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## Academic Library Service Consumer (User) Motivation Study Based on Expectancy Theory

Seongsin Lee



THE FLORIDA STATE UNIVERSITY  
COLLEGE OF INFORMATION

ACADEMIC LIBRARY SERVICE CONSUMER (USER) MOTIVATION STUDY BASED  
ON EXPECTANCY THEORY

By  
SEONGSIN LEE

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The members of the Committee approve the dissertation of Seongsin Lee defended on October 30, 2007.

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John C. Bertot  
Professor Directing Dissertation

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Leisa R. Flynn  
Outside Committee Member

---

Michelle Kazmer  
Committee Member

---

Christie M. Koontz  
Committee Member

Approved:

---

Larwrence C. Dennis, Dean, College of Information

The Office of Graduate Studies has verified and approved the above named committee members.

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## **ABSTRACT**

The purpose of this study is to provide a preliminary theoretical foundation of academic library service consumer motivation. To achieve this purpose, the study attempts to develop and test an academic library service consumer motivation model based on expectancy theory which was introduced by Victor H. Vroom (1964) and modified by Porter & Lawler (1968) and Campbell, Dunnette, Lawler, & Weick (1970). The proposed model was verified using chat reference service as an example.

This study has the following four research questions: 1) What factors influence an academic library service consumer's motivational process to use library services?, 2) Are there relationships among the factors which influence an academic library service consumer's motivational process to use library services?, 3) What relationships exist among the factors which influence an academic library service consumer's motivational process to use library services?, and 4) Based on these relationships, can the academic library service consumer's motivational process be explained?

To answer the research questions, correlational research method and confirmatory interview method were employed. The selected participants of this study were Information Studies graduate students at Florida State University who are registered in three master level online classes and General Information Studies graduate students. They were asked to use the chat reference service at FSU libraries and answer to the questionnaire which was distributed through email. The collected data were analysed using correlation analysis (Kendall's tau-b) and multiple regression analysis. To support the results of statistical analysis, the collected interview data were also analysed.

The findings are that academic library service consumer's motivational process can be influenced by three important factors such as 1) consumers themselves, 2) service providers, and 3) situational (environmental) factors. How well the service consumers perform the service depends on their past experience with the service. When they have much experience in using the service, consumers can perform the service very well. Service providers' role is also very critical in service delivery process. In addition to human factors (service consumers and service providers), surrounding environmental conditions are also important in service delivery process.

# **CHAPTER 1**

## **INTRODUCTION**

### **Problem Statement and Significance of the Study**

The focus of this study is library users, in particular, academic library users. This study approaches academic library users from a marketing perspective. The term “marketing” is understood slightly differently by various researchers. However, marketers agree on the fact that the key point of marketing is to understand the consumer<sup>1</sup> and consumer behavior<sup>2</sup> to achieve an organization’s objectives through the satisfaction of consumer needs. Therefore, the understanding of consumer and consumer behavior can be regarded as the first step of marketing efforts in any organization.

In the library field, whether public, academic, school, or special, there is a range of research related to marketing. However, librarians have failed to recognize the real meaning of marketing because they are not trained to understand library consumers and their behavior thoroughly (Johnson, 1995; Weingand, 1987; Cram, 1995). They misunderstand that marketing is synonymous with publicity or advertising (Bushing, 1995). From this point of view, library marketing researchers need understand library consumers and their behavior.

Consumers’ behavior, including library consumers’ behavior, is driven by various factors that are both internal and external to the individuals. This study focuses on the motivational factor which influences consumer behavior.

In the academic library field, there is considerable research which emphasizes the issues of service quality and service quality evaluation (Cook & Thompson, 2000; Hernon, Nitecki, & Altman, 1999; Quinn, 1997; Nitecki, 1996; Martensen & Gronholdt, 2003). However, as

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<sup>1</sup> A customer is someone who purchases or rents something from an individual or organization and a consumer is individual or household that “consumes” goods and services generated within the economy (from <http://encyclopedia.laborlawtalk.com>). The focus of this study is library users who use library services. Therefore, in this study, the term consumer will be appropriate, compared with customer.

<sup>2</sup> Generally, marketing researchers use the terms ‘consumer behavior’ and ‘consumer buying behavior’ interchangeably. Therefore, in this study, consumer behavior and consumer buying behavior will be used interchangeably.

Simmonds (2001) mentioned, “there has not been very much written about the factors that influence students actually to use libraries” (p. 628). In other words, academic library user studies focused, for the most part, on what resources or services library users use, how library users assess library service quality, what relationship exists between library usage and library users’ academic success, and so on. However, there is a lack of research which studies the fundamental motives underlying academic library user behavior to use library services and products. Therefore, now it is time for academic library researchers to ask the question of “why do library users use library resources or services?” in addition to the question “what resources or services library users want?” From this point of view, we need to study academic library users in terms of their motivation to use library services and products. Academic library users are also consumers who demand and choose products and services in an information market place which is motive driven. Academic libraries reside in a competitive environment. If academic libraries cannot successfully motivate consumers to use their products or services, they may lose the advantage to other information providers. Ultimately, academic libraries must satisfy and motivate consumers for the libraries’ survival and prosperity in our society. Based on these understandings, this study will focus on the study of academic library consumers’ motivational process to use academic libraries.

In the next section, the researcher will state why marketers, including library marketers, should focus on consumers and consumer behavior.

## **Why We Should Focus On Consumer and Consumer Behavior: Consumer-Centered Marketing Perspective**

Kotler defines marketing as “the analysis, planning, implementation, and control of carefully formulated programs designed to bring about voluntary exchanges of values with target markets for the purpose of achieving organizational objectives” (as cited in Weingand, 1999, p.4). In Kotler’s definition, there are two important components. These are 1) carefully formulated programs, that is, an organization’s offerings (offerings can be products or services), and 2) target consumers’ willingness to be involved in the organization’s marketing activities. As Kotler states, the ultimate goal of marketing efforts is to achieve organizational marketing objectives.

Whether or not the organizations can achieve their marketing objectives depends on how well they design their offerings and whether they can make target consumers act or not.

Some marketers insist that organizations should focus on the provision of well-designed offerings to make consumers buy their products or services. They posit that well-designed offerings can satisfy every consumer, regardless of each consumer's needs or wants. As a result, organizations can achieve their marketing objectives. This perspective is referred to as an organization-centered marketing approach.

Others insist that organizations should focus on the understanding of consumers, and adjust their product or services based on these understandings to achieve their marketing objectives. They posit that only consumers can determine whether an organization's offerings are well-designed or not. This perspective is referred to as a consumer-centered marketing approach.

From a consumer-centered marketing perspective, success comes "to that organization that best determines the perceptions, needs, and wants of target markets and continually satisfies them through the design, communication, pricing, and delivery of appropriate and competitively viable offerings" (Andreasen & Kotler, 2002, p.42). It is fundamental to an organization which has a consumer-centered marketing perspective to understand the consumers: how they buy, why they buy, and what they buy. Therefore, organizations which have a consumer-centered marketing perspective place an emphasis on providing products or services that consumers want. To accomplish this purpose, they focus on the understanding of their consumers and consumer buying behavior.

An organization-centered marketing perspective posits that the success of organizations depends on the provision of high quality products and services and efficient promotion regardless of the understanding of consumers. Organizations which have an organization-centered marketing perspective focus on the provision of products or services that organizations can provide. They devote little time to consumer studies.

As Foxall, Goldsmith, & Brown (1998) state, however, marketing is not about inducing consumers to buy whatever the organizations can offer. On the contrary, successful marketing is to match every aspect of the business to the satisfaction of consumer needs. Thus, organizations which want to achieve their marketing objectives need to adopt a consumer-centered marketing approach. Furthermore, as mentioned above, the key point of a consumer-centered marketing view point is the understanding of consumer and consumer buying behavior.

## Importance of Understanding of Consumer Behavior and Factors Influencing Consumer Behavior

According to marketing researchers, a sound understanding of consumer behavior is an essential factor of the long-term success of marketing programs. Consumer behavior refers to “what goods and services people buy, how they buy them, why they buy them, when they buy them, where they buy them, and how often they buy them” (Mellott, 1983, p. 6). Organizations which adopt a consumer-centered marketing mindset research consumers and their buying behavior, especially, the relationship between their marketing stimuli and consumers’ responses. Marketing stimuli are referred to as the four Ps (product, price, place, and promotion) and other environmental factors (e.g., economic, technological, political, and cultural factors). That is, how do consumers respond to various marketing stimuli? Organizations recognize that high quality products and services, well-designed promotion, appropriate price, and optimal distribution channel decisions are not enough to appeal to consumers, and all consumers do not respond to their marketing efforts or stimuli in the same ways. According to marketers, marketing stimuli produce different responses, based on consumers’ individual characteristics, and these individual characteristics influence a consumer’s individual decision making processes. Different consumers react to marketing stimuli in different ways because their individual characteristics are different. These different individual characteristics and decision making process are referred to as the “consumer’s black box” by marketers. Marketing and other stimuli enter the consumer’s “black box” and produce various responses as shown in Figure 1-1:

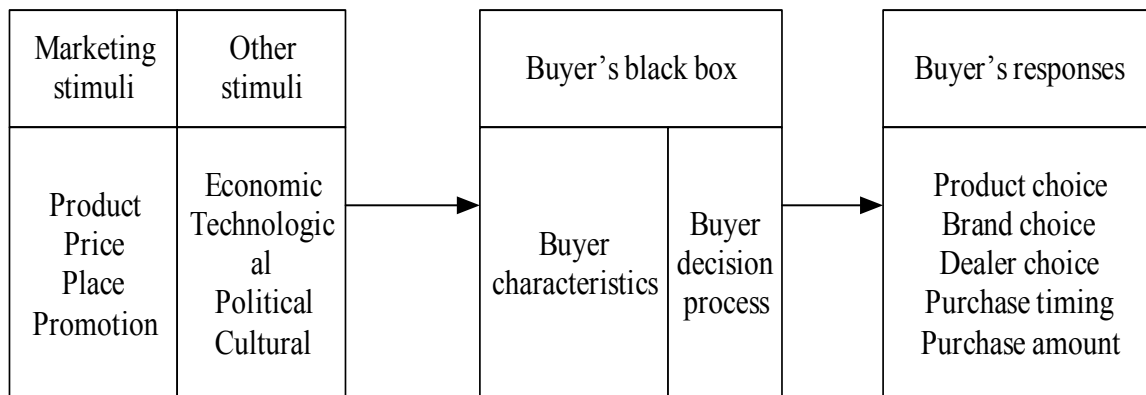


Figure 1-1. Model of Buyer Behavior (Adapted from Kotler’s Marketing Essentials, p. 109).



A key question is, what happens in the “consumer’s black box”? In other words, if only marketing and other stimuli cannot determine a buyer’s responses, which factors influence a buyer’s responses? The answer is the buyer’s individual characteristics which are determined by various factors internal and external to the individual as follows (see Figure 1-2):

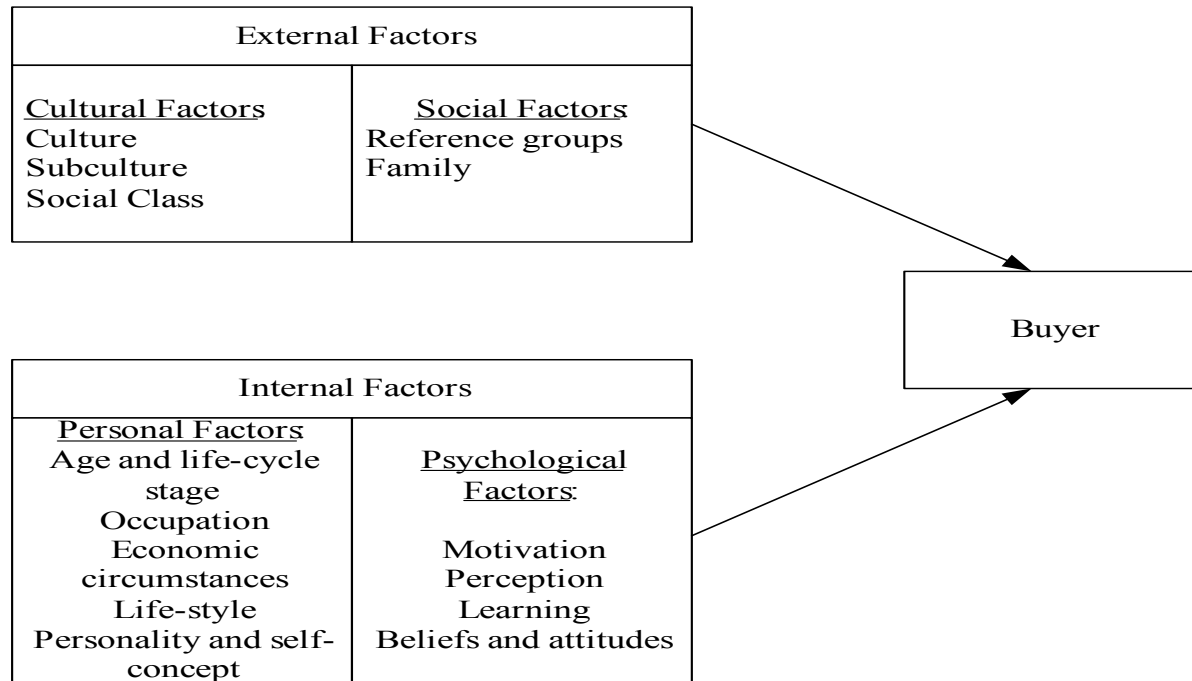


Figure 1-2. Characteristics Influencing Buyer Behavior (Adapted from Kotler’s Marketing Essentials, p. 109).

As shown in Figure 1-2, behavior, including consumer behavior, is driven by various factors both internal and external to the individual. The external factors which influence consumer behavior can include culture, subculture, social class, social group, family, other people, and so on. The internal factors which influence consumer behavior can include personality, motivation, learning, memory, attitudes, and so on (see Figure 1-2). Among these factors, the focus of this study is psychological factors which influence consumer behavior. As shown in Figure 1-2, there are four major categories of psychological factors:

- **Motivation.** Ferguson (2000) defines motivation as “an internal process that pushes or pulls the individual, and the push or pull relates to some external event” (p. 1).

Motivation is the determinants of individual's thought and action: why individual's behavior is initiated, persists, and stops, as well as what choices are made by the individual (Weiner, 1992). Motivation can also affect an individual's perception, learning, and attitudes (Ferguson, 2000, Loudon & Bitta, 1993, Kotler, 1984).

- **Learning.** Learning is behavioral changes resulting from experience. The principal elements of learning are motives, cues, response, and reinforcement.
- **Perception.** Perception is the process by which an individual selects and interprets external and internal stimuli. The final goal of perception is to create a meaningful picture of the world.
- **Belief.** Kotler defines belief as “a descriptive thought that a person holds about something” and attitude as “a person's enduring favorable or unfavorable cognitive evaluations, emotional feelings, and action tendencies toward some object or idea.” (p. 123) Individuals can have specific beliefs and attitudes about specific products and services.

The next section reviews the motivational factor which is the focus of this study. Understanding motivation is critical, as it is regarded as the basis of the other three psychological factors (perception, learning, and beliefs and attitudes) of consumer behavior (Mellott, 1983; Kotler, 1984; Loudon & Bitta, 1993; Onkvisit & Shaw, 1994). The section begins with a general overview of motivation.

## **Overview of the Study of Motivation**

While the study of motivation and consumer behavior may be new in the library field, the concept of motivation is not new in the field of industrial and vocational psychology. Scholars have used the motivation concept to analyze and explain behavior since the beginning of the twentieth century. In general, motivational theories can be divided into two broad categories: (1) Content theories, and (2) Process theories. Content theories place an emphasis on the factors within an individual that direct, sustain, and stop his/her behavior. Process theories describe and analyze how individual behavior is directed, sustained, and stopped.

Examples of content theories include:

- **Maslow's need hierarchy.** Maslow (1943) identified five basic needs and arranged the five needs into a hierarchy from the lowest needs to the highest needs. The needs are physiological needs (e.g., hunger, thirst, and other bodily needs), safety needs (e.g., security and protection from physical and emotional harm), social needs (e.g., love, sense of belongingness, affection, and friendship), esteem needs (e.g., self-esteem, self-respect, achievement, and recognition), and self-actualization needs (e.g., growth, self-fulfillment, and self-development). According to Maslow, when individuals meet lower-order needs, they seek to satisfy successively higher-order needs.
- **Adlerfer's ERG (Existence needs, Relatedness needs, and Growth needs).** Adlerfer modified Maslow's need hierarchy and proposed that there are three groups of core needs as follows: existence, relatedness, and growth. The existence needs include Maslow's physiological and safety needs. The relatedness needs are the desire to maintain interpersonal relationships and the growth needs are intrinsic desire for personal development. According to Robbins (1983), "Alderfer has avoided the assumption that a certain group of needs—for example, the existence needs—must be substantially satisfied before another set can emerge." (p. 137)
- **Herzberg's two factor theory.** Frederick Herzberg's two factor theory has also been called as "hygiene theory". According to Herzberg, hygiene factors (e.g., the company, its policies and administration, the kind of supervision that people receive while on the job, working conditions, interpersonal relations, salary, status and security) cannot create higher levels of motivation. Without them, however, there is dissatisfaction. Individuals can be motivated by the factors of achievement, recognition, growth, and interest in the job. Hygiene factors are related to individuals' dissatisfaction and the other factors are related to individuals' motivation. From this point of view, Herzberg's theory is called the "two-factor" theory.
- **McClelland's Acquired needs theory.** McClelland argued that certain types of needs are acquired through life experiences. These needs are (1) need for achievement, (2) need for power, and (3) need for affiliation. The need for

achievement is the desire to achieve or attain success. Those who have this need strive to attain personal achievement rather than the rewards of success. The need for power is the desire to control or influence other people. According to Robbins (1983), “individuals high in need for power enjoy being “in charge,” strive for influence over others, prefer to be placed into competitive and status-oriented situations, and tend to be more concerned with gaining influence over others and prestige than with effective performance.” (p. 138) Lastly, the need for affiliation is the desire to form close interpersonal relationships. Those who have this need strive for friendship and prefer cooperation rather than competition.

Content theories focus on profiling the needs that individuals seek to fulfill and restrict explanations of motivation to a particular set of factors that cause individuals to put forth effort in work. Process theories focus on individuals’ cognitive processes and attempt to discover mechanisms to explain motivation. Examples of process theories are:

- **Adams’ Equity Theory.** Adams argued that individuals are concerned with how fairly they are treated compared with how others are treated. According to Adams, individuals make judgments as to the relationship between (1) their inputs (e.g., effort, experience, and education) and outcomes (e.g., salary levels and recognition) and (2) the inputs and outcomes of others (as cited in Robbins, 1983). When the individuals perceive inequity through this comparison, this perception of inequity can be the basis for motivation. As a result, they will strive for what they perceive as equity.
- **Goal Setting Theory.** According to Locke, individuals are motivated to achieve their desired goals. These desired goals direct individuals’ effort to attain them. To commit to the goal, individuals need to participate in goal-setting process and accept the goal. In addition, receiving feedback on goal achievement is also a critical factor for motivation.
- **Attribution Theory.** Attribution theory is a theory about how individuals make causal explanations of other people’s behavior and their own behavior. As Robbins (1983) states, “.... when we observe an individual’s behavior, we attempt to determine whether it was internally or externally caused.” (p. 114)

Individuals' beliefs about what causes and influences their behavior have critical meanings for their motivation. In other words, individuals are motivated to understand a causal understanding of the world: "why an event has occurred".

- **Expectancy Theory.** In 1964, Victor Vroom introduced Expectancy theory. According to Vroom (1964), individuals will be motivated if they meet three criteria. First, they must value the behavioral outcome valence. Second, they must believe that the desired behavior is instrumental in achieving the valent outcome. In other words, the individuals must expect that if they behave in a certain way, they will receive certain things. Finally, they must expect that they are capable of performing the behavior that is instrumental to achieving the outcome. Expectancy theory was modified and sophisticated by Porter & Lawler (1968) and Campbell, Dunnette, Lawler & Weick (1970).

The common factor in all process motivation theories is an emphasis on the cognitive processes in determining an individual's level of motivation. Among these, and through subsequent research, expectancy theory reveals implications for the explanation of the motivational factors of individuals in various situations or settings as well as explanation of the motivation factors of the worker to his work. Based on this understanding, this study will strive to apply expectancy theory to academic library user motivation study.

## **Overview of Academic Library User (Consumer) Studies and Significance of Academic Library User Motivation Study**

Academic library users include students (undergraduates, graduate, special, and distance-education students), faculty, and the general public (Johnson, 2004). Among these user populations, the existing literature on academic library user studies centers on students.<sup>3</sup>

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<sup>3</sup> This study also focuses on student users.

Academic library user studies can be divided into two broad areas<sup>4</sup>: (1) academic library use studies; and (2) evaluation studies<sup>5</sup> (academic library service quality and assessment). Academic library use studies consist of two areas as follows: (1) different library use behavior by diverse student users, and (2) library use behavior by general students.

With regard to the research which studies different library use behavior by diverse student populations, the researchers focus on international (multicultural) students' library use behavior, minority students' library use behavior, or distance-education students' library use behavior.

According to Onwuegbuzie & Jiao's (1997) study results, multicultural (international) students' library use behavior is not much different from other students' library use behavior. International students also use the library to study for tests, to read books on reserve, to check out books, to use computerized indexes and online facilities, and to meet friends (as cited in Simmonds, 2001).

On the other hand, Whitmire (1999) found that there exist racial differences in the academic library experiences of undergraduates. She states that African-American undergraduate students use the academic library resources and services more frequently than white undergraduate students.

Literature on distance-learning students' library use behavior centers "around several issues, including information source selection, frequency of use of libraries, preferred services or resources, document delivery, technology and library use, and user satisfaction." (Liu & Yang, 2004, p. 24)

Studies focusing specifically on the fundamental motives underlying academic library user behavior to use library services and products are few (Simmonds, 2001). Generally, the existing studies deal with the question of what resources and services library users use. The studies which examine the question why library users use the library resources and services are few. In other words, the studies did not focus on the underlying motives that influence library user behavior to use library services and products. However, the real meaning of user studies should put emphasis on the "why;" why users do or do not use the library (Zweizig, 1976). Academic library users are

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<sup>4</sup> Academic library user studies are consisted of various researches. The above categories are based on literature review of this study.

<sup>5</sup> Evaluation studies are beyond of the scope of this study. The focus of this study is academic library users and their library use behavior. Therefore, this study will not review evaluation studies.

also consumers who demand and choose products and services from various information providers. This means that academic library users compare library products and services with other information providers. Today, organizations reside within competitive environments. In this context, it is imperative that organizations understand their consumers and the factors underlying consumer behavior. Like many organizations, academic libraries also reside in a competitive environment. In today's environment, academic libraries are only one of many information providers. Thus, academic libraries are increasingly competing for consumers in an information marketplace. As a result, if academic libraries cannot motivate library users to use library products and services, the academic library users may try to use another information provider's products and services. Furthermore, motivation is the basis for the other three psychological factors of consumer behavior. In addition, as Merchant (1991) states, linking library use to library user motivation may be one further step forward in library user studies because simple library inputs and processes do not result in library use (Ballard, 1989; O'Connor, 1985). Therefore, it is significant to study academic library consumer behavior from a motivational point of view.

### **Services Are Different**

According to Andreasen & Kotler (2002), a service is "any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything" (p.313). In general, there are four unique characteristics of service compared with tangible products. These are:

- Intangibility, which means that services cannot be seen, tasted, touched, heard, felt, or evaluated before they are experienced. From the consumers' point of view, this makes it difficult to compare one service with another prior to buying the service.
- Variability, which can be regarded as a lack of homogeneity. As a result, some researchers mention "variability" as "heterogeneity." Services are modified for each consumer and each situation. This makes a problem of inconsistent quality.
- Inseparability, which is the simultaneous nature of service production and consumption, compared with the sequential nature of tangible products production and consumption.

- Perishability, which is the fact that services cannot be stored, resold, or inventoried. The characteristic of perishability is closely related to the characteristic of intangibility.

As Murray & Schlacter (1990) mentioned, because of these characteristics, the amount and/or quality of information available to service consumers is diminished and the amount of perceived risk is elevated (p. 53). Even if some degree of perceived risk exists, all transactions including the purchase of tangible products, more risk is related to the purchase of services because services are intangible and nonstandardized (Zeithaml & Bitner, 2002). Murray & Schlacter (1990) state that “perceived risk is a multi-dimensional construct which implies that consumers experience pre-purchase uncertainty as to type and degree of expected loss resulting from the purchase and use of product” (p.53). The expected loss can include financial, physical, psychological, and social loss. Service marketers regard perceived risk as a fundamental concept in service consumer perception and behavior (Dholakia, 2000; Murray & Schlacter, 1990; Bateson, 1977). With regard to the relationship between service consumer motivation and perceived risk, Zeithaml & Bitner (2002) state that service marketers should emphasize procedures to standardize their services in order to reduce perceived risk so that service consumers can be motivated to use the services. Therefore, because of the unique characteristics of services and perceived risk which results from the unique characteristics of services, service consumer motivation should be dealt with differently from product consumers’ motivation.

In addition, as mentioned above, tangible products are produced first, then sold and consumed. Intangible services, however, are actions or performances and are sold first, then produced and consumed at the same time. As a result, as Zeithaml & Bitner (2003) state, consumers are present while the service is being produced and may even participate in the process (p. 21). Consumer presence and participation are inevitable in service delivery and consumers are indispensable to the production process of the service (Zeithaml & Bitner, 2003). As a result, consumers’ past experience with the service and the service quality itself are crucial factors that influence service consumers while they are performing the service. From this point of view, this study will deal with service consumers differently from product consumers and focus on academic library services and academic library service consumers.



## **Study Purpose and Study Model**

The purpose of this study is to provide a preliminary theoretical foundation of academic library service consumer motivation. To achieve this purpose, the study attempts to develop and test an academic library service consumer motivation model based on expectancy theory.

