bloss (1991), and Miller, Thompson, & Orabella (1991). These studies focused on forecasting menu items in a noncommercial foodservice setting.

The studies conducted in commercial restaurant settings are also limited. One exploratory study utilized the case study method and analyzed one restaurant using two forecasting techniques (multiple regression and box-jenkins) (Forst, 1992). Another study of commercial restaurants focused on forecasting production requirements (Pickert & Miller, 1996).

In the Forst (1992) and Pickert & Miller (1996) studies the researcher researched various forecasting techniques; however, they did not analyze the entire forecasting process, particularly sales forecasting. In addition, these studies did not address sales forecasting at the corporate level.

Sales Forecasting Benchmarking Model

A sales forecast benchmarking model (Mentzer et al., 1996; 1999) has recently been developed consisting of four dimensions. These four dimensions are 1) functional integration, 2) approach, 3) systems, and 4) performance measurement.

- *Functional Integration* refers to collaboration, communication, and coordination (internal to the firm), which are three key concepts in forecasting.
- *Approach* refers to what is forecasted and how it is forecasted (within the company).
- *Systems* refer to the computer and electronic communications hardware and software utilized to develop, analyze, and distribute forecasts.
- *Performance Measurement* refers to what metric (statistical or mathematical technique) is used to measure forecasting effectiveness and any information gathered to explain performance (Mentzer et al., 1996; 1999).

Within each dimension identified by Mentzer et al. (1996; 1999), four stages of development are listed. The stages are hierarchical in nature ranging from Stage 1 which is least developed through Stage 4 which is most developed (Mentzer et al., 1996; 1999). Mentzer et al. (1996; 1999) have proposed that each company can be placed within these stages.

To illustrate the four dimensions along with their stages, consider the ACME Restaurant Corporation (a fictitious company). In the dimension of functional integration, this company is in Stage 2. The company may have some coordination or formal meetings between areas such as finance, marketing, sales, logistics, etc. In the approach dimension, this company is in Stage 1. The company uses naïve and/or simple statistical approaches to forecasting. In the systems dimension, this company is in Stage 1. The company manually transfers data from one system to another. Finally, in the dimension of performance measurement, the company is in Stage 2. In this stage, the company recognizes the impact of external factors on the demand of products/services.

Background of Sales Forecasting Benchmarking Model

The development of the Sales Forecasting Benchmarking model is the result of years of work in forecasting. Mentzer & Cox (1984a) began researching the forecasting process in 1984. A follow-up study (Mentzer & Kahn, 1995) was designed to determine if sales forecasting practices had changed in the ten-year hiatus since the original 1984 study. In addition to comparing results with Mentzer & Cox (1984a), Mentzer & Kahn (1995) concentrated on the concept of manager satisfaction with forecasting techniques.

The study conducted by Mentzer et al. (1996; 1999) incorporated the entire sales forecasting process. Mentzer et al. (1996; 1999) developed a four-dimensional descriptive model of sales forecasting benchmarking. This model incorporated the managerial aspects of the sales forecasting process. Figure 1.1 represents the four dimensions of the Mentzer et al. (1996; 1999) Sales Forecasting Benchmarking model (functional integration, approach, systems, and performance measurement) and additional variables (level of accuracy of sales forecast and level of managers' satisfaction with the sales forecasting process) identified in the literature (Mentzer & Cox, 1984a; Mentzer & Khan, 1995) as having a relationship with the four original dimensions.

Boundaries and Unit of Analysis

The study was limited to the casual theme and family dining segments of commercial restaurant corporations. Only company owned restaurants were included; franchises were excluded. The population for the research was corporate managers responsible for forecasting sales in commercial restaurants. The unit of analysis in the research is managers at the firm level.

Significance of the Research

The research has several practical implications. It will enhance the corporate restaurant forecasting manager's ability to develop more accurate sales forecasting information between functional areas such as marketing and advertising, human resources, and finance. In addition, it will enhance the manager's ability to allocate funds for equipment purchase, manage menu items, and develop purchasing power among food suppliers.

Plan of the Dissertation

In Chapter I of this dissertation, an introduction to forecasting in the restaurant industry has been presented as well as outlined the identified problem, research justification and purpose of the study. Chapter II will present a review of the literature in the related areas. Chapter III will outline the sales forecasting model, constructs, and methodology of the study. Chapter IV will present the data analysis and company overviews. Chapter V will present research findings and propositions. Chapter VI will discuss results, draw conclusions, and identify implications for future research possibilities.