The model for this study is based on expectancy theory which was introduced by Victor H. Vroom (1964) and modified by Porter & Lawler (1968) and Campbell, Dunnette, Lawler, & Weick (1970).

In Vroom's expectancy theory, there are three important components such as valence, expectancy, and instrumentality. According to Vroom, individuals are motivated when they meet three criteria:

1. They must value the behavioral outcome valence (valence):
2. They must expect that if they behave in a certain way, they will receive certain things (instrumentality): and
3. They must expect that they are capable of performing the behavior that is instrumental to achieving the outcome (expectancy).

Based on Vroom's theory, Porter & Lawler developed a more sophisticated model. Porter & Lawler added several factors to Vroom's model. Among these, there are two critical factors: (1) "value of reward" and (2) "effort-reward probability." Porter & Lawler's "value of reward" is the attractiveness of possible outcomes to an individual. Furthermore, Porter & Lawler's value of reward is the same concept as Vroom's outcome valence. Judging the values of the rewards, individuals determine the effort they put into their works. On the other hand, "effort-reward probability" is a perceived probability that there is a close relationship between effort and reward. As Porter & Lawler discuss, however, mere effort is not enough to produce the desired performance. There are two additional variables: (1) ability or individual characteristics and (2) role perceptions.

Finally, Campbell, Dunnette, Lawler & Weick (1970) divided expectancy into expectancy I and expectancy II. Furthermore, they divided outcomes into first-level outcomes and second-level outcomes. According to Campbell, Dunnette, Lawler & Weick (1970), expectancy I represents an individual's personal probability estimate of task accomplishment.

Expectancy II is an individual's personal probability estimate that their accomplishment of the task goal will be followed by certain first level outcomes or rewards. In addition, first-level outcome is incentive or reward and second-level outcome is need satisfactions. In addition, first-level outcome is instrumental in obtaining second-level outcomes.

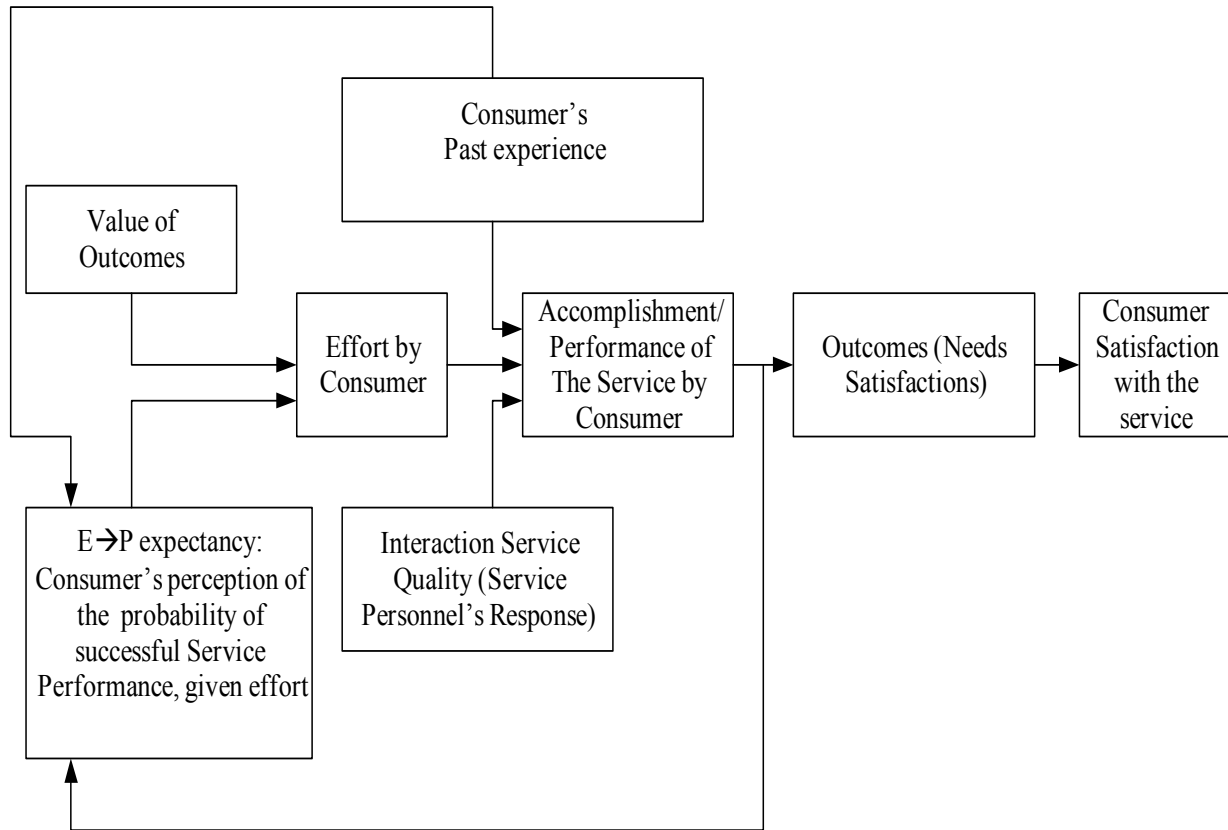
Even if expectancy theory was modified by several researchers and each researcher used slightly different terms, there exist two common components in expectancy theory. The common factors are “value of outcomes (valence)<sup>6</sup>” and “individual's personal probability estimate of task accomplishment (expectancy)<sup>7</sup>”. This study will also incorporate these two components in the model.

In addition, there are two important factors in the model of this study. These factors are “service quality (interaction service quality)” and “consumer's past experience.” As mentioned above, tangible products are produced first, then sold and consumed. Intangible services, however, are actions or performances, and are sold first, then produced and consumed at the same time. As a result, as Zeithaml & Bitner (2003) state, consumers are present while the service is being produced and may even participate in the process (p. 21). In other words, consumer presence and participation are inevitable in service delivery, and consumers are indispensable to the production process of the service (Zeithaml & Bitner, 2003). As a result, consumers' past experience with the service and the service quality itself are crucial factors which influence service consumers while they are performing the service. Therefore, the model for this study will also incorporate these two factors. Service quality is a multi-dimensional phenomenon. It means that consumers use several general service facets to assess service quality. Different researchers suggest different service quality dimensions. Chapter 2 presents a detailed review of these dimensions. Among the various aspects of service quality, this study will view service quality from interaction quality point of view. All these factors which were mentioned above can be incorporated into the study model (see Figure 1-3).

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<sup>6</sup> Each expectancy theorist suggests slightly different definitions of outcomes and/or value of outcomes (valence). It will be presented in Chapter 3: Methodology. The researcher defines outcomes as information needs satisfaction.

<sup>7</sup> This is an individual's personal probability estimate that he can accomplish the task, given effort. The researcher defines expectancy ( $E \rightarrow P$  Expectancy) as service consumer's personal probability estimate that he/she can perform the service, given effort. The detailed definition will be reviewed in Chapter 3.



**Figure 1-3.** Academic Library Service Consumer Motivation Model.

In this model, “outcomes” are defined as needs satisfactions, in particular, information needs satisfactions. This definition is the same as Campbell, et al;’s second level outcomes. “Value of outcomes” is an anticipated value by individuals when their information needs is satisfied through the use of the service. “E→P Expectancy” is a service consumer’s personal probability estimate that he/she can perform the service, given effort. This expectancy can be influenced by the individual’s past personal experience with the service. “Service performance” is how well a consumer performs or accomplishes the basic requirements of the service without difficulties.

“Interaction service quality” is service personnel’s response. “Consumer satisfaction” is overall assessments of the service experience by the service consumer. Detailed definitions of the variables will be presented in Chapter 3.

## **Research Questions and Overview of Research Method**

This study has the following four research questions:

1. What factors influence an academic library service consumer's motivational process to use library services?
2. Are there relationships among the factors which influence an academic library service consumer's motivational process to use library services?
3. What relationships exist among the factors which influence an academic library service consumer's motivational process to use library services?
4. Based on these relationships, can the academic library service consumer's motivational process be explained?

The first three questions are interrelated. These three questions will be answered through correlational research methodology and the fourth question will be answered through both correlational research method and confirmatory interview.

The primary purpose of correlational research is to identify relationships between two or more variables. Correlational research can be either prediction studies or relationship studies. In relationship studies, researchers are interested in exploring the relationships between two or more variables. On the other hand, the purpose of prediction studies is to identify variables that positively predict an outcome or criterion (Creswell, 2002).

As mentioned in the research questions of this study, this study explores the relationships among variables/factors which are identified in the study model to explain the academic library service consumer's motivational process to use library services. Therefore, this study will use correlational research design in terms of relationship studies to answer to the first three research questions.

The fourth question explores the motivational process of academic library service consumer, based on the identified relationships through the first three research questions. Therefore, the fourth question will be answered through correlational research method and confirmed through interviews. Through interviews, the motivational process will be understood more clearly.

Table 1-1. Summary of Research Questions and Methods.

	Research Questions	Methods
1	What factors influence an academic library service consumer's motivational process to use library services?	Correlational Research Method
2	Are there relationships among the factors which influence an academic library service consumer's motivational process to use library services?	Correlational Research Method
3	What relationships exist among the factors which influence an academic library service consumer's motivational process to use library services?	Correlational Research Method
4	Based on these relationships, can the academic library service consumer's motivational process be explained?	Correlational Research Method and Confirmatory Interview

### **This Study is not...**

The purpose of this study is not to evaluate specific academic library services. The researcher will try to verify the proposed study model using chat reference service as an example. Academic libraries provide various services to their consumers (users) such as reference service, interlibrary loan service, user training services, and so on. As mentioned above, services are a series of activities or processes involving more interactions with service providers as compared to tangible products. Interactions can take place even during the process of delivery of tangible products. However, these interactions are not part of the tangible products. In services, interactions are part of a service and consumers evaluate the service based on these interactions. From this point of view, chat reference service can be regarded as a typical academic library service in which interactions are present and important. Furthermore, chat reference service possesses unique characteristics as a service: intangibility, variability, inseparability, and

perishability. Based on these understandings, the researcher selected chat reference service as an example of academic library service.

This study is an exploratory study of academic library service consumer motivation. It is difficult to explain the whole process of human motivation, including academic library service consumer motivation. This study will attempt to provide a preliminary foundation of an academic library service consumer motivation study. This study will not insist that academic library service consumer motivation process could be disclosed through this single study. However, this study might be the first step of an academic library service consumer motivation study.

## **Summary of the Chapter**

The researcher approaches academic library users from a marketing perspective. The researcher insists that academic libraries should adopt a consumer-centered marketing perspective and services should be dealt differently from tangible products. From a consumer-centered perspective, it is the most important thing to understand consumers and their (buying) behavior. There are various factors which influence consumers and their buying behavior. Among the factors, this study focuses on motivational factor. Several scholars used the motivation concept and suggested various motivation theories to analyze and explain human behavior including consumer behavior. Among the various theories, this study is based on expectancy theory to approach an academic library consumer behavior. Based on expectancy theory, this study proposes an academic library service consumer motivation model. This chapter also includes a brief review of methodology (correlational research methodology) which was chosen to verify and test the proposed model.

In Chapter 2: Literature Review, the researcher will review several issues which are mentioned in Chapter 1, such as marketing, services marketing, consumer behavior research, consumer behavior research in the academic library field, expectancy theory, and so on. .

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **INTRODUCTION**

The ultimate goal of this study is to provide a preliminary theoretical foundation of academic library service consumer motivation study. To achieve the goal, this study attempts to develop an academic library service consumer motivation model based on expectancy theory. The assumption underlying this study is that services should be dealt with differently when compared with tangible products. In the same context, service consumers and product consumers are different because of the unique characteristics of the services themselves. Based on this understanding, the chapter is comprised of the following five sections.

This study is based on a marketing perspective. Therefore, the first section will be devoted to introducing general marketing concepts and trends in private sector. In general, there are two different marketing view points, such as a consumer-centered marketing perspective and an organization-centered marketing perceptive. These two marketing view points will be compared.

The second section will discuss why services should be dealt with differently from tangible products.

The third section will focus on consumers and their buying behavior studies. The key point of a consumer-centered marketing perspective is to understand consumers and their buying behavior. Buyers' responses to marketing and other stimuli depend on their individual characteristics which are influenced by various factors such as social, cultural, personal, and psychological factors. Each of these social, cultural, personal, and psychological factors will be reviewed.

The fourth section will review academic library user (consumer) studies. In this section, it will be apparent that the academic library field needs to study the library user in terms of motivation.

The fifth section will discuss expectancy theory which is a theoretical foundation of this study. Expectancy theory was modified and revised by Porter & Lawler and Campbell, Dunnette, Lawler, & Weick since it was developed by Vroom.

## **Organization-Centered Marketing Perspective**

The ultimate objective of marketing is to influence consumer behavior (Kotler, 2002). With regard to the way in which target consumers' behavior is influenced, there are two different marketing perspectives; (1) a consumer-centered marketing perspective; and (2) an organization-centered marketing perspective.

According to Andreasen & Kotler (2002), an organization-centered marketing perspective is the belief “that to be an effective marketer, they simply had to ‘build a better mousetrap’, and, in effect, consumers would beat a pathway to your door” (p.40). An organization-centered marketing mindset assumes that:

- The organizations' offerings are inherently desirable;
- Organizational failure is due to consumer ignorance or lack of motivation;
- Consumer research is unnecessary;
- Marketing is promotion;
- There is one best marketing strategy to approach consumers; and
- Competition is not generic

(Andreasen & Kotler, 2002).

An organization-centered mindset also has a long history in the library field. In the past collection development of libraries, for example, libraries argued that the library should limit itself to provision items of high quality and the usefulness of library collection as a whole. This perspective can be described as “give-them-what-they-should-have” theory. This mindset is also well expressed in Johnson's (1995) statement: “The enactment of the library's service is built upon not just what customers want at a given moment but what professionals have determined customers need for the long term. Moreover, many library and information professionals have considerable experience with what customers are able to say about what they want” (p. 319).



## **Consumer-Centered Marketing Perspective**

Compared with an organization-centered marketing mindset, a consumer-centered marketing mindset is the belief that success “will come to that organization that best determines the perceptions, needs, and wants of target markets and continually satisfies them through the design, communication, pricing, and delivery of appropriate and competitively viable offerings” (Andreasen & Kotler, 2002, p.42). A consumer-centered organization makes efforts to serve and satisfy its target consumers’ needs and wants. As Foxall, Goldsmith, & Brown (1998) state,

Modern marketing thought stresses the need of business managers to know who their consumers are and why they choose their products rather than those of rival firms. Marketing is not about finding or inducing someone to buy whatever the firm happens to manufacture. Nowadays, successful management depends more than ever on matching every aspect of the business—product, advertising, after-sales service and so on—to the satisfaction of consumer needs (p. 3).

The organizations which are performing consumer-centered marketing have the following characteristics (Andreasen & Kotler, 2002; Foxall, Goldsmith, & Brown, 1998):

- They recognize their success depends on whether consumers act or not. Therefore, they focus on the understanding of consumers: what their wants or needs are, how they behave, etc.
- Consumer-centered organizations always rely on research to answer the following questions: “To whom are we planning to market? Where are they and what are they like?” “What are their current perceptions, needs, and wants?” “Will these perceptions, needs, and wants be different in the future when our strategy is to be implemented?” and “How satisfied are our consumers with our offerings?” (Andreasen & Kotler, 2002, p. 51)
- They continually monitor consumers’ wants and needs.
- They define competition broadly.
- They set up a single strategic plan based upon knowledge of consumer behavior (Foxall, Goldsmith, & Brown, 1998).

In a library environment, a consumer-centered marketing mindset places emphasis on consumers' demand. From this point of view, this perspective is referred to as demand theory. Compared with the “give-them-what-they-should-have” theory, a consumer-centered marketing mindset can be explained as “give-them-what-they-want” theory.

In general, both marketing concepts (an organization-centered marketing or a consumer-centered marketing) encompass tangible product marketing and intangible service marketing. However, service marketing is different from tangible product marketing.

## **Marketing of Services**

### **What Is Service?**

Some marketers regard services as one of the components of products. They premise that the term of product includes tangible goods and intangible services. In this context, Rowley (2001) defines product as “a physical good, service, idea, person or place that is capable of offering tangible and intangible attributes that individuals or organizations regard as so necessary, worthwhile or satisfying that they are prepared to exchange money, patronage or some other unit of value in order to acquire it” (p.13). In Rowley's definition, the concept of product includes tangible goods and intangible services. However, the general trend in marketing research field is to delineate services from products (tangible goods). For example, Andreasen & Kotler (2003) regard product as “anything that can be offered in tangible form to a market to satisfy a need” (p.313) and service as “any activity or benefit that one party can offer to another that is essentially intangible and does not result in the ownership of anything” (p.317). Furthermore, Quinn, Baruch, & Paquette (1987) define services to “include all economic activities whose output is not a physical product or construction, is generally consumed at the time it is produced, and provides added value in forms (such as convenience, amusement, timeliness, comfort, or health) that are essentially intangible concerns of its first purchaser” (as cited in Zeithaml & Bitner, 2003, p.3).

This study also delineates intangible services from tangible products. Compared with tangible products, there are several unique characteristics of services. Because of these unique characteristics, tangible products and intangible services should be dealt with differently.

### Unique characteristics of service

In general, there are four unique characteristics of services. These are “intangibility,” “variability,” “inseparability,” and “perishability”:

- Intangibility means that services cannot be seen, tasted, touched, heard, felt, or evaluated before they are experienced. From the consumers’ point of view, this makes it difficult to compare one service with another prior to buying the service;
- Variability can be regarded as a lack of homogeneity. As a result, some researchers mention “variability” as “heterogeneity.” In general, services are modified for each consumer and each situation. This makes a problem of inconsistent quality;
- Inseparability is the simultaneous nature of service production and consumption, compared with the sequential nature of tangible goods production and consumption; and
- Perishability is the fact that services cannot be stored, resold, or inventoried. The characteristic of perishability is closely related to the characteristic of intangibility.

These unique characteristics of services make distinctive challenges to services marketers as follows:

Table 2-1.Services are Different.

Products	Services	Resulting Marketing Implications
Tangible	Intangible (Intangibility)	<ul style="list-style-type: none"> <li>● Services cannot be inventoried.</li> <li>● Services cannot be patented.</li> <li>● Services cannot be readily displayed or communicated.</li> <li>● Pricing is difficult.</li> </ul>

Table2-1.Continued.

Standardized	Heterogeneous (Variability)	<ul style="list-style-type: none"> <li>● Service delivery and consumer satisfaction depend on employee actions.</li> <li>● Service quality depends on many uncontrollable factors.</li> <li>● There is no sure knowledge that the service delivered matches what was planned and promoted.</li> </ul>
Production separate from consumption	Simultaneous production and consumption (Inseparability)	<ul style="list-style-type: none"> <li>● Consumers participate in and affect the transaction.</li> <li>● Consumers affect each other.</li> <li>● Employees affect the service outcome.</li> <li>● Decentralization may be essential.</li> <li>● Mass production is difficult.</li> </ul>
Nonperishable	Perishable (Perishability)	<ul style="list-style-type: none"> <li>● It is difficult to synchronize supply and demand with services.</li> <li>● Services cannot be returned or resold.</li> </ul>

(Adapted from Zeithaml & Bitner, 2003, p. 20)

It is beyond the scope of this study to explain each marketing implication that is listed in Table 2-1 specifically. It will be enough to understand the foundation or fundamentals of services marketing. According to services marketers, service quality is the foundation of services marketing because the core product being marketed is a performance and the performance is what consumers buy (Berry & Parasuramena, 1991, p. 5). From this point of view, as Berry & Parasuramena (1991) state, in a service business, the four Ps (product, price, place, and promotion) of marketing cannot work very well without a Q (quality).

### **What Is “Service Quality?”**

Service quality results from a comparison between consumers’ expectations (what consumers feel a service provider should offer) and what the provider actually provides to the consumers (Parasuraman & Zeithaml, 2002). From an organization’s point of view, the term of service quality indicates an organization’s desire to satisfy target consumers through a high

quality service. All services, including information services of the libraries, exist for their consumers and their continuous existence depends on whether or not consumers are willing to engage in a series of individual transactions with the services (Rowley, 2001). In other words, successful marketing of services rests on the ability of the organization to satisfy target consumers through a high quality service. We cannot say, however, high quality service always guarantees user satisfaction. From this perspective, Hernon (2002) delineates service quality from users' satisfaction. Hernon (2002) defines service quality as the interaction between consumers and service providers which focuses on consumers' perception of quality. In other words, service quality can be defined in terms of the gap between consumers' expectations about service provision and perceptions about how the service was actually provided. On the contrary, satisfaction does not involve gap analysis and is an emotional reaction to a service encounter or a series of such encounters (Hernon, 2002, p. 54). As Sureshchandar, Rajendran, and Anantharaman (2002) state, however, it is true that service quality and consumer satisfaction are conceptually distinct, but closely related constructs. In conclusion, service marketers regard service quality as the foundation of services marketing whose aim is to satisfy target consumers' needs through a high quality service.

The term "quality" has different meanings to different people depending on situation. In addition, service quality includes outcomes as well as processes in which the service is delivered. Based on this, Ghobadian, Speller, & Jones (1994) classify the definitions of quality into five broad categories. These are:

- Transcendent: "Quality" is referred to as innate excellence;
- Product led: "Quality" is the quantification of the service or product's units of goodness;
- Process or supply led: "Quality" is a conformance to requirements. The focus is on inside organizations;
- Consumer led: "Quality" is determined by the satisfaction of consumers; and
- Value led: "Quality" is the degree to which organizations meet the consumer's requirement in terms of quality, price, and availability.

Among these categories, as Ghobadian, Speller, & Jones (1994) mentioned, "consumer led" category of quality definition is the most important in service marketing concepts and programs. This study will also approach service quality from consumers' points of view.

In summary, service quality and consumer satisfaction are two core concepts in the services marketing theory and practice. Organizations can make consumers return or remain through delivery of high quality service. As Ghobadian, Speller, & Jones (1994) mentioned,

Service quality is considered a critical determinant of competitiveness. Attention to “service quality” can help an organization to differentiate itself from other organizations and through it gain a lasting competitive advantage. High quality of service is considered an essential determinant of the long-term profitability not only of service organizations, but also of manufacturing organizations. In some manufacturing industries “service quality” is considered a more important order winner than “product quality”. Superior “service quality” is a key to improved profitability, and not the cost of doing business and affects the repurchase intentions of both existing and potential consumers (p. 44)

Consumers use several general service facets to assess service quality (Parasuraman & Zeithaml, 2002). It means that service quality is not a one-dimensional concept.

### **Dimensions of service quality**

Service quality is a multi-dimensional phenomenon. It means that consumers use several general service facets to assess service quality.

First, Grönroos (1982) insists that service quality comprises of three dimensions as follows:

- The technical quality of outcome is the actual outcome what consumers receive from the service provider.
- The functional quality of the service encounter is the manner in which consumers receive the service. It is a perceived subjective quality by the recipient of a service.
- The corporate image is consumers’ perceptions of the service organization.

Second, Lehtinen & Lehtinen (1982) also argue that service quality comprises of three dimensions. These are:

- Physical quality is the physical environment of the service organization (e.g., the condition of building, equipment, location, and so on).

- Corporate quality is the same dimension as Gronroos' corporate image.
- Interactive quality is the same dimension as Gronroos' functional quality of the service encounter.

Third, Parasuramna; *et al.* (1985) suggests ten dimensions of service quality which are more specific and comprehensive as follows:

- Reliability is the ability of the organization to provide the promised service accurately. According to several empirical studies, reliability is the foremost criterion consumers consider in the evaluation of service quality.
- Responsiveness is the willingness to help consumers and to provide prompt service.
- Credibility is the degree to which consumers trust the service provider.
- Competence is the employees' knowledge and their ability to inspire trust and confidence.
- Access is the ease of approachability.
- Courtesy is staff's politeness, consideration, and friendliness.
- Security is the freedom from risk and danger.
- Communication is keeping consumers informed about the service.
- Tangibles are physical elements of the services such as facilities, equipment, and personnel.
- Understanding/knowing the consumer involves trying to understand the consumer's needs and specific requirements; providing individualized attention; and recognizing the regular consumer—an important determinant of quality in high-contact customized services" (Ghobadian, Speller, & Jones, 1994).

Fourth, after the empirical analysis, Parasuramna; *et al.* (1988) produced a five-dimensional service quality. These are:

- Assurance: Knowledge and courtesy of employees and their ability to inspire trust and confidence.
- Empathy: Caring, individualized attention the firm provides its consumers.
- Reliability: Ability to perform the promised service dependably and accurately.
- Responsiveness: Willingness to help consumers and provide prompt service.
- Tangibles: Appearance of physical facilities, equipment, personnel, and communication materials

Finally, Zeithaml & Bitner (2003) suggest:

- Outcome quality.
- Process quality.
- Physical/environment quality.

Various service quality dimensions which are mentioned above can be compared and summarized as follows:

Table 2-2. Comparison of Service Quality Dimensions.

Gronroos	Lehtinen & Lehtinen	Parasuramna; <i>et al.</i> (1985)	Parasuramna; <i>et al.</i> (1988)	Zeithaml & Bitner
Technical quality		Reliability	Reliability	Outcome quality
Functional quality	Interactive quality	Responsiveness Competence Credibility Security Courtesy Access Communication Understanding the consumers	Assurance Responsiveness Empathy	Interaction quality
Corporate image	Corporate quality Physical quality	Tangibles	Tangibles	Physical/environment quality

In summary, service quality can be divided into three broad categories: 1) Outcome quality, 2) Interaction quality, and 3) Physical quality. Among these three service quality dimensions, this study will focus on the interaction aspects of service quality. As mentioned above, a service is a “series of activities or processes which are produced and consumed simultaneously” (Grönroos, 1990, p. 29). Therefore, consumers can be influenced by how they receive the service and how they experience the service (interaction service quality), in addition to what the consumers receive (outcomes or technical service quality). As Grönroos (1990) mentioned, “as



there are a number of interactions between the provider and the customer...., the technical quality dimension will not count for the total quality which the customer perceives has been received” (p. 37). It means that the consumers will be influenced by the way in which the consumers receive the service. Therefore, in services, interaction service quality is the most important factor because services are process and activities. In addition, the interaction service quality represents service personnel’s response in the process of service delivery.

## **Consumer Behavior Research**

### **General Consumer Behavior Research**

***Buyer Behavior Model (Black Box Model).*** Engel & Blackwell (1981) define consumer behavior as “the acts of individuals in obtaining and using goods and services, including the decision processes that precede and determine these acts” (as cited in Kurtz & Boone, 1984, p. 182). In addition, according to Mellott (1983), consumer behavior refers to “what goods and services people buy, how they buy them, why they buy them, when they buy them, where they buy them, and how often they buy them” (p. 6). Behavior, including consumer behavior, is driven by a various factors. Marketing and other stimuli are one of the factors which influence the consumer’s buying behavior or responses. Marketing stimuli are referred to as the four Ps (product, price, place, and promotion), and other stimuli are major forces in the consumer’s environment (e.g., economic, technological, political, and cultural factors). These stimuli are not the only factors to determine the consumer’s responses or buying behavior. According to marketers, marketing and other stimuli produce different responses, based on buyers’ individual characteristics and decision making processes. Different consumers react to marketing stimuli and other stimuli in different ways because their individual characteristics are different. These different individual characteristics and decision making process are referred to as a buyer’s black

box. Marketing and other stimuli enter the consumer's black box and produce various responses as shown in Figure 2-1:

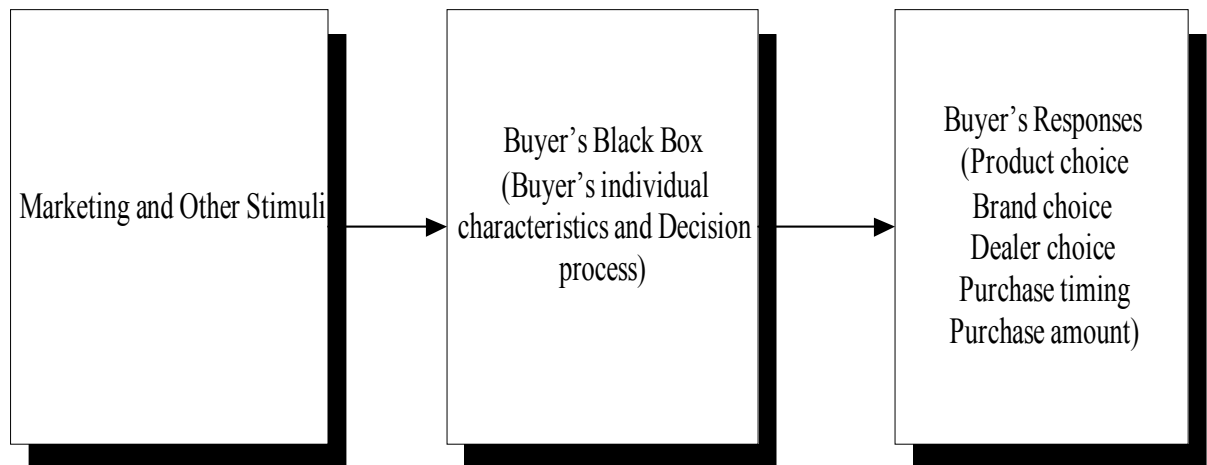
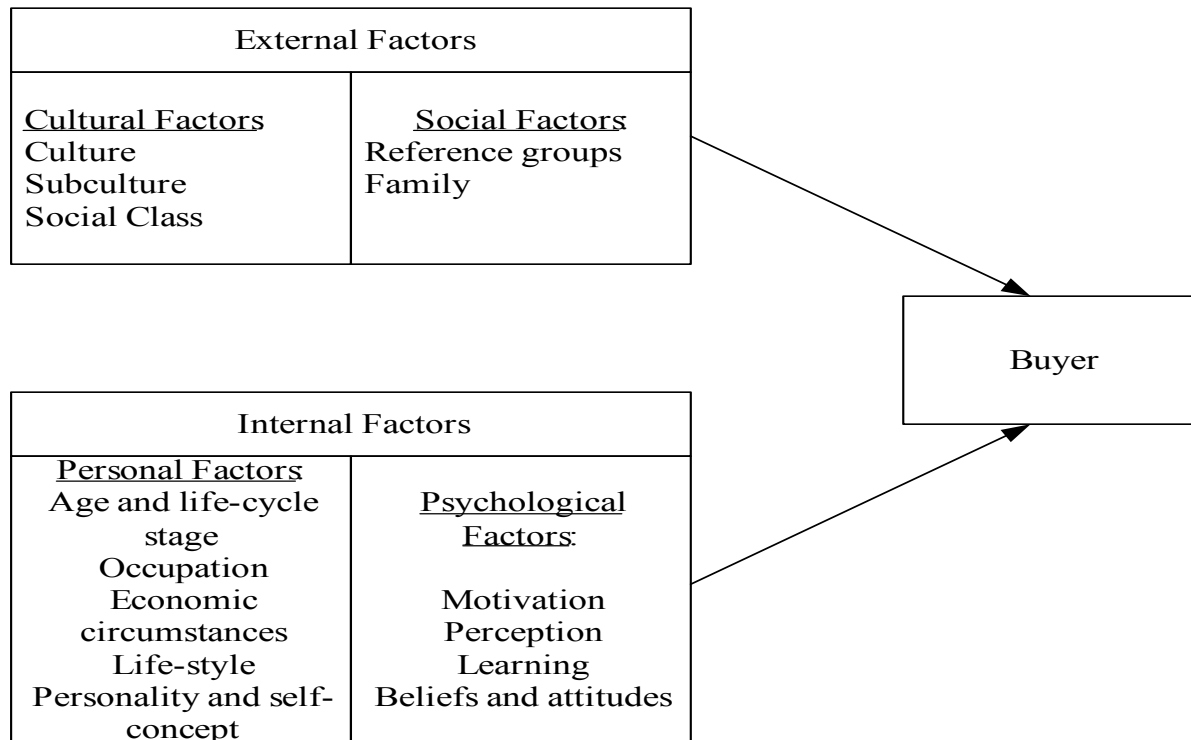


Figure 2-1. Buyer Behavior Model (Adapted from Kotler, 1983)

As Kotler states, a marketer's role should be to understand what happens in the consumer's black box between the stimuli and the responses. In general, it is known that there are four broad categories to influence the buyer's individual characteristics such as (1) cultural factors (external factor); (2) social factors (external factor); (3) personal factors (internal factor); and (4) psychological factors (internal factor) as follows:



**Figure 2-2.** Factors Influencing Buyer Behavior (Adapted from Kotler’s Marketing Essentials, p. 109).

Each factor and its implications to marketing field will be reviewed in the next section.

### ***Factors Influencing Buyer Behavior***

#### **Cultural Factors:**

##### **1. Culture.**

Culture, representing a given society’s traditional beliefs and values, is prescriptive, shared, learned, subjective, cumulative, and dynamic (Onkvisit & Shaw, 1994). Culture is the most critical determinant of a buyer’s wants and needs. Consumer preference depends on how well products or services fit into the consumer’s culture and his/her needs and wants. When the products or services contradict the cultural norms of the group, product acceptance will be considerably hampered (Onkvisit & Shaw, 1994). In addition, culture could change. It means that consumers’ behavior patterns which are developed from a cultural basis cannot be fixed over

long periods of time. Therefore, marketers should understand cultural changes and their influences on consumer buying behavior.

## 2. Subculture.

“A subculture, as the culture on a smaller and more specific level, is a distinct and identifiable cultural group that shares basic cultural values with the overall society while at the same time having its own unique set of customs and life style” (Onkvisit & Shaw, 1994, p. 358). In general, there are four types of subcultures such as nationality groups, religious groups, racial groups, and geographical areas. Individuals can be members of more than one subculture. As Loudon & Bitta (1993) state, marketers should understand who constitutes the most relevant subculture for their particular products or services. Through these understandings, the organization can refine their marketing efforts required to satisfy the organization’s target consumers properly (Loudon & Bitta, 1993).

## 3. Social class.

Onkvisit & Shaw define social class as “a distinct group of people whose behavior and life style can be distinguished from other groups on the basis of certain socioeconomic characteristics” (p. 386). Social classes have several characteristics: (1) individuals’ behavior within a given social class is more alike; (2) individuals can be ranked based on their social class; (3) individuals’ social classes are determined by a weighted function of their occupation, income, wealth, education, and so on; and (4) individuals can move into another social class (Kotler, 1983). Strategically, marketers can focus their marketing efforts on one specific social class. In particular, social class plays an important role in product and brand choices in such areas as clothing, home furnishings, leisure activity, and automobiles (Kotler, 1983). Social class can be utilized as a basis of market segmentation by marketers.

### Social Factors:

#### 1. Reference groups.

Reference groups are those groups that have a direct or indirect influence on the individual's behavior (Kotler, 1983). In general, consumers accept reference groups' influences because of the following three reasons (Loudon & Bitta, 1993):

First, consumers think that they can acquire the most credible information sources through their reference groups. Second, consumers feel that they should conform to the preferences or expectations of another individual. Third, consumers think that they can enhance their self-concept by associating themselves with the reference groups which they normally desire to fit in.

Therefore, marketers should identify the reference groups of the particular target market they are selling to. Based on these understandings, marketers can plan and design products or services and promotion strategies (Kotler, 1983).

#### 2. Family.

Family is a much more powerful influence on everyday buying behavior of the family members than any other small groups. As Kotler (1983) states, "marketers are interested in the roles and relative influence of the husband, wife, and children on the purchase of a large variety of products and services" (p. 129).

In other words, marketers need to understand the way in which buying decisions are made by the family members.

### Personal Factors:

#### 1. Age and life-cycle stage.

Products preferences and consumption are changed over their lifetime and the stage of the family life cycle. There are nine stages of the family life cycle: (1) Bachelor stage: Young single people not living at home; (2) Newly married couples: Young, no children; (3) Full nest I : Youngest child under six; (4) Full nest II: Youngest child six or over; (5) Full nest III: Older married couples with dependent children; (6) Empty nest I: Older married couples, no children living with them, head in labor force; (7) Empty nest II: Older married, no children living at home, head retired; (8) Solitary survivor, in labor force; and (9) Solitary survivor, retired (Kotler,

1983). In general, marketers segment their target markets based on these stages of the family life cycle.

## 2. Occupation.

An individual's occupation plays an important role in determining products or services which are bought by the individual. Therefore, a company can specialize in producing specific products or services which are used by a particular occupational group.

## 3. Economic circumstances.

An individual's product or brand choice depends on his/her economic circumstances. Therefore, marketers should be sensitive any economic changes of their consumers'.

## 4. Life-style

Kotler (1983) define an individual's lifestyle as "the person's pattern of living in the world as expressed in his or her activities, interests, and opinions" (p. 133). The implications of the lifestyle to marketers are well stated by Boyd & Levy (as cited in Kotler, 1983):

Marketing is a process of providing consumers with parts of a potential mosaic from which they, as artists of their own life styles, can pick and choose to develop the composition that for the time seems the best. The marketer who thinks about his products in this way will seek to understand their potential settings and relationships to other parts of consumer life styles, and thereby to increase the number of ways they fit meaningfully into the pattern.

## 5. Personality and self-concept.

There exist positive relationships between certain personality types and products or brand choices. On the other hand, self-concept is also referred to as self-image. According to marketers, there exist possible relationships between how individuals perceive themselves and what behavior they exhibit as consumers (Loudon & Bitta, 1993). The role of self-image in the brand choice process is shown in the Figure 2-3:

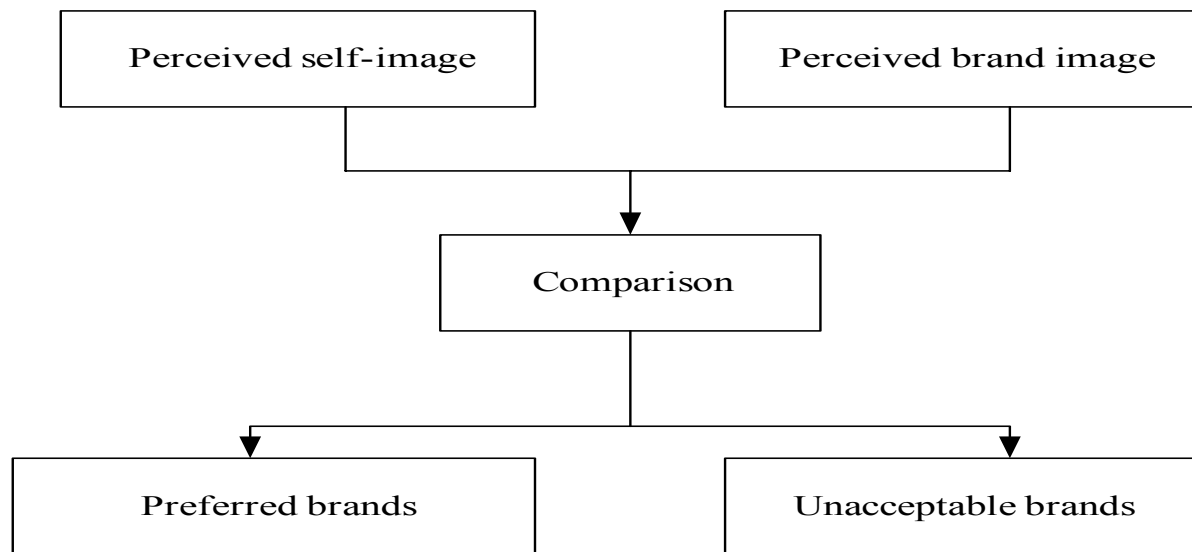


Figure 2-3. A Model of the Brand-Choice Process (Adapted from Loudon & Bitta, 1993).

As shown in the Figure 2-3, consumers preferred brands are identified through a comparison between their perceived self-image and their perceptions of brand image.

#### Psychological Factors:

##### 1. Motivation.

Ferguson (2000) defines motivation as “an internal process that pushes or pulls the individual, and the push or pull relates to some external event” (p. 1). Motivation is the determinant of an individual’s thought and action: why an individual’s behavior is initiated, persists, and stops, as well as what choices are made by the individual (Weiner, 1992). Motivation can also affect an individual’s perception, learning, and attitudes (Ferguson, 2000, Loudon & Bitta, 1993, Kotler, 1984). The implications of motivational research to marketing will be reviewed in the later section: Motivation theories in consumer behavior research

## 2. Perception.

Perception is the process by which an individual selects and interprets external and internal stimuli. The final goal of perception is to create a meaningful picture of the world. The perceptual process can be illustrated as follows:

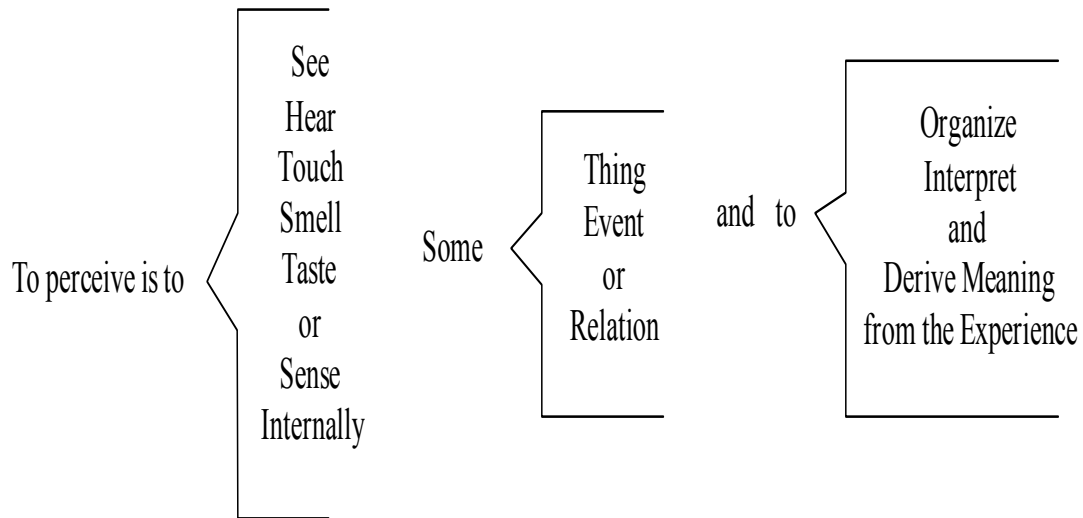


Figure 2-4. The Perceptual Process (Adapted from Mellott, 1983, p. 314).

As Kotler (1983) states, perception depends not only “on the character of the physical stimuli, but also on the relation of the stimuli to the surrounding field and on conditions within the individual” (p. 137-8). There are three perceptual processes: (1) selective exposure; (2) selective distortion; and (3) selective retention. First, individuals are selectively exposed to certain stimuli because they cannot be exposed to a tremendous amount of everyday stimuli. Therefore, marketers should understand or identify to which stimuli consumers respond. Second, selective distortion means that individuals attempt to fit incoming information into their existing mind-set (Kotler, 1983, Mellott, 1983). Third, selective retention means that individuals tend to retain information that supports their attitudes and beliefs (Kotler, 1983, Mellott, 1983). These three processes have important meanings for advertising plan or performance.



### 3. Learning.

Learning is behavioral changes resulting from experience. The principal elements of learning are drive, cue, response, reinforcement, and retention (Onkvisit & Shaw, 1994). First, drive is a stimulus that forces behavior. Second, cue is relatively weaker and a more specific stimulus, compared with drive. Third, response is a reaction to an interaction between a drive and a cue (Onkvisit & Shaw, 1994). Fourth, reinforcement means reward. Fifth, retention is the persistence of the learned experience or material over time. Learning can explain “why consumers sometimes react similarly to different products and at other times differently to similar products” (Onkvisit & Shaw, 1994, p. 99).

### 4. Beliefs and attitudes.

Kotler (1983) defines “belief” as “a descriptive thought that a person holds about something” and “attitude” as “a person’s enduring favorable or unfavorable cognitive evaluations, emotional feelings, and action tendencies toward some object or idea” (p. 123). Beliefs and attitudes are influenced by culture, social groups, and an individual’s own personality. In general, however, attitudes tend to be formed very early in the family group. Attitudes lead consumers to behave in a consistent way to similar products. Thus, marketers should fit their products into consumers’ existing attitudes, rather than changing individuals’ attitudes (Kotler, 1983).

Among these, motivation which is the focus of this study will be reviewed in the next section.

## **Motivation Theories in Consumer Behavior Research**

***Defining Motivation.*** Motivation is the determinant of an individual’s thought and action: why an individual’s behavior is initiated, persists, and stops, as well as what choices are made by the individual (Weiner, 1992). According to Ferguson (2000),

Motivation is a dynamic internal process that energizes and directs actions and action tendencies. Motivation pushes or pulls the individual. Environmental antecedents and goals provide sources of motivation. Motivation is a construct, not directly observable but tied theoretically and empirically to observable, external events. Motivation, like the constructs of learning, memory, and personality, is an intervening variable, which means an event or process that occurs within the individual (p. 6).

In marketing research, the purpose of motivation study is to understand fundamentals of consumer behavior (e.g., why consumers act as they do) because consumer behavior is primarily initiated through motivation (Onkvisit & Shaw, 1994). As Foxall, Goldsmith, & Brown (1998) state,

Products and services are seldom purchased for their functional values alone; shopping is seldom simply an economic process; and consumption may be undertaken to impress others and raise the consumer's social status; as well as to realize the fruits of his or her labour (p. 133).

In other words, the purpose of motivation study in consumer research is to understand the relationships between motives and specific behavior and to develop list of consumer motives that stimulate and shape behavior (Foxall, Goldsmith, & Brown, 1998).

In general, there are two motivation theories which have had critical implications for a buyer's buying behavior analysis and marketing. These motivation theories are Freud's theory and Maslow's theory.

***Maslow's Motivation Theory and Implications to Marketing.*** Maslow (1943) identified five basic needs and arranged the five needs into a hierarchy from the lowest needs to the highest needs. The needs are physiological needs, safety needs, social needs, esteem needs, and self-actualization needs. According to Maslow, when individuals meet lower-order needs, they seek to satisfy successively higher-order needs. Maslow's five needs are:

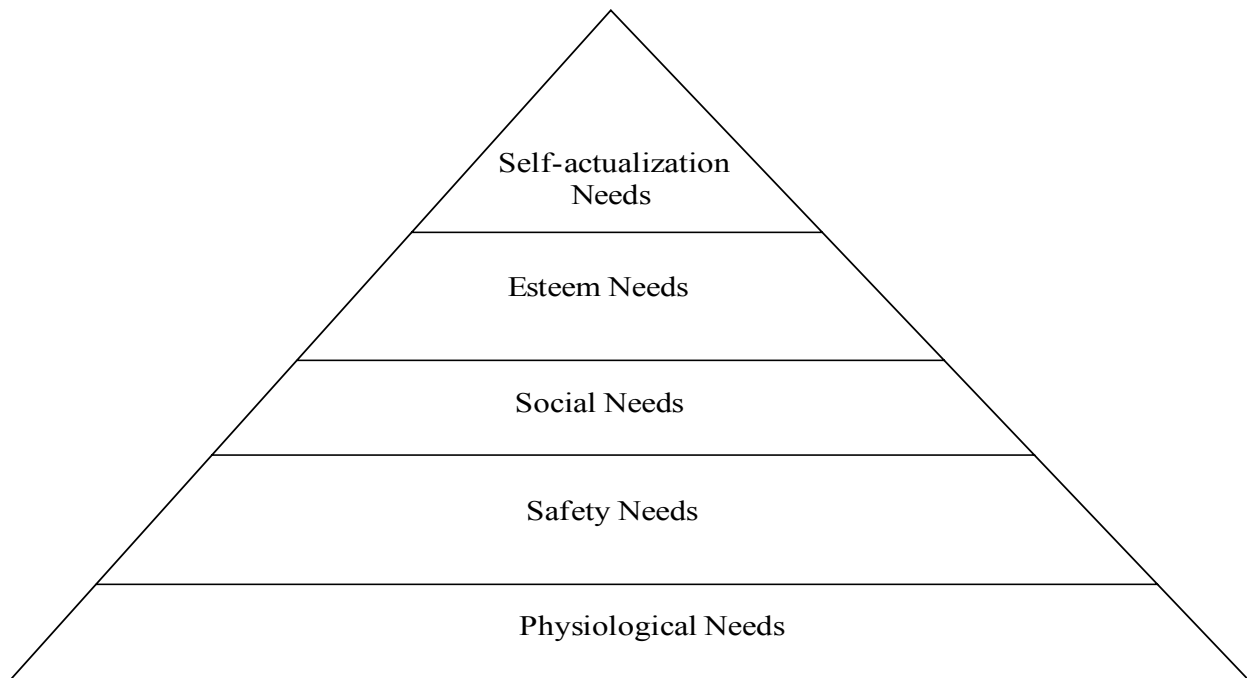


Figure 2-5. Maslow's Needs Hierarchy.

1. The physiological needs are the most basic needs that must be fulfilled. Examples of these needs are hunger, thirst, other bodily needs, and so on.
2. The safety needs are the second step in the hierarchy and related to security and protection from physical and emotional harm. Marketers can utilize these needs to motivate consumers. An example is the inflation threat stating that the price is rising, thus forcing consumers to act immediately (Onkvisit & Shaw, 1994).
3. The social needs are referred to as the belongingness or love needs in human relationships. Advertisers can utilize these needs when they appeal consumers who use their products or services that belong to or enjoy social networking with other people.
4. The esteem needs are a desire for self-esteem, self-respect, achievement, and recognition by others.
5. The self-actualization needs are a desire for self-fulfillment and self-development.

The following statements can be the application examples of Maslow's motivation theory to marketing field:

To motivate responses, one useful strategy is to match motivating needs with a defined marketing objective. People who need power, for example, are a good target market for self-help courses and self-improvement books that can help achieve their ambition in the areas of control and influence. Copywriters should consider these individuals' competitiveness, and the use of testimonials should work well in showing how the products in question are relevant to their ambition. Conversely, gregarious people who need affiliation are good prospects for fund-raising appeals, book clubs, fraternal organizations, and credit card affinity groups. To appeal to this group of consumers, it is appropriate to emphasize membership over service or convenience (Onkvisit & Shaw, 1994, p.45).

***Freudian Motivation Theory and Implications to Marketing.***: Freud distinguished conscious and unconscious sources of motivation (Foxall, Goldsmith, & Brown, 1998). Freud saw many of motivational dynamics as occurring beneath the surface of conscious awareness (as cited in Turner, 1987). In other words, individuals are unconscious about the real psychological forces guiding their behavior (Kotler, 1983). As a result, individuals cannot fully understand their motivation. Dichter (1964) applied Freudian motivation theory to marketing field. He attempted to interpret buying situations and product choices in terms of underlying unconscious motives (as cited in Kotler, 1983). Through the understanding of Freud's motivation theory, marketers could recognize that there exist not only a buyer's conscious motives, but also a buyer's unconscious motives leading to specific products or brands choices.

In the following section, the general trends of consumer behavior research in the academic library field, that is, academic library user behavior studies, will be reviewed.

## **Consumer Behavior Research in the Academic Library Field**

Academic library studies can be divided into two major parts as follows: (1) Academic library use studies and (2) Evaluation studies. Furthermore, academic library use studies consist of two areas: (1) different library use behavior by diverse student users and (2) library use behavior by general students.

## **Different library use behavior by diverse student users**

The existing literature focuses on (1) multicultural (international) and/or minority students' library use behavior and (2) distance-education students' library use behavior.