Chapter Summary

Chapter I presented an overview of sales forecasting in the restaurant industry as an area of research. Supporting literature was presented to illustrate the need for research in foodservice on forecasting topics as well as current forecasting trends in the restaurant industry. A recently developed sales forecasting model was presented as the framework for this study. Finally, the research questions and boundaries of the study were presented.

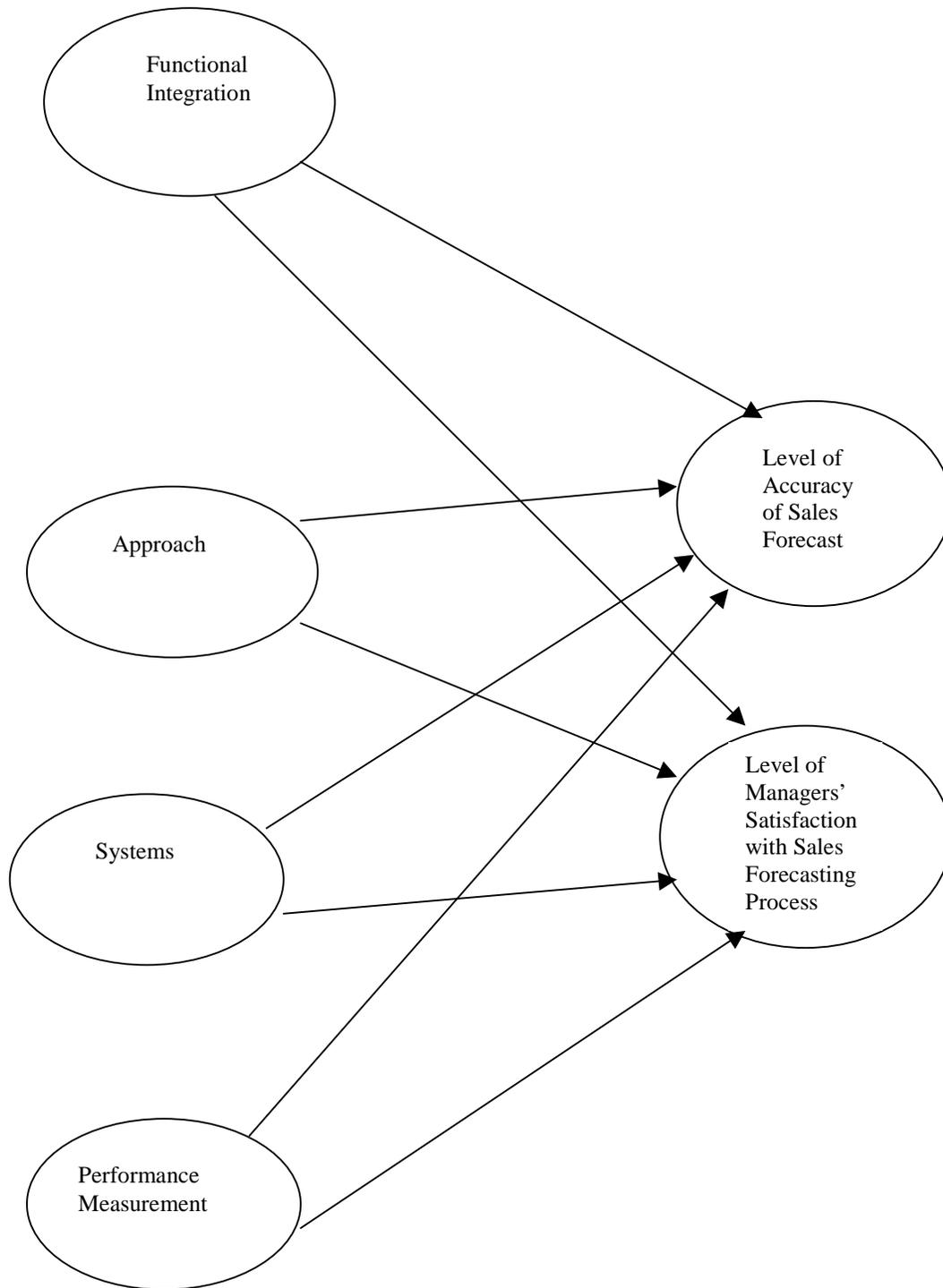


Figure 1.1. Sales Forecasting Benchmarking Model (Adapted from Mentzer et al., 1996; 1999)