### ***Multicultural (International) and/or Minority Students' Library Use Behavior Studies***

Researchers who study multicultural students' library use behavior consist of two groups. Some researchers discuss how academic libraries can help multicultural students overcome alienation and improve retention rates. As a result, the researchers focus on how libraries can respond to multicultural students' needs and provide more effective services to these users. Others simply discuss the reasons why multicultural students use the library.

Today, there are increasingly diverse student users in many college and university libraries and these diverse student populations will be even larger in the future. As Martin (1994) states, multicultural students are different from those who grew up within the dominant culture because of the differences of language, perspective, and interest. According to Martin (1994), "statements regarding the importance of library use for multicultural student success, the low numbers of multicultural students using the libraries, and the responsibility of librarians to develop effective services in a multicultural environment appear in most of this literature" (p. 3). In other words, researchers who concern with multicultural students' library use behavior insist that library skills are one of important factors for multicultural students' academic success. From this point of view, the researchers state that academic library should play an active role in developing library services and operations for multicultural students (Kelly, 1995; Liu & Redfern, 1997). Through the interviews with various library staffs of the selected academic libraries (University of California at Santa Cruz, University of New Mexico, and the University at Albany, State University of New York), Martin's (1994) conclusion is not much different from the discussions of other researchers who studied multicultural students' library use behavior.

In 1995, Liu & Redfern conducted an exploratory survey at San Jose State University to obtain insight into "how university students from diverse ethnic groups discover, select, and use information and communication resources" (p. 349). According to the survey results, students who use English as their primary language were more successful in using the library than those for whom English is not their primary language. In addition, students who use the library more frequently were more successful in using the library. As Liu & Redfern (1997) insist that "the

most interesting finding was that, despite their unsuccessful use of the library, some Asian students still avoided asking reference questions” (p. 353).

On the other hand, Onwuegbuzie & Jiao (1997) discuss the reasons why international students use the library. According to Onwuegbuzie & Jiao (1997), international students use the library to study for tests, read books on reserve, check out books, use computerized indexes and online facilities, and meet friends (as cited in Simmonds, 2001). However, these usage characteristics are not much different from the reasons why other students use the library.

With African-American students’ library use behavior, Whitmire (1999) states that “while a body of literature discusses the need for increased academic library services and programs for minority students, little empirical evidence supports the theory that African-American and white students have different academic library experiences” (p. 34). Academic library experience includes;

- Using the card catalog or computer;
- Asking a librarian for help;
- Reading in the reserve or reference section;
- Using indexes to journal articles;
- Developing a bibliography;
- Finding material by browsing in the stacks;
- Checking citations in things read;
- Reading basic references or documents; and
- Checking out books (Whitmire, 1999).

According to Whitmire’s (1999) study result (her study utilized data obtained from the 1992/1993 CSEQ (College Student Experience Questionnaire) dataset), there exist differences in the academic library experiences between African-American undergraduate students and white undergraduate students. African-American undergraduate students use academic library services and resources more frequently than white undergraduate students. In particular, African-American students are more “likely to use the online catalog, check out books, browse the stacks, and use indexes among other library activities” (p. 37). However, Whitmire’s study did not explain why African-American undergraduate students use library services and resources more frequently than white undergraduate students.

### ***Distance-Education Students' Library Use Behavior***

In general, the existing literature on distance education students' library use behavior studies focused on the following issues:

- Information source selection;
- Frequency of use of libraries;
- Preferred services or resources;
- Document delivery;
- Technology and library use; and
- User satisfaction.

With regard to the issues of “information source selection” and “frequency of use of libraries”, Liu & Yang (2004) state that “previous user studies have shown a pattern of underutilization of home institution libraries by distance education students” (p. 24). This means that distance-education students do not choose their home institution as primary information sources (Shouse, 1995; Stasch, 1994; Cassner & Adames, 1998). The stated reasons by the respondents were “convenience” and “proximity.” Usually they chose information sources which are easily available to them and in close proximity to their home or work places. Stasch (1994) and Liu & Yang's (2004) studies also showed similar results as other researchers' studies. According to Liu & Yang (2004), half of the respondents used the Internet or the Web as their primary information sources. In addition, as Stasch (1994) states, distance education users used both public libraries and academic libraries. However, when they need to locate databases, they used academic libraries more frequently, compared with other information sources (for example, public libraries). Stasch (1994) states that “when the stated reasons for source selection were weighed together, convenience was a more predominant determinant than content” (p. 24 as cited in Liu & Yang, 2004).

In the same context, Kelley & Orr (2003) found that distance-education students have preference of electronic resources over print resources. In recent years, the number of distance-education students who never or seldom use a library is drastically increasing.

Liu & Yang's (2004) study showed interesting results related to motivational factor. Liu & Yang (2004) surveyed Texas A & M University students using a questionnaire containing questions on the “participants' selection of primary information sources, reasons for the selection,

use of the sources, respondents' information literacy levels, and motivation for using information sources" (p. 25). The study results are:

A review of the respondent' self-reported motivation levels versus their reasons for selecting and using primary information sources indicated that, although the majority of respondents with different motivation levels favored timely and easy online information support, the number of the highly motivated respondents considering physical information source support very important or important was greater than those of the motivated and somewhat motivated. Hence, the inference could be that the highly motivated respondents chose the TAMU libraries hoping that the libraries had excellent physical as well as online supports. The less-motivated respondents selected the Internet simply because it met their needs for fast and easy information retrieval. It should also be noted that the highly motivated respondents used the TAMU libraries, especially its electronic resources, more frequently than the less-motivated respondents (p. 31).

Through this study we can know that the factor "for using the home institution as primary information source" depended on the user's motivation level. However, Liu & Yang's (2004) study cannot be regarded as motivation study because they did not specify what the motivation was for using information sources and how the respondents could be motivated to use different information sources.

### **Library use behavior by general students**

Grimes & Charters (2000) insist that "the ability to use library resources to identify, access, and retrieve information is essential to the successful completion of a college education" (p, 557). In the same context, Well (1996) examined "the number of times each student visited the library and whether there was any correlation between the library visit, the grades achieved, and the diversity of resources the student used in the library" (p. 628 as cited in Simmonds, 2001), and found that library usage has a direct impact on academic achievement. However, Mellon's study (1986) found that 75 to 85 percent of the selected students sample described their initial library research experience as in terms of "fear". The students " (1) feel that their own library-use skills are inadequate while the skills of other students are adequate, (2) the inadequacy is shameful and should be hidden, and (3) the inadequacy would be revealed by asking questions" (p. 160). These feelings are referred as the term of "library anxiety". Library anxiety is a "psychological barrier to academic success among college students" (Jiao, Onwuegbuzie, & Lichtenstein, 1996, p. 151). The existing literature on library use behavior by



general students focused on the issue of library anxiety. According to Mellon (1986), library anxiety stems from one or more of the following: “(1) the relative size of the library (the most prevalent cause); (2) a lack of knowledge about the location of materials, equipment, and the like; (3) how to initiate their library research; and (4) how to proceed” (p. 152, as cited in Jiao, Onwuegbuzie, & Lichtenstein, 1996). According to Jiao, Onwuegbuzie, & Lichtenstein’s (1996) study results, students who have the highest levels of library anxiety demonstrated the following characteristics:

- Young;
- Male;
- Non-native English-speaking;
- High levels of academic achievement;
- Work full or part-time; and
- Do not visit the library frequently.

On the other hand, Bostick (1992) found that there were not any significant gender differences or difference among community college, undergraduate, and graduate students in levels of library anxiety. Lastly, Mech & Brooks (1995) state that “neither gender nor frequency of library use were factors of library anxiety in college students, although a relationship was found between students’ assessment of and confidence in their library ability and their anxiety level” (p. 153, as cited in Jiao, Onwuegbuzie, & Lichtenstein, 1996).

One of the biggest problems with academic library user studies is that any academic library user studies did not attempt to understand the fundamental motives underlying user behavior. There was little research effort which put an emphasis on academic library user motivation. The aim of motivation study is to understand the relationships between motives and specific behavior. Therefore, it is necessary to study the academic library user from a motivational point of view in order to understand the fundamentals of user behavior.

Another problem is a lack of developed theory for predicting library users, nonusers, and potential users. In this context, as Lange (1988) states, a growing number of library researchers and librarians are concerned about the lack of theory in library and information science in general.

In the following section, expectancy theory which is the basis of this study, will be reviewed.

## **Expectancy Theory**

### **Vroom's Expectancy Theory**

**Overview.** The relationship between a worker and his/her work has been an important theme of philosophers, scientists, and novelists. However, much of the early work dealing with this relationship has focused on the measurement issues related to aptitudes and abilities as well as the utilization of these measurements. These measurements have been used by workers to improve the opportunities for selection of occupations and by organizations to improve the opportunities for selection of appropriate workers. As Vroom states, however,

The concepts of aptitude and ability have always been difficult to deal with in any formal or theoretical fashion and .... have not played an important role in systematic theories of behavior. Few principles or generalizations have emerged from the voluminous literature dealing with the relationship between aptitude or ability tests and performance criteria (p, 3).

There are two different theoretical antecedents of expectancy theory. The first one is Freyd's work that compared the personality characteristics of life insurance salesmen with the personality characteristics of engineering school students. The second is a different perspective of motivation by Elton Mayo and his followers. Since the writings of Mayo, management has rethought traditional methods in utilizing the workers of organizations. In other words, after Mayo's work, the study of motivation has been an important part in psychology, especially in industrial and vocational psychology.

The advent of the concept of motivation is not new in the industrial and vocational psychology field. Scholars have used the motivation concept to analyze and explain behavior since the beginning of the twentieth century. In this context, Victor Vroom introduced

“expectancy theory” to organize and integrate existing knowledge in the field of vocational psychology and motivation. Furthermore, through subsequent researchers his theory has been revealed to have implications for the explanation of the motivational factors of individuals to various situations or settings, as well as for the explanation of the motivation factors of the worker to his work. Furthermore, as Robbins (1983) states, “though expectancy theory has its critics, it has generally developed results that indicate it is currently the clearest and most accurate explanation of individual motivation” (p.152).

### ***Relevant Concepts***

Valence: Vroom defined valence as “affective orientations toward particular outcomes” (p. 15). Valence can have both negative and positive values. According to Vroom (1964), “an outcome is positively valent when the person prefers attaining it to not attaining it” and “an outcome has a valence of zero when the person is indifferent to attaining or not attaining it, and it is negatively valent when he prefers not attaining it to attaining it” (p.15). There can be a discrepancy between the anticipated satisfaction from an outcome (valence) and the actual satisfaction from an outcome (value).

Expectancy: “Whenever an individual chooses between alternatives which involve uncertain outcomes, it seems clear that their behavior is affected not only by their preferences among these outcomes but also by the degree to which they believe these outcomes to be probable” (Vroom, 1964, p, 17). These beliefs are subjective probabilities, that is, expectancies. According to Vroom (1964), expectancy can be defined as a momentary belief followed by a particular outcome. The range of expectancy can be from zero to one. Zero expectancy is a person’s subjective probability that his act will not be followed by an outcome. On the other hand, an expectancy of one is a person’s subjective certainty that his act will be followed by an outcome. Expectancy is a person’s estimation of the probability that effort will lead to successful performance. This estimation or belief is likewise based on the confidence a person has in his/her own capacities to bring skills to bear and influence outcomes (e.g., self-concept, self-efficacy, locus of control). According to Nadler and Lawler (1977), “this expectancy represents that the individual’s perception of how hard it will be to achieve such behavior and the probability of his or her successful achievement of that behavior” (p. 218).

For example, if a person thinks as follows: “If I will study hard tonight, I will get a better grade on tomorrow’s math test”, his/her expectancy will be high.

Instrumentality: This is the person’s perception of the probability that performance will lead to a specific outcome. It is related to the individual’s beliefs or expectations that “if he or she behaves in a certain way, he or she will get certain things” (Nadler and Lawler, 1977 p.218). The following case can be one example of high instrumentality: “If I get a better grade on tomorrow’s math test, I will get an “A” in math”.

Instrumentality ranges from -1 to +1. Negative one instrumentality indicates that the second outcome (grade “A” in math) is certain without the first outcome (a better grade on tomorrow’s math test). Furthermore, +1 instrumentality indicates that the first outcome (a better grade on tomorrow’s math test) is a necessary and sufficient condition of the second outcome (grade “A” in math).

Vroom’s expectancy theory can be depicted as follows (see Figures 2-6 and 2-7):

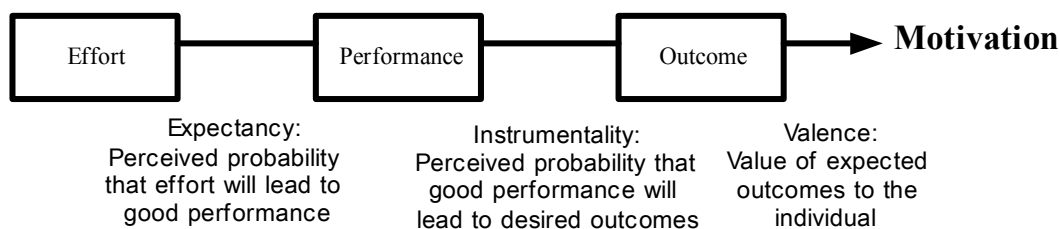


Figure 2-6. Vroom’s Expectancy Model (adapted from <http://faculty.css.edu/dswenson/web/OB/VIetheory.html>).

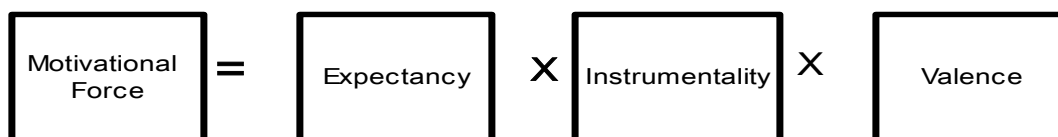


Figure 2-7. Vroom’s Expectancy Model.

In conclusion, Vroom's expectancy theory suggests that individuals will be motivated if they meet three criteria:

- They must value the behavioral outcome valence (valence);
- They must believe that the desired behavior is instrumental in achieving the valent outcome (instrumentality). In other words, the individuals must expect that if they behave in a certain way, they will receive certain things; and
- They must expect that they are capable of performing the behavior that is instrumental to achieving the outcome (expectancy).

### **Porter & Lawler's Expectancy Theory**

**Overview.** Based on Vroom's expectancy theory, Porter and Lawler (1968) developed a new model. They suggest that there should be two factors that determine the effort an individual puts into his/her job. The first one is the value of rewards. If the rewards can satisfy individuals' needs for security, social esteem, autonomy, and self-actualization, the rewards can be regarded as valuable rewards to the individuals. Judging the values of the rewards, individuals will determine the effort they put into their jobs. The second one is perceived probability that there is a close relationship between effort and reward. According to Porter & Lawler (1968), mere effort is not enough to produce the desired performance. There are two additional variables. First, is "ability" or "individual characteristics". The ability to perform a given activity can be affected by the following factors: intelligence, skills, knowledge, training, and personality. Second, are "role perceptions". The role perceptions are the way in which individuals view their work and the role they should adopt.

#### ***Relevant Concepts.***

Value of Reward: This is the attractiveness of possible outcomes to an individual such as promotion, an intrinsic feeling of accomplishment, and the friendship with coworkers. The value of reward depends on the situation and context of the individual. Porter & Lawler emphasized a feedback loop from "satisfaction" to "value of reward."

Effort-Reward Probability: This can be divided into two expectations as follows: “(1) the probability that reward depends upon performance, and (2) the probability that performance depends upon effort”(Porter & Lawler, 1968, p.19). Porter & Lawler define probability as perceived probability by the particular individual. This refers to the individual’s perceived subjective probability that his/her effort will lead to successful performance at a given level. In summary, according to Porter & Lawler (1977), “the less likely a person feels that he or she can perform at a given level, the less likely he or she will be try to perform at that level” (p. 226). Individual’s previous experience and situational factors can influence to this variable.

Effort: Porter & Lawler define effort as the amount of energy an individual exerts in a specific situation. It is not necessarily related to the success of the task. With the term of effort, Porter & Lawler mention the following example: “If we were referring to a baseball game, effort would correspond to the exertion made by a shortstop to try to stop a ground ball and throw the runner out, whereas performance would refer to whether or not the out was actually made” (p. 21).

Abilities and Traits: Porter & Lawler mentioned that “abilities and traits are assumed not to fluctuate widely over short periods of time”. It means that “they are relatively long-term and not easily changed characteristics of the individual” (p.23). Performance depends on effort and role perceptions which are determined by abilities and traits. Personality traits, intelligence, and manual skills were mentioned as the examples of abilities and traits by Porter & Lawler.

Role Perceptions: Porter & Lawler define role perceptions as “the way in which the individual defines his job—the types of effort he believes are essential to effective job performance” (p. 25). In other words, the variable of role perceptions is the direction of activities and behaviors which an individual exerts to accomplish his/her job successfully.

Performance: Performance is a narrower term than productivity. Porter & Lawler define performance as “a person’s accomplishment on tasks that comprise his job. In other words, performance is accomplished by the result of effort. Performance can be evaluated by objective measures and/or subjective measures. Objective measures includes amount of sales over a given period of time, rate of output from a machine a person is operating, and so on” (p. 26). In addition, subjective measures might consider less tangible aspects of performance. Self-appraisal and self-ratings are the examples of subjective performance measures.

Rewards: Rewards are desirable outcomes or returns to an individual. Rewards can be intrinsic or extrinsic to the individual. This means that rewards might be given to the individual by himself or by others. Rewards should be positively valued by the individual and can be intrinsic (e.g., a feeling of accomplishment, self-competence, etc) or extrinsic. Intrinsic rewards were given by himself/herself and extrinsic outcomes were given by others such as the organization or supervisors. According to Porter & Lawler, “rewards are desirable states of affairs that a person receives from either his own thinking or the action of others” and “for predicting future performance, the most important things to know about rewards are their perceived size and their perceived degree of connection to past performance” (p. 29).

Perceived Equitable Rewards: Porter & Lawler define perceived equitable rewards as “the amount of rewards that a person feels is fair, given his performance on the tasks he has been asked to undertake by the organization” (p. 30). Generally, individuals have their own personal notion of equity related to rewards. Therefore, this variable can be measured by subjective expressions from the individual.

Satisfaction: Satisfaction is the extent to which rewards actually received meet or exceed the perceived equitable level of rewards. The greater failure of actual rewards to meet or exceed perceived equitable rewards, the more dissatisfied a person is considered to be in a given situation. To measure this variable, according to Porter & Lawler, two factors should be considered: the perceived equitable level of rewards and level of rewards actually received.

**Model:**

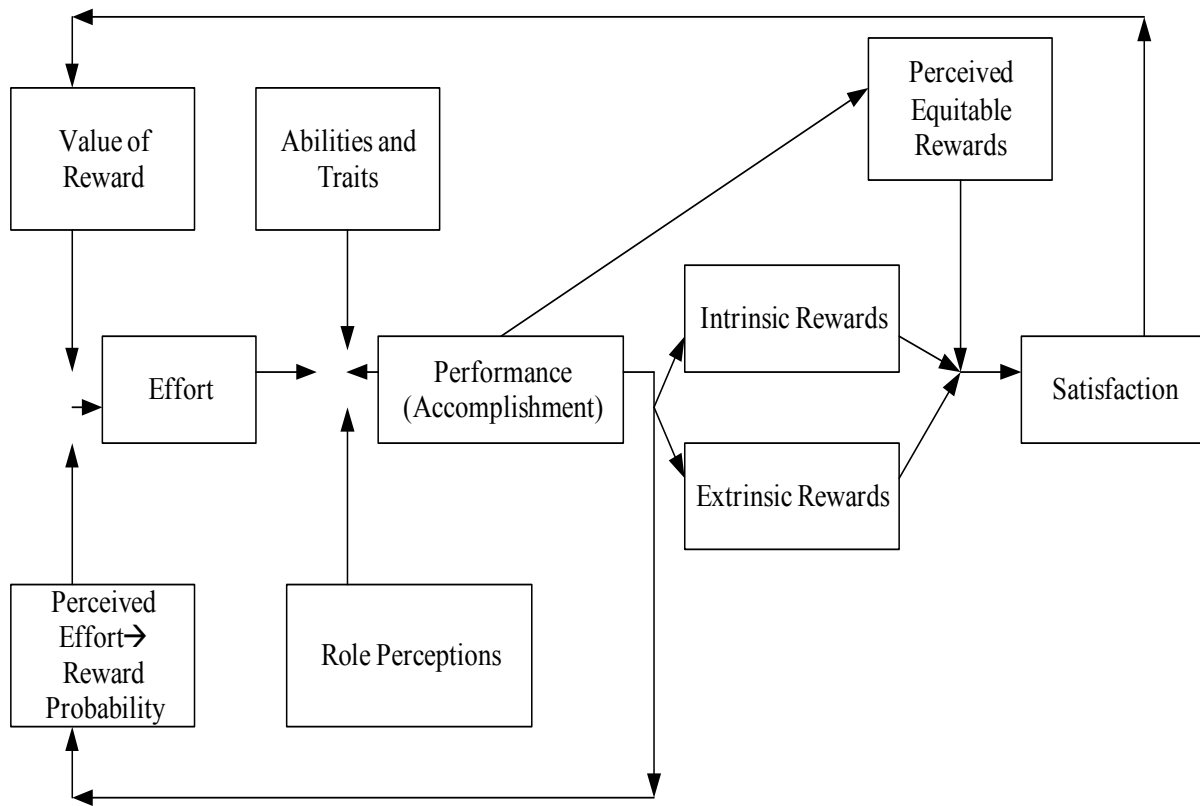


Figure 2-8. Porter & Lawler's Model (adapted from Porter & Lawler, 1977).

First of all, this model predicts that both value of rewards and perceived subjective effort-reward probability influence effort. In other words, where the value of reward is high, effort might be high. In addition, where the perceived effort-reward probability is high, effort might be also high. There exists a close positive relationship.

Second, the model suggests interactions between effort, role perceptions, performance, and abilities/traits. According to the model, the level of performance would be determined by effort, role perceptions, and abilities and traits variables. Furthermore, the relationship is interactive. That is, as Porter & Lawler state, “if extremely high effort were to be combined with



extremely inaccurate role perceptions, the prediction would be that the subsequent performance would be evaluated as relatively ineffective” (p. 161).

Third, there is not a direct connection between performance and satisfaction. The relation between performance and satisfaction is modified by individuals’ subjective perception of equitable rewards. That is, as Porter & Lawler mentioned, “satisfaction is conceived as the difference between perceived equitable and actual rewards” (p. 162). Lastly, there is a feedback loop between satisfaction and value of rewards. The value of rewards would be intensified by satisfied experience.

### **Campbell, Dunnette, Lawler, & Weick’s Hybrid Expectancy theory**

**Overview.** Dunnette, Lawler, & Weick’s hybrid expectancy theory is also based on Vroom’s theory. They incorporated various ideas which had been developed by subsequent researchers in their hybrid expectancy theory.

First of all, they introduced the variable of task goals. Task goals are direction toward which work behavior is motivated. Task goals can be given by externally by the organization or internally by the individual’s own value systems (Dunnette, Lawler, & Weick, 1970).

Second, they discern first-level outcomes from second-level outcomes. First-level outcomes are outcomes resulting from achievement of the task goals. Incentives or rewards can be regarded as first-level outcomes. On the other hand, second-level outcomes are needs and needs satisfaction. According to Dunnette, Lawler, & Weick (1970), “...first level outcomes may or may not be associated with a plethora of second level outcomes; that is, the externally or internally mediated rewards are instrumental in varying degrees for obtaining second level outcomes” (p. 345).

Third, they divide expectancy into two variables: expectancy I and expectancy II. Expectancy I is an individual’s subjective probability that he can achieve a specific goal, given a specific situation. On the other hand, expectancy II is an individual’s subjective probability estimates of the degree to which rewards are contingent on achieving task goals (Dunnette, Lawler, & Weick, 1970).

**Model:**

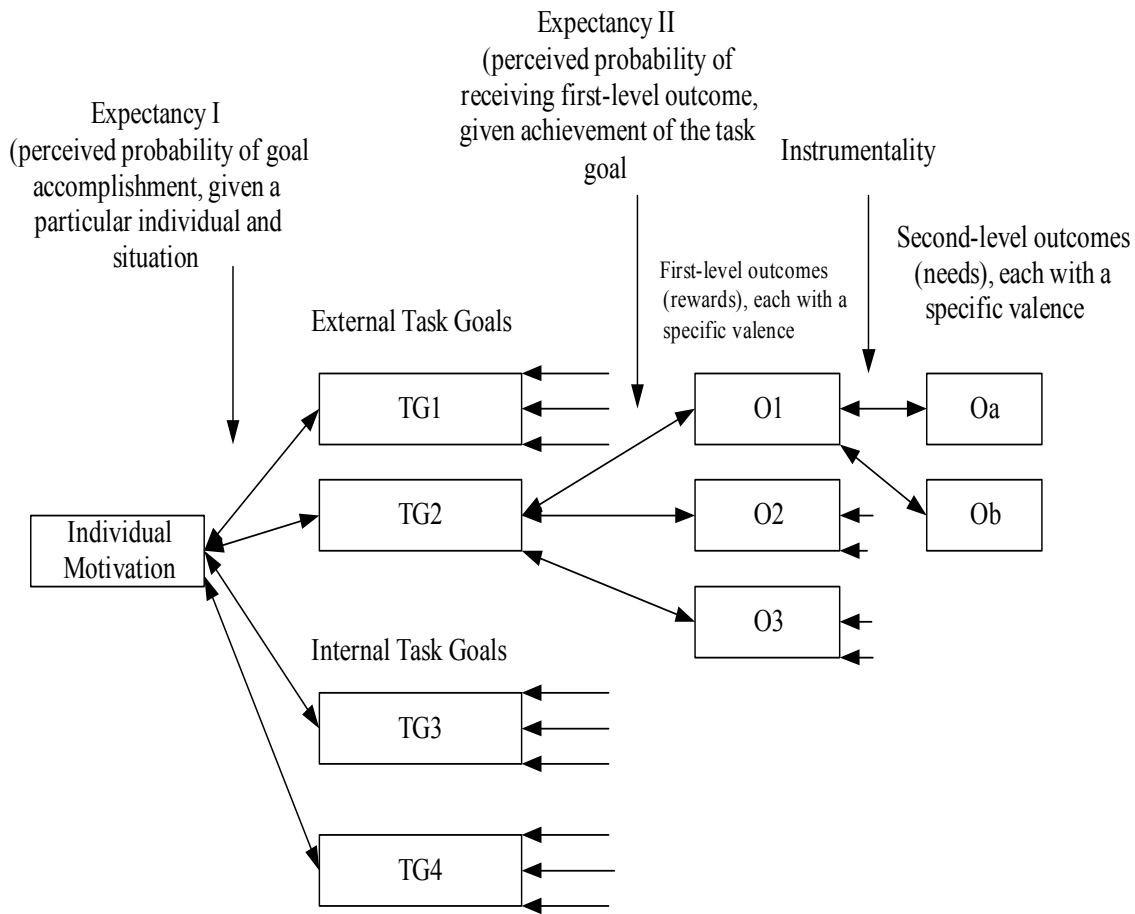


Figure 2-9. Dunnette, Lawler, & Weick's Hybrid Expectancy Model (adapted from Dunnette, Lawler, & Weick, 1970, p. 347).

According to Dunnette, Lawler, & Weick (1970),

1. "The valence of a first level outcome (incentive or reward) is a function of the instrumentality of that outcome for obtaining second level outcomes (need satisfactions) and the valences of the relevant second level outcomes.
2. The distinction by an individual to work on a particular task and expend a certain amount of effort in that direction is a function of (a) his personal probability estimate that he can accomplish the task (expectancy I), (b) his personal probability estimate that his accomplishment of the task goal will be followed by certain first level outcomes or rewards (expectancy II), and (c) the valence of the first level outcomes.
3. The distinction between external and internal goals and rewards leads to a number of potential conflict situations for the individual. For example, an individual might estimate

his chances for accomplishing a particular task as virtually certain (i.e., expectancy I = 1.0). However, the internal rewards which are virtually certain to follow (i.e., expectancy II = 1.0) may have a very low or even negative valence (e.g., feelings of extreme boredom or distaste). If external rewards, such as a lot of money, have a very high valence, a serious stress situation could result from outcomes which have conflicting valences. It would be to an organization's advantage to ensure positive valences for both internal and external rewards. Other conflict situations could be produced by high positive valences for outcomes and low estimates of type I expectancies (i.e., the individual does not think he can actually do the job)" (p. 348)

### Comparison of the Models

The similarities and differences between the three models (Vroom's, Porter & Lawler's and Dunnette, Lawler, & Weick's) which were reviewed above can be summarized as follows:

Table 2-3. Comparison of Expectancy Theories.

Vroom	Porter & Lawler	Campbell, Dunnette, Lawler, & Weick
<b><u>Expectancy:</u></b> Perceived probability that effort will lead to good performance.	<b><u>Effort-Reward Probability:</u></b> the probability that reward depends upon performance and the probability that performance depends upon effort.	<b><u>Expectancy I and II:</u></b> Expectancy I is a perceived probability of goal accomplishment, given a particular individual and situation and Expectancy II is a perceived probability of receiving first-level outcome (rewards), given achievement of the task goal.

Table2-3. Continued.

<b><u>Valence:</u></b> Value of expected outcomes to the individual	<b><u>Value of reward (Intrinsic rewards and/or Extrinsic rewards):</u></b> the attractiveness of possible outcomes to individual.	<b><u>Valence of first-level outcomes and second-level outcomes:</u></b> first-level outcomes (incentive or reward) and second-level outcomes (needs satisfaction) have specific valences.
<b><u>Instrumentality:</u></b> Perceived probability that good performance will lead to desired outcomes.	There exists a positive relationship between performance and rewards (desirable outcomes or returns to an individual).	The valence of a first level outcome is a function of the <b><u>Instrumentality</u></b> of that outcome for obtaining second level outcomes and valences of the relevant second level outcomes.
	<ul style="list-style-type: none"> <li>● <i>Abilities and Traits</i></li> <li>● <i>Role Perceptions</i></li> <li>● <i>Perceived                      Equitable Rewards</i></li> <li>● <i>Satisfaction</i></li> </ul>	<ul style="list-style-type: none"> <li>● <i>First-level outcomes (Incentive or Reward)</i></li> <li>● <i>Second-level outcomes (needs satisfaction)</i></li> <li>● <i>External task goals</i></li> <li>● <i>Internal task goals</i></li> </ul>

As shown in the Table 2-3, even if different researchers use slightly different terms, expectancy theories are comprised of two basic components: (1) expectancy and (2) valence (value of outcomes). In addition to these two factors, Porter & Lawler introduce the concepts of (1) abilities and traits, (2) role perceptions, (3) perceived equitable rewards, and (4) satisfaction. On the other hand, Campbell, et al. propose external task goals and internal task goals.

## Summary of the Chapter

This chapter is devoted to review general marketing concepts, trends in the private sector, such as a consumer-centered marketing perspective and an organization-centered marketing perspective, and why services should be dealt with differently from tangible products. Furthermore, the importance of understanding consumers and consumers' buying behavior

which is the foundation of a consumer-centered marketing view point was emphasized. It was mentioned that consumers' responses to marketing and other stimuli depend on their individual characteristics which are influenced by social, cultural, personal, and psychological factors. Among these factors, motivational factor was emphasized. Through review of academic library user studies, it was apparent that academic library field needs to study the library user in terms of motivation and a developed theory for predicting library users. Lastly, expectancy theory which is a theoretical foundation of this study was discussed.

The next chapter will present a methodological background to test or verify the proposed academic library service consumer motivation model.

## **CHAPTER 3**

### **METHODOLOGY**

#### **Introduction**

The research questions of this study were:

1. What factors influence an academic library service consumer's motivational process to use library services?
2. Are there relationships among the factors which influence an academic library service consumer's motivational process to use library services?
3. What relationships exist among the factors which influence an academic library service consumer's motivational process to use library services?
4. Based on these relationships, can the academic library service consumer's motivational process be explained?

The first three questions are interrelated. These three questions will be answered through correlational research methodology and the fourth question will be answered through both correlational research method and confirmatory interview.

This study explores the relationships among variables/factors which are identified in the study model to explain the academic library service consumer's motivational process to use library services. Therefore, this study will use correlational research design. The fourth question will be answered through correlational research method and confirmatory interview. The fourth question explores the motivational process of the academic library service consumer, based on the identified relationships through the first three research questions. Therefore, the fourth question will be answered through correlational research method and confirmed through interview.

Through interview, the motivational process will be understood more clearly.

Researchers who employ correlational research methods have a number of means to collect data including standardized tests, questionnaires, interviews, or observation techniques (Mertens, 1998). The researcher constructed a questionnaire to collect data for this study.

Preliminary interviews with graduate students at Florida State University were conducted prior to collecting data. In addition, to confirm the findings from the collected data, a confirmatory interview was held. The structure of the methodologies which were employed in this study was presented in Figure 3-1.

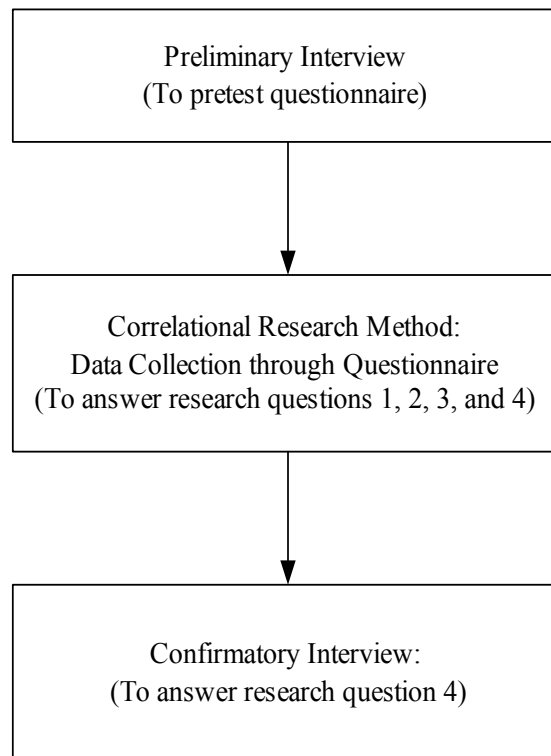


Figure 3-1. Structure of Methodologies of the Study.

In the next section, preliminary interview, the correlational research method and confirmatory interview method of this study will be presented.

### **Preliminary Interview**

The researcher conducted preliminary interviews with four information studies graduate students at FSU through email. The interview was an informal interview. The purpose of the

interview was to verify that graduate students can understand the questionnaire of this study. First of all, the interviewees were asked to use the chat reference service at FSU to find information that they wanted to know. Second, the questionnaire was distributed through email. The researcher requested that the interviewees review the questionnaire very critically and point out the questions that they could not understand. Lastly, the researcher has the interviewees recommend revisions of the questions.

The result was that there were not any specific problems with the questions. They could understand the questions without difficulties.

## **Correlational Research Method**

### **Overview of Correlational Research Method**

The ultimate goal of this study is to provide a preliminary theoretical foundation for the study of the motivation of academic library service consumer. To achieve this goal, this study develops an academic library service consumer motivation model based on expectancy theory. The model consists of eight variables. To examine the relationships among the eight variables in the proposed model, this study employs correlational research methodology.

The origin of correlational research is related to the developments of correlation statistics which was first developed in the late 19<sup>th</sup> century. In general, researchers regarded correlational research as a statistical procedure, rather than a research design. However, according to Creswell (2002), in 1963, Campbell & Stanley specified correlational research as one of the quantitative designs in their treatise on experimental and quasi-experimental designs. Since Campbell & Stanley's treatise, many researchers have utilized a correlational research design to identify complex relationships among variables. Cohen, Manion, & Morrison (2000) mention the value of correlational research as follows:

One approach to a fuller understanding of human behavior is to begin by teasing out simple relationships between those factors and elements deemed to have some bearing on the phenomena in question. The value of correlational research is that it is able to achieve this end (p. 191).



The primary purpose of correlational research is to identify relationships between two or more variables. Correlational research can be either prediction studies or relationship studies. In relationship studies, researchers are interested in exploring the relationships between two or more variables which are obtained from the same individuals at approximately the same time (Mertens, 1998). In other words, as Cohen, Manion, & Morrison (2000) state, correlational research, in particular, relationship studies, is concerned with achieving a fuller understanding of the relationships between the variables which the researcher hypothesizes as being related. As a method, correlational research is valuable in fields where little or no previous research has been undertaken (Cohen, Manion, & Morrison, 2000).

According to Creswell (2002), relationship studies have the following characteristics:

- The investigators correlate two or more variables;
- The researchers collect data at one point in time;
- The investigator analyzes all participants as a single group;
- The researcher obtains at least two scores for each individual in the group—one for each variable;
- The researcher reports the use of the correlation statistical test in the data analysis; and
- Finally, the researcher makes interpretations or draws conclusions from the statistical test results (p. 363-364)

On the other hand, the purpose of prediction studies is to identify variables that positively predict an outcome or criterion (Creswell, 2002). Prediction studies have the following characteristics:

- The authors typically include the word “prediction” in the title;
- The researchers typically measure the predictor variable(s) at one point in time and the criterion variable at a later point in time; and
- The authors are interested in forecasting future performance (Creswell, 2002, p. 365)

According to Charles & Mertler (2002), correlational research procedures and characteristics can be summarized as follows (see Figure 3-2):

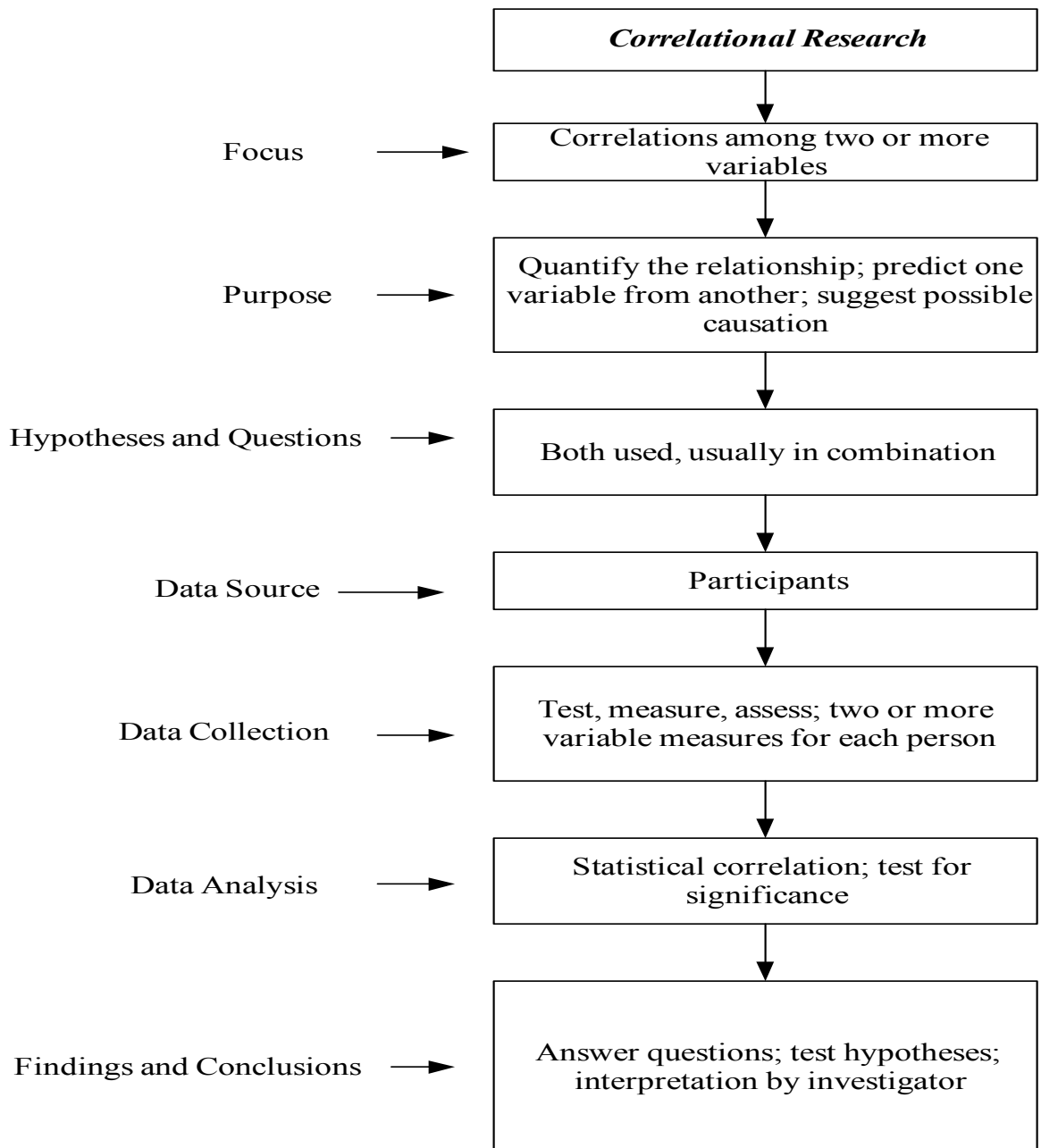


Figure 3-2. Procedures of Correlational Research (adapted from Charles & Mertler, 2002, p. 282).

Primarily, this study explores the relationships among variables which are identified in the study model. Therefore, this study employs correlational research design in terms of relationship studies.

In general, correlational research design, in particular, relationship studies have the following five basic elements:

1. Variables whose relationship is to be explored are identified and clarified;
2. Questions or hypotheses are stated;
3. A sample is selected—with a minimum sample size of 30 individuals;
4. Measurements are obtained from sample members on each of the variables being explored; and
5. Correlations between and among variables are computed to determine degrees of relationship (Charles & Mertler, 2002, p.286).

The following sections present and discuss each of the above elements.<sup>8</sup>

### **Variables—Study Model**

The model for this study is based on expectancy theory which is introduced by Victor H. Vroom (1964) and modified by Porter & Lawler (1968) and Campbell, Dunnette, Lawler & Weick (1970). Even if expectancy theory was modified by several researchers and each researcher used slightly different terms, there exist two common components in expectancy theory. The common factors are “value of outcomes (valence)” and “individual’s personal probability estimate of task accomplishment (expectancy)”. This study will also incorporate these two components in the model.

In addition, there are two important factors in the model of this study. These factors are “interaction service quality (service personnel’s response)” and “consumer’s past experience”. As mentioned above, tangible products are produced first, then sold and consumed. Intangible services, however, are actions or performances, and are sold first, then produced and consumed at the same time. As a result, as Zeithaml & Bitner (2003) state, consumers are present while the service is being produced and may even participate in the process (p. 21). In other words, consumer presence and participation are inevitable in service delivery, and consumers are indispensable to the production process of the service (Zeithaml & Bitner, 2003). As a result,

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<sup>8</sup> Research questions of this study were already presented in the introduction area. Therefore, in the next section, research questions will not be mentioned.

consumers' past experience with the service and the service personnel's response are crucial factors which influence service consumers while they are performing the service. Therefore, the model for this study will also incorporate these two factors: (1) consumer's past experience and (2) interaction service quality (service personnel's response). Service quality is a multi-dimensional phenomenon. It means that consumers use several general service facets to assess service quality. Among the various aspects of service quality, this study will view service quality from interaction quality point of view. Figure 3-3 presents the model for this study.

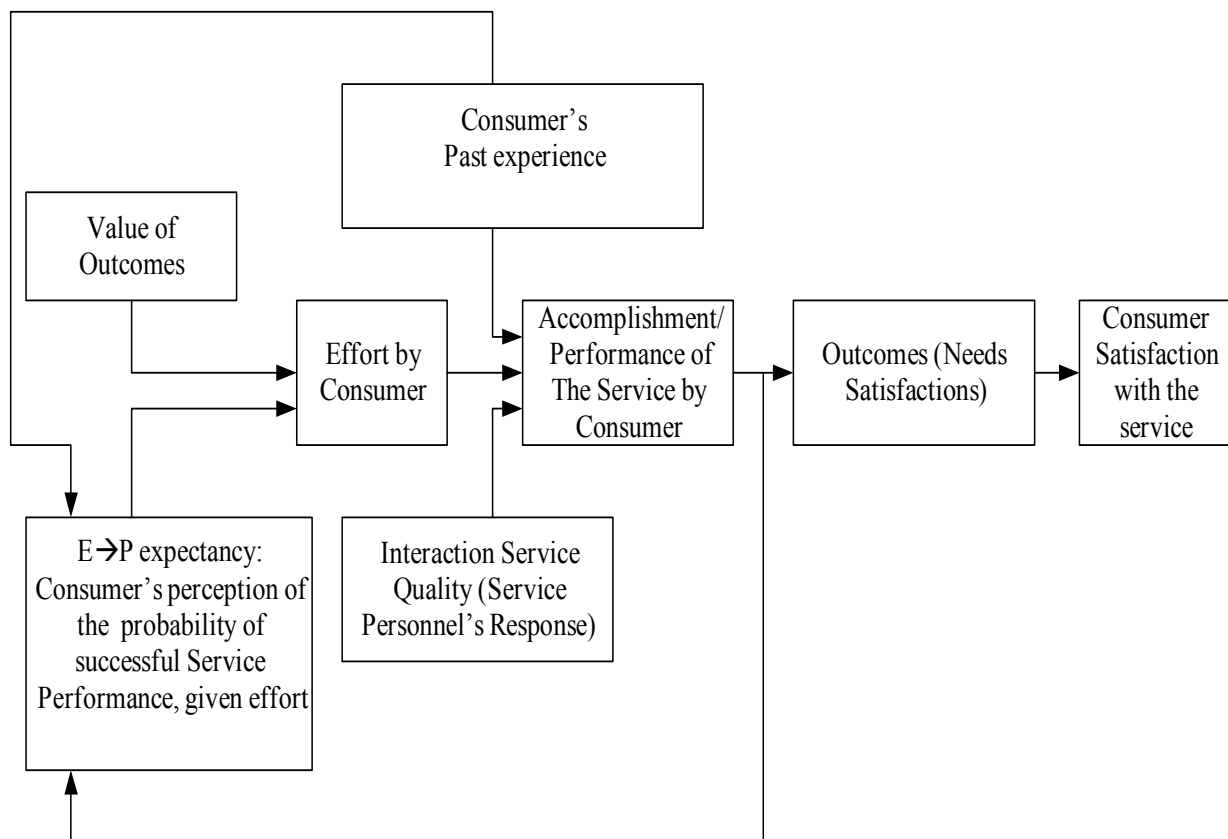


Figure 3-3. Study Model: Academic Library Service Consumer Motivation Model.

Each term (variable) presented in the above study model will be defined in the following section.

### ***Defining Major Terms (Variables)***

#### **Outcomes**

According to expectancy theorists, there are four kinds of outcomes: (1) intrinsic outcomes, (2) extrinsic outcomes, (3) first level outcomes, and (4) second level outcomes. Intrinsic outcomes are not mediated by outside forces. This means that intrinsic outcomes can occur directly as a result of performing the task itself, and are given by the individual himself. On the other hand, extrinsic outcomes may or may not be given by the individual. Extrinsic outcomes can be provided by external factors (Nadler & Lawler, 1977). For example, a feeling of accomplishment or self-competence is intrinsic outcomes, and increased salary or promotion is extrinsic outcomes. Campbell, Dunnette, Lawler, & Weick (1970) state that there are two kinds of outcomes: first level outcomes and second level outcomes. According to Campbell et al., first level outcomes can be intrinsic or extrinsic, and are rewards or incentives contingent on achieving the task goals. Second level outcomes are need satisfactions. In this study, outcomes are defined as need satisfactions, especially, information needs satisfaction which the consumer wants to obtain through the use of the service.

#### **Value of Outcomes**

Vroom mentions “valence” and Porter & Lawler state “value of reward.” Regardless of the terms of “value of outcomes” or “valence,” these concepts represent individual’s subjective judgment about possible outcomes. As a result, there can be substantial discrepancy between the anticipated value of an outcomes and the actual value from an outcome (Vroom, 1964). In this study, value of outcomes is defined as anticipated value by individuals when their information needs is satisfied through the use of the service.

#### **E→P Expectancy**

Nadler & Lawler defined E→P Expectancy as “the person’s subjective probability about the likelihood that he or she can perform at a given level, or that effort on his or her part will lead to successful performance” (p. 226). In other words, this is individual’s personal probability estimate that he can accomplish the task (Campbell et al.) In this study, E→P Expectancy is defined as service consumer’s personal probability estimate that he can perform the service,

given effort. This expectancy can be influenced by the individual's past personal experience with the service.

### Effort

Porter & Lawler define effort as the amount of energy an individual exerts in a specific situation. It is not necessarily related to the success of the task. In this study, the definition of effort is the same as Porter & Lawler's.

### Service Performance/Accomplishment

Tangible goods are produced first, then sold and consumed. Intangible services, however, are actions or performances, and are sold first, then produced and consumed at the same time. According to Zeithaml & Bitner (2003), this means that "the consumer is present while the service is being produced and thus views and may even take part in the production process" (p. 21). Therefore, consumer presence and participation are inevitable in service delivery, and consumers are indispensable to the production process of the service (Zeithaml & Bitner, 2003). From this perspective, in this study, service performance is defined as how well a consumer performs or accomplishes the basic requirements of the service without difficulties. This concept focuses on consumer's role in service delivery, and can be influenced by the service quality (the interaction service quality: service personnel's response), and the consumer's past experience.

### Interaction Service Quality (Service Personnel's Response)

As mentioned above, consumers' service quality perceptions come from outcomes, interactions, and physical surroundings of the service. In this study, service quality is defined as a concept of interaction service quality. Outcome quality is excluded because this quality is overlapped with the term of "Outcomes" of this study in many ways. Furthermore, as Brady & Cronin (2001) state, "because services are inherently intangible and characterized by inseparability, the interpersonal interactions that take place during service delivery often have the greatest effect on service quality perceptions" (p. 38). Therefore, in this study, the researcher will focus on the interaction service quality, that is, service personnel's response. The interaction service quality of this study has the following three factors: 1) Service personnel's willingness to

help consumers, 2) Service personnel's courtesy, and 3) Service personnel's possession of the required knowledge/ Skills.

### Consumer Satisfaction

Consumer satisfaction is a broad concept including: (1) service features, (2) consumer emotions, (3) attributions for service success or failure, (4) perceptions of equity or fairness, and (5) other consumers, family members, and coworkers (Zeithaml & Bitner, 2003). According to Bitner (1990), "satisfaction is related closely to, but is not the same as, the consumer's general attitude toward the service" (p. 70). Consumer satisfaction is related to individual transaction, but attitudes are more general (Bitner, 1990). In this study, consumer satisfaction is defined as overall assessments of the service experience by the service consumer.

## **Participants and Selected Academic Library Service Example for this Study**

### ***Participants of the Study***

The population of this study is academic library service consumers and the study population of this study is Information Studies graduate students at Florida State University (FSU). To select participants of the study, the researcher employed nonprobability sampling technique, in particular judgmental sampling, was adapted. In judgmental sampling, the researcher uses his/her judgment in selecting the participants from the population for study. The selected participants of this study were Information Studies graduate students at Florida State University (FSU) who are registered in three Masters level online classes: LIS 5511 (Management of Information Collection), LIS 5271 (Research Methods in Information Studies) in the 2007 spring semester, LIS 5241 (International & Comparative Information) in the 2007 summer semester, and General Information Studies graduate students<sup>9</sup>. In correlational research, Borg & Gall (1979) insist that subjects should be homogeneous to control other variables which are not included in the study. The participants of this study can be regarded as reasonably

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<sup>9</sup> The researcher was a teaching assistant of these three courses. The researcher encouraged the students to participate in the study through email. The email message is attached as an appendix. The students were not allowed to participate in the study more than once. The participating students were given two points extra credit. In addition, the researcher sent an email in May 2007 to General Information Studies graduate students to ask for volunteers to participate in the study. The email message is attached as an appendix.

homogeneous. They were asked to use the chat reference service at FSU libraries (Strozier Library chat reference service or Goldstein Library chat reference service) to ask questions related to their research for assignments or other information needs. In the next section, the researcher will explain why chat reference service and FSU chat reference services in particular, were selected as an example of academic library services.

### ***Selected Academic Library Service Example***

The proposed model of this study can be applied to any library services. Among various library services, this study selects the chat reference service as an example.

In the library field, there is an increased need for formal methods of remote communication between information seekers and information professionals because more people rely on the Internet for information and fewer people approach the reference desks (Kasowitz, 2002). In this context, many libraries and organizations have developed digital reference service and chat reference service. Digital and chat reference services are internet-based question-and-answer services that connect users with experts in a variety of subject areas. Digital reference services can be divided into two main types. These are e-mail reference service and web form-based reference service. As for simple e-mail reference service, users send an email to the library with a reference question, and the library may reply by e-mail, telephone, fax, etc. With web form-based reference service, forms are available on the library's website for users to submit reference questions. These forms ask for the users' e-mail address and the transactions are tracked in the same way that e-mail transactions are tracked (Jurewicz and Cutler, 2003, p, 119). These reference services provide asynchronous interactions to library users. However, librarians and library users found that e-mail based reference services had some weak points when compared with traditional face-to-face reference services. For example, library users may not receive immediate response through e-mail, and librarians cannot accurately determine and meet library users' information needs. As a result, libraries have started to create real-time reference services, which are similar to traditional face-to-face reference services through the use of synchronous chat software. As Riva & Galimberti (1997) stated, "in an academic library, students....tend to prefer chat reference service over email service because it involves a two-way conversation in real time, very much like talking to a reference librarian in person" (as cited in Zanin-Yost, 2004). In other words, as Adelaide (2003) mentioned, "as many patrons require



quick and instant information, libraries are starting to use live virtual reference or virtual chat reference services to supplement the email reference services in order to adapt to immediate needs of users” (p.1). Therefore, in the near future, more libraries will offer chat reference services and it will be the general trend in the library field. In this context, this study will use chat reference services as an example to understand the motivational process of academic library users to use library services.

Generally, libraries provide chat reference services in cooperation with other libraries. It is because libraries can provide more efficient services, decrease their collections budgets, and take advantage of special collections provided by other libraries. As a result, even if academic library users access to the chat reference service desk through their own library website, their questions could be answered by public librarians. However, FSU library provide their own chat reference service without cooperation with other libraries. In addition, Goldstein library (FSU library for College of Information) provide chat reference service in cooperation with other libraries, but Goldstein library staffs answer to their users’ questions during specific day and time.<sup>10</sup> Therefore, the researcher had the selected participants use the chat reference services at Strozier library or Goldstein library during their operation hours.

### **Measurements/Data Collection—Questionnaire Construction**

To collect data, the researcher constructed a questionnaire consisting of 25 questions, including two demographic questions. The purpose of the questions is to measure each variable of the study model. Broadly, there are eight variables such as “Value of outcomes”, “E→P expectancy”, “Effort by consumer”, “Interaction service quality”, “Consumer’s past experience”, “Accomplishment/Performance of the service by consumer”, “Outcomes (needs satisfaction)”, and “Consumer satisfaction with the service”. All these variables are defined as follows:

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<sup>10</sup> The researcher found this fact by personal interview with librarians at Strozier Library and Goldstein Library at FSU.

Table 3-1. Variables and Definitions/Operationalizations.

<b>Variables</b>	<b>Definitions/Operationalization</b>
Outcomes	Information Needs Satisfaction
Value of Outcomes	Anticipated value by individuals when their information needs are satisfied
E→P Expectancy	Service consumer's personal probability estimate that he/she can perform the service, given effort
Effort	The amount of energy an individual exerts in a specific situation
Service performance/accomplishment	How well a consumer performs or accomplishes the basic requirements of the service without difficulties
Consumer's past experience	Past experience with the service
Consumer Satisfaction	Overall assessments of the service experience by the service consumer
Interaction Service Quality (Service Personnel's Response)	1) Willingness to help consumers 2) Courtesy 3) Possession of required knowledge/skills

To construct a questionnaire, the researcher modified the questions which are shown in various studies based on expectancy theory (e.g., Porter & Lawler, 1968; Burton, et al. 1993; Snead & Harrell, 1994; De Leo & Pritchard, 1974).

First, valence of outcomes has been measured as 1) "the importance of the outcome (Porter & Lawler, 1968), 2) the attractiveness of the outcome (Pritchard & Sanders, 1973), and 3) desirability of the outcome (Galbraith & Cummings, 1967)" (as cited in De Leo & Pritchard, 1974).

Second, expectancy has been measured as a probability that subject's rate related to his/her performances (Snead & Harrell, 1994; Burton, et al, 1993; Stahl & Harrell, 1983).

Third, outcomes were defined as consequences of performance (Schwab, et al, 1979).

With regard to the other variables, the questions are constructed based on the proposed definitions.

The questionnaire was distributed to the participants through email. The followings are the questions:

#### Questionnaire:

The questions are divided into four parts;

- Demographic questions: Gender and Age.
- Questions to ask individual's personal circumstances before using the service (the variables of "value of outcomes", "E→P expectancy," and "consumer's past experience").
- Questions related to service performance (the variables of "effort by consumer" and "accomplishment/performance of the service by consumer").
- Questions to ask individual's personal experience with the service after using the service (the variables of "outcomes," "consumer satisfaction with the service," and "interaction service quality").

#### Questions:

##### Demographic Questions:

- Your gender: 1) Male 2) Female
- Your age: 1) 23—35 2) 36—45 3) over 45

##### Variables and Questions:

###### 1. Value of outcomes:

- How valuable would it be to you to have your information needs met through the chat reference service?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)
- How important would it be to you to have your information needs met through the chat reference service?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

- How desirable would it be to you to have your information needs met through the chat reference service?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

2. E→P Expectancy:

- Probably, I will be able to access the chat reference service desk without difficulties.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

- If I try, I will be able to understand how to communicate with the chat reference librarians easily.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

- I am convinced that I will be able to use the chat reference service without any problems.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

3. Effort by consumer:

- To what extent did you make an effort to use the chat reference service?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

- Please rate the level of effort that you spent using the chat reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

4. Consumer's past experience:

- Please rate the level of experience that you have had with the chat reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

- Please rate the level of experience that you have had with the digital reference services, such as email-reference service and/or web-form reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

- Please rate the level of experience that you have had with the face-to-face library reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

5. Accomplishment/Performance of the service by consumer:

- There were no problems with access to the chat reference desk.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
- There were no problems with communicating with the chat reference librarian.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
- Overall, there were no problems with using the chat reference service.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

6. Outcomes:

- The chat reference service librarians gave me helpful information.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
- I am satisfied with the information I acquired through the chat reference service.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
- The chat reference service librarians gave me useful information.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

7. Consumer satisfaction with the service:

- Overall, how satisfied are you with the chat reference service?  
(Very Dissatisfied) 1, 2, 3, 4 (Neutral), 5, 6, 7 (Very Satisfied)
- How likely is it that you use the chat reference service in the future?  
(Very Unlikely) 1, 2, 3, 4 (Neutral), 5, 6, 7 (Very Likely)
- How likely would you be to recommend the chat reference service to your friends or colleagues?  
(Very Unlikely) 1, 2, 3, 4 (Neutral), 5, 6, 7 (Very Likely)

8. Interaction Service quality:

- How willing was the chat reference service personnel to help you?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)
- How courteous was the chat reference service personnel?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

- How able was the chat reference librarian to answer your question?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

### **Data Analysis Technique**

The researchers who employ correlational research method have a number of choices to analyze the data and interpret the results, including simple correlation analysis, regression analysis, multiple regression analysis, discriminant function analysis, canonical correlation, path analysis, and factor analysis (Mertens, 1998). Among these, the collected data for this study are analyzed using correlation coefficient and multiple regression analysis.

Generally, correlation coefficients refer to Pearson's Product Moment Correlation Coefficient (Pearson's  $r$ ). However, Pearson's  $r$  premises that one or both of the scales is either interval or ratio. Therefore, if the data do not meet these assumptions for using parametric statistical tests, then a nonparametric test of correlation such as Spearman's  $r_s$  or Kendall's tau-b should be used (Brace, Kemp, & Snelgar, 2006). As mentioned above, this study uses ordinal scale. Therefore, this study uses Kendall's tau-b to calculate correlation coefficients. Through the correlation coefficient, the researcher can measure the strength of the linear relationship between two variables.

In addition, this study uses multiple regression analysis to analyze the data and interpret the study results. The detailed procedures are reviewed in Chapter 4.

### **Complementary Method-- Confirmatory Interview**

To confirm the findings which were obtained through the correlational research method, confirmatory interviews were conducted. The 25 interviewees were selected among the participants of this study randomly (17 interviewees from the first data collection period and eight interviewees from the second data collection period)<sup>11</sup>. The interview was conducted through e-mail. Follow-up e-mails were sent to the interviewees whose initial answers would benefit from attitional clarification.

The guiding interview questions were:

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<sup>11</sup> Every third email response to the questionnaire was selected for confirmatory interviews.

1. In the future, do you want to use the chat reference service? If yes, please explain why. If no, please explain why.
2. What do you think are the strong points of the chat reference service, compared with traditional reference service?
3. What do you think are the weak points of the chat reference service, compared with traditional reference service?
4. Could you make any suggestions to improve the chat reference service?

To analyze the interview data, the researcher will not use a qualitative computer program. Instead, the researcher will engage in the following step-by-step activities:

1. Explored the collected data to obtain a general sense of the data;
2. Examined the data in detail to develop categories from the data;
3. Segmented the data according to the developed similar categories;
4. Labeled the categories; and
5. Aggregated the identified categories into larger categories where appropriate.

This procedure is similar to the open coding process of grounded theorists. The grounded theorists identify categories and subcategories through the process of open coding. However, in the strictest sense, the method of this study can not be regarded as a grounded theory approach.

## **Limitations**

The participants of this study are Information Studies major graduate students at Florida State University (FSU). In addition, this study uses only Florida State University (FSU) chat reference services as an example of academic library service. From this point of view, the method of this study has limitations in generalizing the study results.

As mentioned above, in the correlational research method, participants of the study should be homogeneous in order to control other variables which are not included in the study. The participants of this study can be regarded as reasonably homogeneous. However, it is true that there is no objective standard to judge homogeneity of participants. Therefore, it is researcher's responsibility to judge homogeneity of study participants. The participants of this

study are Information Studies graduate students at FSU. They have experience with online communication because they took or are taking online classes. Furthermore, this study selected the chat reference service as an example to verify the proposed model. Based on these two criteria, the participants of this study can be regarded as reasonably homogeneous.

### **Summary of the Chapter**

To answer the research questions of this study, correlational research method was employed. The researchers who employ correlational research methods have a number of choices to collect data. The researcher collected data through questionnaire. The questionnaire was pretested through preliminary interview with Information Studies graduate students at FSU through email prior to collecting data. Through the preliminary interview, the questionnaire was finalized. The participants of the study were Information Studies graduate students at FSU. The selected academic library service example was chat reference service, in particular, FSU chat reference services. In addition, to confirm the findings which were obtained through correlational research method, a confirmatory interview was conducted. The interviewees were selected randomly among the participants of the study. The collected data are analyzed using correlation coefficient and multiple regression analysis. The results and findings are presented in Chapters 4 and 5.



## **CHAPTER 4**

### **DATA ANALYSES**

#### **Introduction**

In this chapter, the collected data are analyzed using various analysis techniques. First, demographic characteristics of the participants are reviewed. Second, to test reliability of measures, the Cronbach's alpha coefficient is presented. Third, to identify whether there exist relationships among the variables proposed in the study model, correlation analysis results (Kendall's tau-b) are presented. Last, to examine which variables in the model have meaningful implications to explain an academic library service consumer motivational process, the study model is divided into four parts<sup>12</sup> and each of the sub-models are analyzed through multiple regression analysis<sup>13</sup>.

#### **Overview of the Participants**

The participants for this study were information studies graduate students at Florida State University. The first data collection was held in April 2007 and the second data collection was held in May 2007. Forty-eight students participated in the study during the first data collection period and 23 students participated in the study during the second data collection period. A total of 71 students participated in the study. However, five responses which did not provide complete answers were removed from the study. A total of 66 responses were analyzed. Of these participants, 28.8% of the participants were male and 71.2% were female. 56.1% of the participants were 23-35 years of age, 19.7% were 36-45 years of age, and 24.2% were over 45 years of age (see Table 4-1).

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<sup>12</sup> The study model does not have one specific and/or fixed dependent variable. Instead, the focus of the model is on process. Therefore, the model will be divided into four parts and each of the sub-models will be analyzed using multiple regression analysis.

<sup>13</sup> The collected interview data are analyzed in Chapter 5.

Table 4-1. Characteristics of Total Participants.

Participants Characteristics		Frequency	Percentage
Gender	Male	19	28.8
	Female	47	71.2
Age	23—35	37	56.1
	36—45	13	19.7
	Over 45	16	24.2

N=66

The following tables summarize the demographic characteristics of the first period participants and the study population (Information Studies graduate students enrolled in Spring 2007). As shown in Tables 4-2-1 and 4-2-2, the first period participants and the study population share similar demographic characteristics.

Table 4-2-1. Characteristics of the First Period Participants (N=45).

Participants Characteristics (N=45)		Frequency	Percentage
Gender	Male	11	24.4
	Female	34	75.6
Age	23—35	26	57.8
	36—45	8	17.8
	Over 45	11	24.4

Table 4-2-2. Characteristics of the First Period Study Population (N= 470).

<b>Study Population Characteristics (N=470)</b>		<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	Male	134	28.5
	Female	336	71.5
<b>Age</b>	23—35	262	55.7
	36—45	123	26.2
	Over 45	85	18.1

The following tables summarize the demographic characteristics of the second period participants and the study population (Information Studies graduate students enrolled in Summer 2007). As shown in Tables 4-3-1 and 4-3-2, the second period participants and the study population share similar demographic characteristics

Table 4-3-1. Characteristics of the Second Period Participants (N=21).

<b>Participants Characteristics (N=21)</b>		<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	Male	8	38.1
	Female	13	61.9
<b>Age</b>	23—35	11	52.4
	36—45	5	23.8
	Over 45	5	23.8

Table 4-3-2. Characteristics of the Second Period Study Population (N= 501).

<b>Study Population Characteristics (N=501)</b>		<b>Frequency</b>	<b>Percentage</b>
<b>Gender</b>	Male	146	29.1
	Female	355	70.9
<b>Age</b>	23—35	270	53.9
	36—45	140	27.9
	Over 45	91	18.2

Furthermore, as shown in Tables 4-2-1 and 4-3-1, the first period participants and the second period participants share similar demographic characteristics.

### **Reliability Analyses of Measures**

To collect data, the researcher constructed a questionnaire consisting of 23 questions (two demographic questions were excluded). The purpose of the questions was to measure each variable of the study model. To measure each variable, the researcher asked two or three questions per variable. To test whether these two or three questions measure the same underlying construct, the reliability (internal consistency) was assessed using the Cronbach's alpha coefficient. The Cronbach's alpha coefficient is one of the most commonly used indicators of internal consistency. The Cronbach's alpha coefficient should be above .7 to demonstrate internal consistency of constructs (Pallant, 2005). In this study, as shown in Table 4-4, all the Cronbach's alpha coefficients are greater than .7.

Table 4-4. Reliability Statistics.

Variables (Number of Questions)	Cronbach's Alpha
Value of Outcomes (3)	.772
Expectancy (3)	.856
Effort (2)	.722
Consumer's past experience <sup>14</sup> (3)	.713
Service Performance (3)	.909
Interaction Service Quality (3)	.924
Outcomes (Needs Satisfaction) (3)	.983
Consumer Satisfaction with the Service (3)	.875

### **Correlation Analyses**

Correlation analysis is used to measure the strength and direction of the relationships between two variables. In a correlation analysis, there is no independent variable. Researchers simply measure two variables (Brace, et al, 2006). It means that correlation does not imply causation. Broadly, SPSS can present two types of correlations. These are simple bivariate correlation and partial correlation. In this study, bivariate Kendall tau-b correlation coefficient was assessed to describe the relationship between two variables. Kendall tau-b correlation coefficients (r) range from -1 to +1. The sign + or – indicates whether there is a positive correlation or negative correlation. Furthermore, the value of r indicates the strength of the

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<sup>14</sup> Consumer's past experience will be divided into three factors (Consumer's past experience with chat reference service, Consumer's past experience with digital reference service (email and/or webform reference service), and Consumer's past experience with face-to-face reference service) for the other analysis purposes.

correlation. A correlation of 1.0 indicates a perfect positive correlation, a value of -1.0 indicates a perfect negative correlation, and a value of 0 indicates no relationship between two variables (Pallant, 2005). With the interpretations of values between 0 and 1, there are still arguments among researchers. However, the followings are general guidelines<sup>15</sup>:

$r = .10$ to $.29$ or $r = -.10$ to $-.29$	small
$r = .30$ to $.49$ or $r = -.30$ to $-.49$	medium
$r = .50$ to $1.0$ or $r = -.50$ to $-1.0$	large

Figure 4-1. Interpretations of  $r$  Values (adapted from Pallant, 2005, p. 126).

The results of correlation analysis can be examined in three ways: 1) by examining the strength of the relationship, 2) by examining the statistical significance of the relationship, and 3) by examining the square of the correlation coefficient (Cohen & Manion, 2000).

In the following section, Kendall tau-b correlation coefficients ( $r$ ) among the variables in the study model are investigated and the results are presented based on the above three criteria.

The relationships which were established in the study model are reviewed according to the order: 1) “Value of outcomes”: “Effort by consumer”, 2) “ $E \rightarrow P$  Expectancy”: “Effort by consumer”, 3) “Effort by consumer”: “Accomplishment/Performance of the service by consumer (Service performance)”, 4) “Consumer’s past experience with chat reference service”: “Accomplishment/Performance of the service by consumer”, 5) “Consumer’s past experience with digital reference service”: “Accomplishment/Performance of the service by consumer”, 6) “Consumer’s past experience with face-to-face reference service”: “Accomplishment/Performance of the service by consumer”, 7) “Interaction service quality (service personnel’s response)”: “Accomplishment/Performance of the service by consumer”, 8) “Accomplishment/Performance of the service by consumer” : “Outcomes (needs satisfaction)”, 9) “Outcomes (needs satisfaction)”: “ $E \rightarrow P$  Expectancy”, 10) “Outcomes (needs satisfaction)” : “Consumer satisfaction with the service”, 11) “Consumer’s past experience with chat reference service” : “ $E \rightarrow P$  Expectancy”, 12) “Consumer’s past experience with digital reference service” :

<sup>15</sup> Figure 4-1 represents just one of guidelines. The interpretations of border lines are still issue.

“E→P Expectancy”, and 13) “Consumer’s past experience with face-to-face reference service” : “E→P Expectancy”. These relationships were summarized in Table 4-5.

Table 4-5. Summary of Relationships.

	<b>Relationships</b>
1	Value of outcomes : Effort by consumer
2	E→P Expectancy : Effort by consumer
3	Effort by consumer : Service performance
4	Consumer’s past experience with chat reference service : Service performance
5	Consumer’s past experience with digital reference service : Service performance
6	Consumer’s past experience with face-to-face reference service : Service performance
7	Interaction service quality : Service performance
8	Service performance : Outcomes
9	Outcomes : E→P Expectancy
10	Outcomes : Consumer satisfaction with the service
11	Consumer’s past experience with chat reference service : E→P Expectancy
12	Consumer’s past experience with digital reference service : E→P Expectancy
13	Consumer’s past experience with face-to-face reference service : E→P Expectancy

Next, all the variables are analyzed using multiple correlation analysis to identify the relationships which were not established in the study model.

#### **Correlations between “Value of outcomes” and “Effort by consumer”**

There was not a statistically significant relationship between “Value of outcomes” and “Effort by consumer” ( $r = .170$ ,  $N = 66$ ). A correlation  $.170$  means 3 % shared variance ( $.170 \times .170 = 0.03 = 3\%$ ). It means that the variable of “Value of outcomes” helps to explain nearly 3 % of the variance in respondents’ scores on the variable of “Effort by consumer”.

Table 4-6. Correlations between “Value of outcomes” and “Effort by consumer”.

			ValuesOutcomes	Effort
Kendall's tau_b	ValuesOutcomes	Correlation	1.000	.170
		Coefficient		
		Sig. (2-tailed)	.	.067
	Effort	N	66	66
		Correlation	.170	1.000
		Coefficient		
		Sig. (2-tailed)	.067	.
		N	66	66

### **Correlations between “Expectancy” and “Effort by consumer”**

There was not a statistically significant relationship between “E → P Expectancy” and “Effort by consumer” ( $r = .099$ ,  $N = 66$ ).

Table 4-7. Correlation between “E → P Expectancy” and “Effort by consumer”.

			Expectancy	Effort
Kendall's tau_b	Expectancy	Correlation	1.000	.099
		Coefficient		
		Sig. (2-tailed)	.	.287
	Effort	N	66	66
		Correlation	.099	1.000
		Coefficient		
		Sig. (2-tailed)	.287	.
		N	66	66

### **Correlations between “Effort by consumer” and “Accomplishment/Performance of the service by consumer”**

There was not a statistically significant relationship between “Effort by consumer” and “Accomplishment/Performance of the service by consumer” ( $r = .010$ ,  $N = 66$ ). A correlation .010 means that the variable “Effort by consumer” cannot help to explain the variance



in respondents' scores on the variable of "Accomplishment/Performance of the service by consumer".

Table 4-8. Correlations between "Effort by consumer" and "Accomplishment/Performance of the service by consumer".

			Effort	Performance
Kendall's tau_b	Effort	Correlation	1.000	.010
		Coefficient		
		Sig. (2-tailed)	.	.914
		N	66	66
	Performance	Correlation	.010	1.000
		Coefficient		
		Sig. (2-tailed)	.914	.
		N	66	66

#### **Correlations between "Consumer's past experience with chat reference service" and "Accomplishment/Performance of the service by consumer"**

There was a moderate, positive correlation between "Consumer's past experience with chat reference service" and "Accomplishment/Performance of the service by consumer" ( $r = .202$ ,  $N = 66$ ). A correlation .202 means that "Consumer's past experience with chat reference service" helps to explain nearly 4 % of the variance in respondents' scores on the variable of "Accomplishment/Performance of the service by consumer". Furthermore, there was a statistically significant relationship between "Consumer's past experience with chat reference service" and "Accomplishment/Performance of the service by consumer" at the 0.05 level of significance.

**Table 4-9.** Correlations between “Consumer’s past experience with chat reference service” and “Accomplishment/Performance of the service by consumer”.

			Experi-Chat	Performance
Kendall's tau_b	Experi-Chat	Correlation Coefficient	1.000	.202(*)
		Sig. (2-tailed)	.	.034
		N	66	66
	Performance	Correlation Coefficient	.202(*)	1.000
		Sig. (2-tailed)	.034	.
		N	66	66

\* Correlation is significant at the 0.05 level (2-tailed).

### **Correlations between “Consumer’s past experience with digital reference service” and “Accomplishment/Performance of the service by consumer”**

There was a moderate, positive correlation between “Consumer’s past experience with digital reference service” and “Accomplishment/Performance of the service by consumer” ( $r = .253$ ,  $N = 66$ ). A correlation .253 means 6.4 % shared variance. There was a statistically significant relationship between “Consumer’s past experience with digital reference service” and “Accomplishment/Performance of the service by consumer” at the 0.01 level of significance.

**Table 4-10.** Correlations between “Consumer’s past experience with digital reference service” and “Accomplishment/Performance of the service by consumer”.

			Experi-Di	Performance
Kendall's tau_b	Experi-Di	Correlation Coefficient	1.000	.253(**)
		Sig. (2-tailed)	.	.008
		N	66	66
	Performance	Correlation Coefficient	.253(**)	1.000
		Sig. (2-tailed)	.008	.
		N	66	66

\*\* Correlation is significant at the 0.01 level (2-tailed).

**Correlations between “Consumer’s past experience with face-to-face reference service” and “Accomplishment/Performance of the service by consumer”**

There was not a statistically significant relationship between “Consumer’s past experience with face-to-face reference service” and “Accomplishment/Performance of the service by consumer” ( $r = .131$ ,  $N = 66$ ). A correlation  $.131$  means 1.8 % shared variance.

Table 4-11. Correlations between “Consumer’s past experience with face-to-face reference service” and “Accomplishment/Performance of the service by consumer”.

			Experi-F2F	Performance
Kendall's tau_b	Experi-F2F	Correlation Coefficient	1.000	.131
		Sig. (2-tailed)	.	.170
		N	66	66
	Performance	Correlation Coefficient	.131	1.000
		Sig. (2-tailed)	.170	.
		N	66	66

**Correlations between “Interaction service quality” and “Accomplishment/Performance of the service by Consumer”**

There was a moderate, positive correlation between “Interaction service quality” and “Accomplishment/Performance of the service by consumer” ( $r = .374$ ,  $N = 66$ ). A correlation  $.374$  means 14 % shared variance. It means that the variable of “Interaction service quality” helps to explain nearly 14 % of the variance in respondents’ scores on the variable of “Accomplishment/Performance of the service by consumer”. Furthermore, there was a statistically significant relationship between “Interaction service quality” and “Accomplishment/Performance of the service by consumer” at the 0.01 level of significance.

**Table 4-12.** Correlations between “Interaction service quality” and “Accomplishment/Performance of the service by consumer”.

			InteractionSerQ	Performance
Kendall's tau_b	InteractionSerQ	Correlation Coefficient	1.000	.374(**)
		Sig. (2-tailed)	.	.000
		N	66	66
	Performance	Correlation Coefficient	.374(**)	1.000
		Sig. (2-tailed)	.000	.
		N	66	66

\*\* Correlation is significant at the 0.01 level (2-tailed).

### **Correlations between “Accomplishment/Performance of the service by consumer” and “Outcomes (needs satisfaction)”**

There was a moderate, positive correlation between “Accomplishment/Performance of the service by consumer” and “Outcomes” ( $r = .353$ ,  $N = 66$ ). A correlation .353 means 12.5 % shared variance. There was a statistically significant relationship between “Accomplishment/Performance of the service by consumer” and “Outcomes (needs satisfaction)” at the 0.01 level of significance.

**Table 4-13.** Correlations between “Accomplishment/Performance of the service consumer” and “Outcomes”.

			Performance	Outcomes
Kendall's tau_b	Performance	Correlation Coefficient	1.000	.353(**)
		Sig. (2-tailed)	.	.000
		N	66	66
	Outcomes	Correlation Coefficient	.353(**)	1.000
		Sig. (2-tailed)	.000	.
		N	66	66

\*\* Correlation is significant at the 0.01 level (2-tailed).

### Correlations between “Accomplishment/Performance of the service by consumer” and “E→P Expectancy”

There was not a statistically significant relationship between “Accomplishment/Performance of the service by consumer” and “E→P Expectancy” ( $r = .093$ ,  $N = 66$ ). A correlation .093 means 1 % shared variance.

Table 4-14. Correlations between “Accomplishment/Performance of the service by consumer” and “E→P Expectancy”.

			Performance	Expectancy
Kendall's tau_b	Performance	Correlation	1.000	.093
		Coefficient		
		Sig. (2-tailed)	.	.316
	Expectancy	N	66	66
		Correlation	.093	1.000
		Coefficient		
		Sig. (2-tailed)	.316	.
		N	66	66

### Correlations between “Outcomes (needs satisfaction)” and “Consumer satisfaction with the service”

There was a strong, positive correlation between “Outcomes” and “Consumer satisfaction with the service” ( $r = .515$ ,  $N = 66$ ). A correlation .515 means 26.5 % shared variance. It means that the variable of “Outcomes” helps to explain nearly 26.5 % of the variance in respondents’ scores on the variable of “Consumer satisfaction with the service”. There was a statistically significant relationship between “Outcomes (needs satisfaction)” and “Consumer satisfaction with the service” at the 0.01 level of significance.

Table 4-15. Correlations between “Outcomes” and “Consumer satisfaction with the service”.

			Outcomes	Satisfaction
Kendall's tau_b	Outcomes	Correlation Coefficient	1.000	.515(**)
		Sig. (2-tailed)	.	.000
		N	66	66
	Satisfaction	Correlation Coefficient	.515(**)	1.000
		Sig. (2-tailed)	.000	.
		N	66	66

\*\* Correlation is significant at the 0.01 level (2-tailed).

### **Correlations between “Consumer’s past experience with chat reference service” and “E→P Expectancy”**

There was not a statistically significant relationship between “Consumer’s past experience with chat reference service” and “E→P Expectancy” ( $r = -.006$ ,  $N = 66$ ).

Table 4-16. Correlations between “Consumer’s past experience with chat reference service” and “E→P Expectancy”.

			Experi-Chat	Expectancy
Kendall's tau_b	Experi-Chat	Correlation Coefficient	1.000	-.006
		Sig. (2-tailed)	.	.949
		N	66	66
	Expectancy	Correlation Coefficient	-.006	1.000
		Sig. (2-tailed)	.949	.
		N	66	66

### Correlations between “Consumer’s past experience with digital reference service” and “E→P Expectancy”

There was not a statistically significant relationship between “Consumer’s past experience with digital reference service” and “E→P Expectancy” ( $r = .015$ ,  $N = 66$ ).

Table 4-17. Correlations between “Consumer’s past experience with digital reference service” and “E→P Expectancy”.

			Experi-Di	Expectancy
Kendall's tau_b	Experi-Di	Correlation	1.000	.015
		Coefficient		
		Sig. (2-tailed)	.	.877
	Expectancy	N	66	66
		Correlation	.015	1.000
		Coefficient		
		Sig. (2-tailed)	.877	.
		N	66	66

### Correlations between “Consumer’s past experience with face-to-face reference service” and “E→P Expectancy”

There was not a statistically significant relationship between “Consumer’s past experience with face-to-face reference service” and “E→P Expectancy”.

Table 4-18. Correlations between “Consumer’s past experience with face-to-face reference service” and “E→P Expectancy”.

			Experi-F2F	Expectancy
Kendall's tau_b	Experi-F2F	Correlation	1.000	-.003
		Coefficient		
		Sig. (2-tailed)	.	.977
	Expectancy	N	66	66
		Correlation	-.003	1.000
		Coefficient		
		Sig. (2-tailed)	.977	.
		N	66	66

The following is the results of multiple correlation analysis among the study variables.

Table 4-19. Summary of Correlations.

	1	2	3	4	5	6	7	8	9	10
1	1	.149	.170	.231*	.181	.130	.150	.058	.067	.302**
2	.149	1	.099	-.006	.015	-.003	.093	.117	.167	.107
3	.170	.099	1	.014	.083	.078	.010	.070	.120	.158
4	.231*	-.006	.014	1	.452**	.292**	.202*	-.003	.032	.130
5	.181	.015	.083	.452**	1	.368**	.253**	.070	.021	.170
6	.130	-.003	.078	.292**	.368**	1	.131	.008	.062	.175
7	.150	.093	.010	.202*	.253*	.131	1	.374**	.353**	.506**
8	.058	.117	.070	-.003	.070	.008	.374**	1	.657**	.443**
9	.067	.167	.120	.032	.021	.062	.353**	.657**	1	.515**
10	.302**	.107	.158	.130	.170	.175	.506**	.443**	.515**	1

(1=Value of Outcomes, 2=Expectancy, 3=Effort, 4=Experience with Chat reference service, 5=Experience with Digital reference service, 6=Experience with face-to-face reference service, 7=Service Performance, 8=Interaction Service Quality, 9=Outcomes (Needs Satisfaction), 10=Consumer Satisfaction with the Service

\* Significant at the 0.05 level

\*\* Significant at the 0.01 level)

As shown in Table 4-19, there were statistically significant relationships among the following variables:

- Value of outcomes and Consumer's past experience with chat reference service
- Value of outcomes and Consumer satisfaction with the service
- Consumer's past experience with chat reference service and Value of outcomes
- Consumer's past experience with chat reference service and Consumer's past experience with digital reference service
- Consumer's past experience with chat reference service and Consumer's past experience with face-to-face reference service
- Consumer's past experience with chat reference service and Service performance
- Consumer's past experience with digital reference service and Consumer's past experience with face-to-face reference service



- Consumer's past experience with digital reference service and Service performance
- Service performance and Interaction service quality
- Service performance and Outcomes
- Service performance and Consumer satisfaction with the service
- Interaction service quality and Outcomes
- Interaction service quality and Consumer satisfaction with the service

## **Multiple Regression Analysis**

The purpose of multiple regression analysis is to discover more about the relationship between several independent variables and one dependent variable. Compared with correlation analysis, multiple regression analysis allows a “more sophisticated exploration the interrelationship among a set of variables” (Pallant, 2005, p. 140). Multiple regression analysis can provide information about the model as a whole, and the “relative contribution of each of the variables that make up the model” (Pallant, 2005, p. 140).

In this section, the study model is divided into four parts<sup>16</sup> (see Figures 4-2, 4-3, 4-4, and 4-5) and each of the sub-models are analyzed using multiple regression analysis.

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<sup>16</sup> As mentioned above, the study model focuses on process. Therefore, the study model will be divided into four parts to be analyzed using multiple regression analysis. Furthermore, the study model has two feedback loops: 1) ‘Consumer's past experience → ‘E→P Expectancy’ and 2) ‘Accomplishment/Performance of the service by consumer’ → ‘E→P Expectancy’. These two relationships will be analyzed using correlation analysis. Therefore, in the analysis of multiple regression, these two feedback loops will be excluded for the convenience of analysis.

## Effort Model

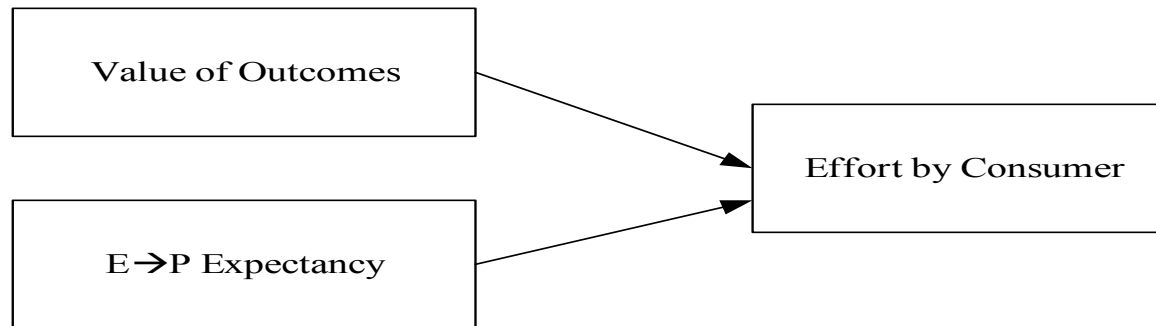


Figure 4-2. Effort Model.

As shown in Figure 4-2, dependent variable is “Effort by consumer” and independent variables are “Value of outcomes” and “E→P Expectancy”. This model represents that the variable of “Effort by consumer” can be predicted by the variables of “Value of outcomes” and “E→P expectancy”. The level of effort that academic library service consumers spend using the service depends on how valuable academic library service consumers’ information needs met through using the service and how much academic library service consumers are convinced that they would be able to use the service without any problems. The results of multiple regression analysis of the model were summarized in Table 4-20.

Table 4-20. Effort Model Summary.

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.251 <sup>a</sup>	.063	.033	1.47159

a. Predictors: (Constant), Expectancy, Value of outcomes

b. Dependent Variable: Effort by consumer

Table 4-20. Continued.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.704	1.355		1.996	.050
Value of Outcomes	.372	.197	2.35	1.889	.064
Expectancy	.075	.172	.054	.438	.663

In this model, the R Square value was .063. This means that the model explains 6.3% of the variance. In addition, Beta value informs how much each of the variables included in the model contributed to the explanation of the dependent variable. In this case, Beta value of “Value of outcomes” was 2.35 and Beta value of “E→P Expectancy” was .054. Beta value of “Value of outcomes” was larger. This means that the variable of “Value of outcomes” explained more about the dependent variable of “Effort by consumer”, compared with the variable of “E→P Expectancy”. When the Sig. value is less than .05, we can conclude that the variable made a significant unique contribution to the prediction of the dependent variable. In this case, Sig. value of “Value of outcomes” was .064 and Sig. value of “E→P Expectancy” was .663. Therefore, we can conclude that both “Value of outcomes” and “E→P Expectancy” did not make statistically significant contributions to the prediction of the variable of “Effort by consumer”.

### Service Performance Model

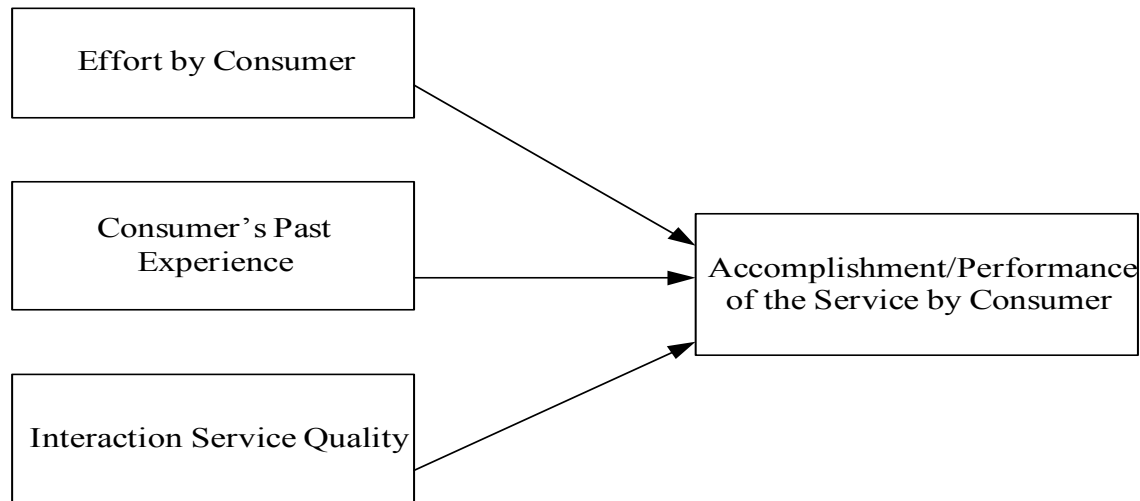


Figure 4-3: Service Performance Model.

In this model, dependent variable is “Accomplishment/Performance of the service by consumer (service performance)” and independent variables are “Effort by consumer”, “Consumer’s past experience”, and “Interaction service quality”. This model means that performance of the service by academic library service consumers can be determined by the variables of “Effort by consumer”, “Consumer’s past experience”, and “Interaction service quality”. The results of multiple regression analysis of the model were presented in Table 4-21. In Table 4-21, among the three sub-variables of “Consumer’s past experience”, the variable of “Consumer’s past experience with chat reference service” was analyzed.

Table 4-21. Service Performance Model Summary.

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.568 <sup>a</sup>	.322	.289	1.58567

a. Predictors: (Constant), Experience with Chat reference service, Effort, Interaction Service Quality

b. Dependent Variable: Service Performance

Table 4-21. Continued.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.661	1.113		.594	.555
Experience-Chat	.239	.088	.283	2.701	.009
Effort	-.059	.132	-.047	-.448	.656
Interaction SQ	.662	.144	.481	4.594	.000

In this model, the R Square value was .322. This means that the model explains 32.2% of the variance. In addition, Beta value of “Consumer’s past experience with chat reference service” was .283, Beta value of “Effort by consumer” was -.047, and Beta value of “Interaction service quality” was .481. Beta value of “Interaction service quality” was largest. This means that the variable of “Interaction service quality” explained more about the dependent variable of “Service performance”, compared with the variables of “Consumer’s past experience with chat reference service” and “Effort by consumer”. In this case, Sig. value of “Consumer’s past experience with chat reference service” was .009, Sig. value of “Effort by consumer” was .656, and Sig. value of “Interaction service quality” was .000. From these values, we can conclude that both “Consumer’s past experience with chat reference service” and “Interaction service quality” made statistically significant contributions to the prediction of the variable of “Service performance”.

On the other hand, in the case of “Consumer’s past experience with digital reference service”, the R Square was .319. Secondly, Beta value of “Consumer’s past experience with digital reference service” was .279, Beta value of “Effort by consumer” was -.060 and Beta value of “Interaction service quality” was .485. Furthermore, both “Consumer’s past experience with digital reference service” and “Interaction service quality” were statistically significant to the prediction of the variable of “Service performance”.

In addition, in the case of “Consumer’s past experience with face-to-face reference service”, the R Square was .271. Next, Beta value of “Consumer’s past experience with face-to-face reference service” was .172, Beta value of “Effort by consumer” was -.065, and Beta value of “Interaction service quality” was .488. Lastly, in this case, “Interaction service quality” had a statistical significance to the prediction of “Service Performance”.

### Consumer Satisfaction Model 1

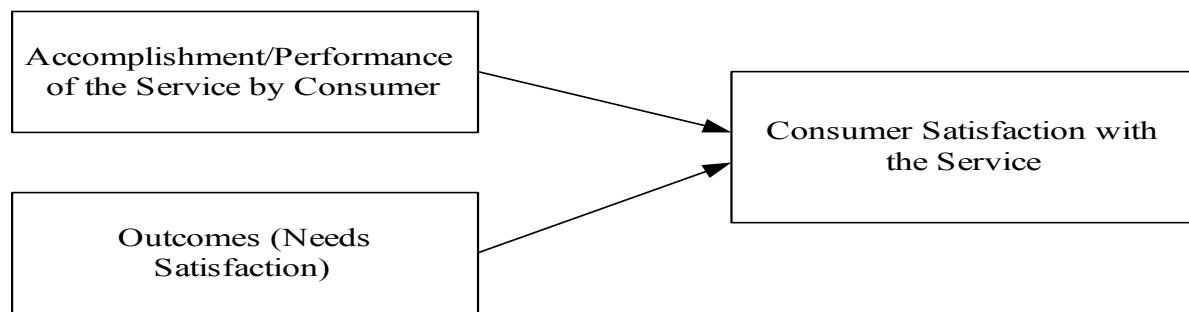


Figure 4-4. Consumer Satisfaction Model 1<sup>17</sup>.

In this model, dependent variable is “Consumer satisfaction with the service (consumer satisfaction)” and independent variables are “Accomplishment/Performance of the service by consumer” and “Outcomes”. This model represents that academic library service consumers’ satisfaction with the service can be determined by performance of the service by academic library service consumers and their information needs satisfaction. The results of multiple regression of the model were shown in Table 4-22.

<sup>17</sup> Consumer satisfaction model 1 should have the following pattern: Service performance→Outcomes→Consumer satisfaction. In this case, path analysis using SEM (structural equation modeling) should be the best analysis tool. However, the sample size of this study is not big enough for path analysis. Therefore, the researcher modified the model like Figure 4-4.

Table 4-22. Consumer Satisfaction Model 1 Summary.

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.773 <sup>a</sup>	.597	.585	.96248

a. Predictors: (Constant), Outcomes (Needs Satisfaction), Service Performance

b. Dependent Variable: Consumer Satisfaction with the Service

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.772	.485		1.589	.117
Performance	.283	.071	.356	4.008	.000
Outcomes	.552	.090	.547	6.155	.000

In this model, the R Square value was .597. This means that the model explains 59.7% of the variance. Beta value of “Service performance” was .356 and Beta value of “Outcomes” was .547. Beta value of “Outcomes” was larger. This means that the variable of “Outcomes” explained more about the dependent variable of “Consumer satisfaction”, compared with the variable of “Service performance”. In addition, Sig. values of “Outcomes” and “Service performance” were .000. Therefore, we can conclude that both “Outcomes” and “Service performance” made statistically significant contributions to the prediction of the variable of “Consumer satisfaction”.

## Consumer Satisfaction Model 2

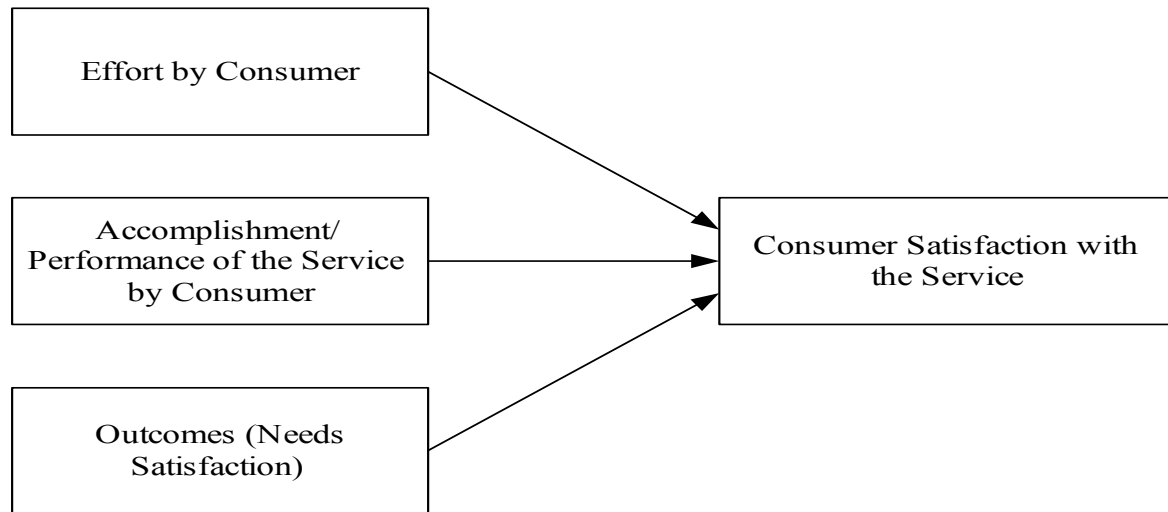


Figure 4-5. Consumer Satisfaction Model 2<sup>18</sup>.

In Figure 4-5, dependent variable is “Consumer satisfaction with the service (consumer satisfaction)” and independent variables are “Effort by consumer”, “Accomplishment/Performance of the service by consumer (service performance)”, and “Outcomes”. This model means that academic library service consumers’ satisfaction with the service depends on the three variables (Effort by consumer, Service performance, and Outcomes). The results of multiple regression analysis were as follows:

Table 4-23. Consumer Satisfaction Model 2 Summary.

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.789 <sup>a</sup>	.623	.605	.93905

a. Predictors: (Constant), Effort, Service Performance, Outcomes (Needs Satisfaction)

b. Dependent Variable: Consumer Satisfaction with the Service

<sup>18</sup> Consumer satisfaction model 2 should have the following pattern: Effort by consumer → Service performance → Outcomes → Consumer satisfaction. However, this model was also modified based on the same reason of Consumer satisfaction model 1.



Table 4-23. Continued.

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	.045	.592		.076	.940
Effort	.162	.079	.162	2.045	.045
Performance	.296	.069	.372	4.275	.000
Outcomes	.518	.089	.514	5.819	.000

In this model, the R Square value was .623. This means that the model explains 62.3% of the variance. Beta value of “Effort by consumer” was .162, Beta value of “Service performance” was .372, and Beta value of “Outcomes” was .514. Beta value of “Outcomes” was largest. This means that the variable of “Outcomes” explained more about the dependent variable of “Consumer satisfaction”, compared with the variables of “Service performance” and “Effort by consumer”. Finally, Sig. value of “Effort by consumer” was .045 and Sig. values of “Service performance” and “Outcomes” were .000. Therefore, we can conclude that both “Service performance” and “Outcomes” made statistically significant contributions to the prediction of the variable of “Consumer satisfaction”.

## Summary of the Chapter

This chapter was devoted to analyze the collected data and present the results. First, demographic characteristics of the participants were reviewed. Second, to test reliability of measures, the Cronbach’s alpha coefficient was assessed. The results demonstrated that there is an internal consistency of constructs.

Third, through correlation analysis, the following relationships were found to be statistically meaningful:

- Value of outcomes and Consumer's past experience with chat reference service
- Value of outcomes and Consumer satisfaction with the service
- Consumer's past experience with chat reference service and Value of outcomes
- Consumer's past experience with chat reference service and Consumer's past experience with digital reference service
- Consumer's past experience with chat reference service and Consumer's past experience with face-to-face reference service
- Consumer's past experience with chat reference service and Service performance
- Consumer's past experience with digital reference service and Consumer's past experience with face-to-face reference service
- Consumer's past experience with digital reference service and Service performance
- Service performance and Interaction service quality
- Service performance and Outcomes
- Service performance and Consumer satisfaction with the service
- Interaction service quality and Outcomes
- Interaction service quality and Consumer satisfaction with the service

Fourth, through multiple regression analysis, it was found that there are five variables which play important roles in explaining an academic library service consumer's motivational process: 1) Consumer's past experience, 2) Interaction service quality, 3) Service performance, 4) Outcomes, and 5) Consumer satisfaction with the service. In the next chapter, these findings are discussed in connection with the research questions.

## **CHAPTER 5**

### **DISCUSSION**

This chapter provides a summary of findings of data analyses and discusses the findings in connection with the research questions. As mentioned in Chapter 1, the purpose of this study is to provide a preliminary theoretical foundation of academic library service consumer motivation. To achieve this purpose, an academic library service consumer motivation model was developed and the chat reference service was selected as an academic library service example to verify the model. Therefore, the discussions of this chapter are focused on chat reference service example.

#### **Research Question 1**

RQ 1: What factors influence an academic library service consumer's motivational process to use library services?

The study model was divided into four sub-models to identify factors which influence an academic library service consumer's motivational process to use library services as follows: 1) Effort Model, 2) Service Performance Model, 3) Consumer Satisfaction Model I, and 4) Consumer Satisfaction Model II (see Figures 4-2, 4-3, 4-4, and 4-5).

In the 'Effort Model', the variable of "Value of outcomes" explained more about the dependent variable of "Effort by consumer", compared with the variable of "Expectancy". However, either "Value of outcomes" or "Expectancy" did not make statistically significant contributions to the prediction of the variable of "Effort by consumer".

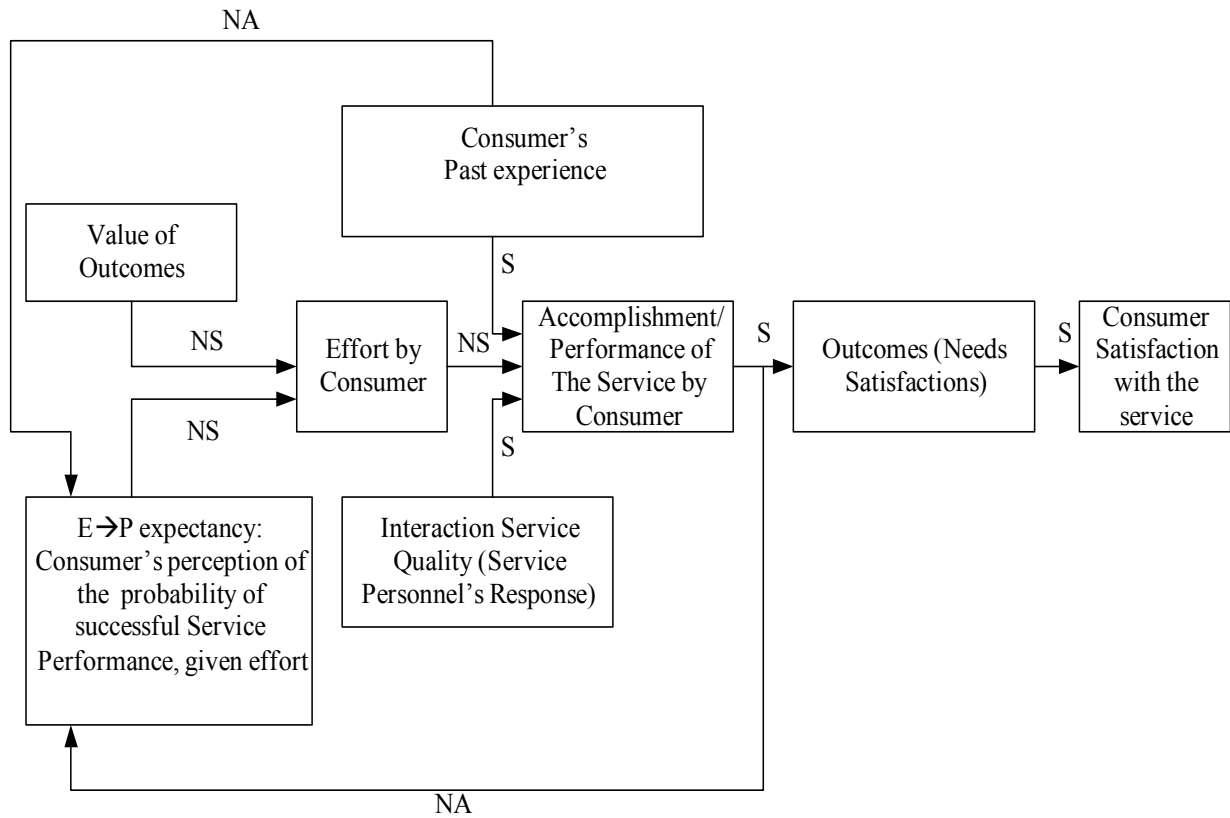
Second, in the 'Service Performance Model', the variable of "Consumer's past experience" was divided into three variables such as 1) "Consumer's past experience with chat reference service", 2) "Consumer's past experience with digital reference service", and 3) "Consumer's past experience with face-to-face reference service". Among the variables of "Consumer's past experience", it was found that "Consumer's past experience with chat

reference service” and “Consumer’s past experience with digital reference service” have statistical meanings to explain the variable of “Accomplishment/Performance of the service by consumer (service performance)”. Furthermore, the variable of “Interaction service quality” explained more about the dependent variable of “Service performance”, compared with the variables of “Consumer’s past experience with chat reference service”, “Consumer’s past experience with digital reference service”, “Consumer’s past experience with face-to-face reference service”, and “Effort by consumer”. In addition, the variable of “Interaction service quality” made statistically significant contributions to the prediction of the variable of “Service performance”. The variable of “Effort by consumer” did not make statistically meaningful contributions to explain the variable of “Service performance”. In conclusion, in the ‘Service Performance Model’, the variables of “Interaction service quality”, “Consumer’s past experience with digital reference service”, and “Consumer’s past experience with chat reference service” made statistically meaningful contributions to explain the variable of “Service performance”.

Third, in the ‘Consumer Satisfaction Model I’, the variable of “Outcomes” explained more about the dependent variable of “Consumer satisfaction”, compared with the variable of “Service performance”. In addition, it was found that both “Outcomes” and “Service performance” made statistically significant contributions to the prediction of the variable of “Consumer satisfaction”.

Fourth, in the ‘Consumer Satisfaction Model II’, the variable of “Outcomes” explained more about the dependent variable of “Consumer satisfaction”, compared with the variables of “Service performance” and “Effort by consumer”. In addition, the variables of “Service performance” and “Outcomes” were statistically significant to the prediction of the variable of “Consumer satisfaction”.

These findings can be summarized as follows (see Figure 5-1):



NA: Not Applicable

NS: Statistically Not Significant

S: Statistically Significant

Figure 5-1. Multiple Regression Analyses Summary.

Based on these findings, the study model can be modified as follows (see Figure 5-2):

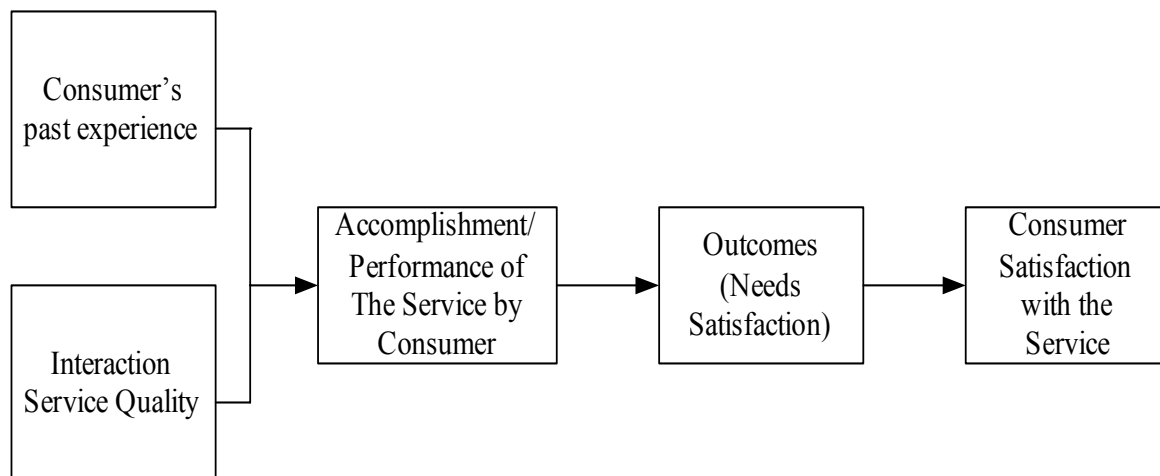


Figure 5-2. Modified Study Model.

Service consumers participate in the service production process and they can affect the process actively. It is due to the inseparable characteristic of service (most services are produced and consumed at the same time). Therefore, how well the consumers perform the service depends on whether consumers have past experience with the service. With the chat reference service example, the difference between chat reference service and traditional face-to-face reference service is that chat reference service requires familiarity with computers on the part of users. Digital reference service also requires technical experience of users. As a result, a consumer's past experience with chat reference service and digital reference service can influence a consumer's chat reference service performance and satisfaction positively. However, traditional face-to-face reference service is different. It does not require technical expertise of users. Therefore, consumer's past experience with face-to-face reference service does not have direct influence on consumer's chat reference service performance and satisfaction with the service.

Interaction service quality (service personnel's response) is a critical component of consumer satisfaction with the service (Zeithaml & Bitner, 2003). As Pomerantz, et al (2006) stated, reference service consumer's interaction with the reference librarian is an important component of the consumer's satisfaction with the reference transaction. Furthermore, according to various research, reference service consumer's satisfaction with the service is as or more dependent on the interaction with the reference librarian than whether the librarian provides

accurate or rapid answers to the consumer (Pomerantz et al; 2006). Compared with traditional reference service, in a chat reference service setting, consumers cannot see reference librarians' facial expression, tone of voice, and so on. Therefore, interaction with the service personnel is very important to determine consumer's satisfaction with service (McClure, et al, 2002).

Service consumers can play an important role as contributors to their own satisfaction with the service they receive (Zeithaml & Bitner, 2003). In many cases, service consumers should perform their roles effectively to achieve their desired outcomes through the usage of the service. As Zeithaml & Bitner (2003) mention, service consumers "who believe they have done their part to be effective in service interactions are more satisfied with the service" (p. 358). Oliver's (1997) satisfaction model ('An Expectations/Standards Disconfirmation Model of Satisfaction') also emphasized the connection between service consumer's performance and his/her satisfaction with the service.

In conclusion, as shown in Figure 5-2, there are five factors which influence academic library service consumer's motivational process such as "Consumer's past experience", "Interaction service quality (service personnel's response)", "Accomplishment/Performance of the service by consumer", "Outcomes (needs satisfaction)", and "Consumer satisfaction with the service".

### **Research Questions 2 and 3**

Research questions 2 and 3 are closely related. Therefore, these two research questions are reviewed together.

RQ2: Are there relationships among the factors which influence an academic library service consumer's motivational process to use library services?

RQ3: What relationships exist among the factors which influence an academic library service consumer's motivational process to use library services?

Correlation analysis results of the relationships which were established in the study model were summarized in Table 5-1.

Table 5-1. Summary of Correlations Between Variables.

<b>Variables</b>	<b>Relationship</b>
● Value of Outcomes—Effort by Consumer	NNSR (.170)
● E→P Expectancy—Effort by Consumer	NSSR (.099)
● Effort by Consumer—Accomplishment/Performance of the Service by Consumer	NSSR (.010)
● Consumer's past experience (Chat)—Accomplishment/Performance of the Service by Consumer	Low, Positive (.202*)
● Consumer's past experience (Digital)—Accomplishment/Performance of the Service by Consumer	Low, Positive (.253**)
● Consumer's past experience (Face-to-Face)—Accomplishment/Performance of the Service by Consumer	NSSR (.131)
● Interaction Service Quality—Accomplishment/Performance of the Service by Consumer	Moderate, Positive (.374**)
● Accomplishment/Performance of the Service by Consumer—Outcomes (Needs Satisfaction)	Moderate, Positive (.353**)
● Outcomes (Needs Satisfaction)—Consumer Satisfaction with the service	High, Positive (.515*)
● Accomplishment/Performance of the Service by Consumer—E→P Expectancy	NSSR (.093)
● Consumer's past experience (Chat)—E→P Expectancy	NSSR (-.006)
● Consumer's past experience (Digital)—E→P Expectancy	NSSR (.015)
● Consumer's past experience (Face-to-Face)—E→P Expectancy	NSSR (-.003)

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

NNSR: No Statistically Significant Relationship

Next, through multiple correlation analysis, the following relationships were also found to be statistically meaningful.

- Value of Outcomes—Consumer's past experience with Chat reference service (.231\*)
- Value of Outcomes—Consumer satisfaction with the service (.302\*\*)
- Accomplishment/Performance of The Service by Consumer—Consumer Satisfaction with the service (.506\*\*)
- Interaction Service Quality—Outcomes (.657\*\*)



- Interaction Service Quality—Consumer Satisfaction with the service (.443\*\*)

Services are produced and consumed simultaneously, consumers present in the service delivery process and interact directly with the organization's service personnel (Bitner, 1990). As Berry & Parasuraman (1991) state, "because services are performances rather than manufactured objects, and because these performances often require the physical presence of the customer, and because these performances are frequently rendered by human beings, the significant opportunity for services marketing exists in the field where service provider and customer interact" (p. 77). As a result, both service consumers and service personnel are regarded as important factors in a service delivery process. In the chat reference setting, there also exist interactions between service consumers and service providers. Therefore, chat reference service consumer's performance can be influenced by chat reference service providers and their personal past reference service experience. Chat reference service and digital reference service have many common factors, however, traditional reference service is different from chat reference service and digital reference service. Consequently, a consumer's past experience with face-to-face reference services does not have meaningful influence on a chat reference service consumer's performance, compared with chat and digital reference service experiences.

The primary goal of a chat reference service consumer is to satisfy their information needs through the use of the service. Through successful service performance, chat reference service consumers can satisfy their information needs. However, as shown in the study results, the correlation (.353) between 'Accomplishment/Performance of the service by consumer' and 'Consumer satisfaction with the service' is higher than the correlation (.506) between 'Accomplishment/Performance of the service by consumer' and 'Outcomes'. Based on these results, we can conclude that chat reference service consumers' successful service performance has more influence on their satisfaction than their information needs satisfaction.

In a study of the banking industry, Kelley et al; (1992) asked bank customers to rate themselves on the following questions related to their contributions to service delivery:

"I clearly explained what I wanted the bank employee to do.  
 I gave the bank employee proper information.  
 I tried to cooperate with the bank employee.  
 I understand the procedures associated with this service.  
 I was friendly to the bank employee.  
 I have a good relationship with the bank employee.

I was courteous to the bank employee.  
Receiving this service was a pleasant experience” (p. 210).

According to the study’s results, “the customers’ perceptions of both what they did and how they did it were significantly related to customers’ satisfaction with the service they receive from the bank” (as cited in Zeithaml & Bitner, 2002, p. 358). These study results were also supported by other researchers who studied in another context (Claycomb, et al; 2001). In the same context, chat reference service consumer’s satisfaction can also depend on what they did and how they did it during the service delivery process. In summary, when the chat reference service consumers feel they did their roles properly during the interaction process with chat reference service providers, their satisfaction level with the service will be high.

Chat reference service provider’s attitude, behavior, and knowledge are found to be closely related to chat reference service consumer’s information needs satisfaction, satisfaction with the chat service, and service performance. These study results show that the importance of the chat reference service provider’s role in determining chat reference service consumer’s information needs satisfaction, satisfaction with the chat reference service, and service performance. In other words, chat reference service consumers’ performance, information needs satisfaction, and satisfaction with service depend on the chat reference service providers’ attitude, behavior, and knowledge.

In Porter & Lawler’s expectancy model, there exists a feedback loop between satisfaction and value of rewards (valence). They premise that valence could be intensified by an individual’s satisfaction. This study also found that ‘Value of outcomes’ is associated with ‘Consumer satisfaction with the service’. However, how much and in what ways consumer satisfaction would influence future consumer’s perception of valence (value of outcomes) should be supported by future research. Through this single study, this association cannot be fixed.

Chat reference service consumer’s information needs satisfaction was found to be associated with their satisfaction with the chat reference service. When chat reference service consumer’s information needs were met through the usage of the chat reference service, they are satisfied with the service. Similar study result is shown in the Larson, et al; (1996) study which focused on the relationship between patients’ information needs satisfaction and their satisfaction with hospital care. This study result is contradictory to most prior studies which had found that

information needs satisfaction and overall satisfaction with reference service are unrelated. However, as Richardson (2002) mentioned, this contradictory situation might be caused by a methodological artifact.

As shown in Table 5-1, the lowest correlations are found among the following variables: 1) “Value of outcomes’ and ‘Effort by consumer”, 2) “ $E \rightarrow P$  Expectancy” and “Effort by consumer”, 3) “Consumer’s past experience (with Chat, Digital, and Face-to-Face reference services)” and “ $E \rightarrow P$  Expectancy”, 4) “Effort by consumer” and “Accomplishment/Performance of the service by consumer”, and 5) “Accomplishment/Performance of the service by consumer” and “ $E \rightarrow P$  Expectancy”. The most common factors of expectancy theory are “Value of outcomes (valence)” and “Individual’s personal probability estimate of task accomplishment (expectancy)”. The model of this study also incorporated these two factors. However, it was found that there were not meaningful associations related to these two variables. The possible reason of these findings is that library services including chat reference service do not involve monetary values. For examples, through the usage of chat reference service, consumers can satisfy their information needs. Chat reference service consumers do not use the service to make money. Generally, expectancy theory was introduced to explain the motivational factors of the worker to his/her work (job). As a result, “Value of outcomes” and “Expectancy” did not play important roles in explanation of chat reference service consumers’ motivational factors.

In conclusion, as shown in Table 4-19 and Table 5-1, it was found that there exist relationships among the variables of the study model, regardless of directions (positive or negative). Some relationships were weak and small. However, there were significant relationships among the following variables:

1. Consumer’s past experience with chat reference service and Accomplishment/Performance of the service by consumer
2. Consumer’s past experience with digital reference service and Accomplishment/Performance of the service by consumer
3. Interaction service quality and Accomplishment/Performance of the service by consumer
4. Accomplishment/Performance of the service by consumer and Outcomes (needs satisfaction)
5. Outcomes (needs satisfaction) and Consumer satisfaction with the service
6. Interaction service quality and Outcomes (needs satisfaction)

7. Interaction service quality and Consumer satisfaction with the service
8. Accomplishment/Performance of the service by consumer and Consumer satisfaction with the service.

The study model already proposed the relationships 1 through 5 and these relationships were confirmed by correlation analysis results. Furthermore, through the above study results, the importance of the variable of “Interaction service quality” in the service sector, including chat reference service, was discovered. Interaction service quality can influence service consumer’s performance, needs satisfaction, and satisfaction with the service. In addition, according to the study results, service consumer’s satisfaction can be influenced by their service performance.

#### **Research Question 4**

RQ4: Based on these relationships, can the academic library service consumer’s motivational process be explained?

It was possible for the researcher to group the interview data into 25 categories (see Table 5-2). Furthermore, the researcher found that the 25 categories could be further grouped into seven categories. This procedure is similar to the open coding process of grounded theorists. In open coding, the grounded theorists “form initial categories of information about the phenomenon being studied by segmenting information” based on the collected data through interview, observation and so on (Creswell, 2002, p. 441). The grounded theorists identify categories and subcategories through the process of open coding. The researcher employed similar procedure as the grounded theorists. However, in the strictest sense, the method of this study is not a grounded theory approach. Interview method was not the major method of this study. Interview method was employed to complement the findings of the correlational research method. Therefore, the researcher does not follow the step-by-step procedure of grounded theory.

It was found that the seven categories (convenience, anonymity, inexpensiveness, waiting time, service access points, accessibility, and difficulties of communication) could be grouped into two broad categories: motivators and demotivators. The categories of “convenience”,

“anonymity”, and “inexpensiveness” can be regarded as motivators to use chat reference service. On the other hand, the categories of “waiting time”, “service access points”, “accessibility”, and “difficulties of communication” can be grouped as demotivators to use chat reference services.

Table 5-2. Categories of Interview Data.

Categories	Subcategories
Convenience	<ul style="list-style-type: none"> <li>● Easy to use</li> <li>● Immediate answering</li> <li>● Fast response</li> <li>● Speedy to use (Fast connection)</li> <li>● Accessibility from anywhere with Internet connection</li> </ul>
Anonymity	<ul style="list-style-type: none"> <li>● Less intimidating than face-to-face reference service</li> <li>● Comfortable feeling (compared with face-to-face reference service)</li> <li>● Worry about being judged or thought of as stupid</li> </ul>
Inexpensiveness	<ul style="list-style-type: none"> <li>● No long distance call</li> <li>● No extra cost</li> </ul>
Waiting Time	<ul style="list-style-type: none"> <li>● Waited with no response</li> <li>● Waiting time before starting the reference interview</li> <li>● Long pauses</li> </ul>
Service Access Points	<ul style="list-style-type: none"> <li>● Difficulties in accessing the interface</li> <li>● Difficulties in finding chat reference service desk</li> <li>● Bad interface program</li> <li>● Confusing login interface</li> </ul>
Accessibility	<ul style="list-style-type: none"> <li>● Difficulties of Initial setup</li> <li>● No librarians online</li> <li>● The chat software doesn't work</li> <li>● No compatibility with other browser than Internet Explorer</li> </ul>
Difficulties of communication	<ul style="list-style-type: none"> <li>● Difficulties in transferring non-explicit information</li> <li>● Difficulties in understanding reference librarians' instructions</li> <li>● Limitations in communicating and expressing oneself</li> <li>● No facial expressions</li> </ul>

As mentioned above, through the analysis of the interview data, the researcher could find the factors which motivate users to use chat reference service and which demotivate users to use chat reference service. Based on these factors and findings from correlation analysis and multiple regression analysis, the study model which explains an academic library service consumer's motivational process will be modified and finalized.

Pomerantz & Luo (2006) found seven motivational factors for using chat reference service through NCKnows<sup>19</sup> user survey:

- “Convenience (47%)
- Other means of seeking information were not helpful (15%)
- Curiosity (13%)
- Serendipity (12%)
- Recommended by others (7%)
- Personal characteristics/habits (7%)
- Other means of seeking information were not helpful (15%)” (p. 357-8).

Horowitz, Flanagan, & Helman's (2005) study also found that “convenience” is the greatest reason why users used the service (as cited in Pomerantz & Luo, 2006).

The participants of this study also mentioned “convenience” (ease of use, fast response, fast connection, immediate answering, and accessibility from anywhere with Internet connection)<sup>20</sup> as the most attractive factor of chat reference service:

“I can access chat reference service anywhere I have an internet connection” (Interviewee 2)

“The convenience of use and ability to access without being in the library. This service can be performed from anywhere whether in the library, at a dorm, or from hundred of miles away” (Interviewee 7).

“It's more efficient. You don't have to go all the way to the library” (Interviewee 15).

“As a distance ed student, the service could be invaluable. I cannot physically go to the library and ask a question—I was able to ask a question using the chat service from my own computer” (Interviewee 6).

“This service enables me to receive information without having the inconvenience of leaving home” (Interviewee 18)

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<sup>19</sup> NCKnows is collaborative statewide chat-based reference service.

<sup>20</sup> The sub-factors of convenience will not be reviewed specifically. This is beyond of the scope of this study.

“The ease with which one accesses the service...the fact that I can access it from home and get help in real time” (Interviewee 24)

“I think that the handiness and immediacy of the service makes it very helpful” (Interviewee 17).

“I would like to use Chat because I think it should be speedy and easy to use” (Interviewee 22)

“Waiting on the phone or waiting to get an e-mail response is no fun either” (Interviewee 8).

“Quickness of answering” (Interviewee 14).

Next, the participants considered “anonymity” as one of the advantages of chat reference service.

“It can be less intimidating than a face-to-face encounter with the reference librarian” (Interviewee 4)

“I am also rather shy, and I appreciate the relative “anonymity” of a chat service” (Interviewee 6).

“It is less intimidating than traditional face-to-face reference interactions. I felt more comfortable expressing my needs, perhaps because I was not able to see the reference personnel’s confusion, frustration, or non-interest in my question (if any of those emotions existed)” (Interviewee 9).

“The librarian can’t see you, so patrons (me in this case) feel safer and won’t worry about being judged or thought of as stupid” (Interviewee 12).

Furthermore, the participants reckoned chat reference service less expensive.

“It’s also less expensive than making what would be a long-distance call in my case” (Interviewee 15).

“I would not make long distance phone calls to the reference librarians to have my questions answered” (Interviewee 16).

“It doesn’t cost me anything extra to use this service which is great” (Interview 24)

On the other hand, demotivators for using chat reference service can be summarized into four factors: 1) waiting time to receive the service, 2) service access points (site design, simplicity of interface), 3) accessibility of the service, and 4) difficulties with expressing themselves in a virtual space.

First, waiting time (before, after, and/or during communication with chat reference service provider) was an obstacle to chat reference service consumer's motivation to use the service.

"At first, I tried using ..... library chat service and waited for 10 minutes with no response. I tried it again for another 2 minutes and got nothing. Then, I went to the main library site and went through the initial process to set up an AOL account. Setting up the AOL account took a while and was a little annoying as my suggested screen names kept getting rejected. I wish they had the MSN Instant Messenger, which I already have an account with. So basically, the initial setup was a little annoying. I wouldn't have to deal with this if I just used a traditional reference service" (Interviewee 4).

"While I was asking questions, the librarian asked me to hold while she helped another patron that was there in person, this sort of made the communication feel like a phone call, and I thought it was odd. I was sort of under the impression that this service was separate from desk reference services and that I wouldn't be interrupted in my query" (Interviewee 8).

"I tried to chat on three different occasions and different times of the day. The first times I stayed connected and waited more than two hours before I gave up. The third time I was connected within 30 minutes. It was frustrating" (Interviewee 10).

"Well, one would not have to wait for 20 minutes just to start the reference interview at a traditional reference desk" (Interviewee 11).

"There are long pauses and since you can't see what the librarian is doing, you may be discouraged and give up because it seems like there is no response from the librarian" (Interviewee 16).

Second, accessibility of the service hindered users from using chat reference service.

"I had to download a special IM platform, install it, then figure out how to use it to talk to the reference desk. I repeatedly clicked on the link to try but either I would get an error page or the page would continually try to load but not go anywhere. After several attempts I finally figured out how to enter the chat address into the IM and felt I was able to contact someone by sheer luck" (Interviewee 2).



“I do not want to use it again. The first two times I tried were on different weekdays during the hours a librarian was supposedly available. Both times, there were no librarians online. The third time I tried, there was one librarian online. The chat software doesn’t work with Firefox browsers. So I tried with Internet Explorer. I have found the whole process very frustrating and disappointing” (Interviewee 5).

“Make sure it’s compatible with browsers other than Internet Explorer. I didn’t see anything about technical requirements to use the service, but it didn’t work with Firefox at all. (I think Firefox comprises ~10% of browser usage these days?)” (Interviewee 5).

“Once I did, it said both screen names were offline. I thought this might be because I didn’t have AIM launched on my computer, so I launched it, updated the software, and the screen names were still offline—despite the fact that according to the schedule, they should have been present. This was frustrating. If they’re going to offer this service, they should keep to the hours posted and make it easier to find and use” (Interviewee 21)

Third, users pointed out the problems related to chat reference service interface design and/or service access points.

“One of the weakest points from my experience was just figuring out how to access the interface” (Interviewee 17)

“Not being able to figure out where to start, where is the correct access point?” (Interviewee 15)

“The biggest suggestion which I could make is to get a better interface program. Some universities have an accompanying pop up screen which allows the librarian and the inquirer to both be looking at a same screen controlled by the reference librarian. This allows the librarian to tell how there help is being performed why actually performing the search which can be followed by the inquirer by watching the screen. This allows the inquirer to get information and learn visually how the search was performed without having to do it in maybe an incorrect way” (Interviewee 17)

“The login interface is confusing in as much as the Login button is above the text fields rather than below them. It is not fully clear whether one should select the Login button after entering data in the text boxes rather than beforehand” (Interviewee 1)

Fourth, chat reference service is taken place in a virtual space. Therefore, it is not easy for chat reference service consumers to express themselves precisely. Furthermore, it is not possible for chat reference service consumers to understand service provider’s responses accurately. This is a limit of all virtual communications, including chat reference service.

“Despite the immediacy of chat reference, there is still something significant being lost in the transfer of non-explicit information (e.g., body language) during a reference interview

that can serve as cues for redirecting the information search or clarifying needs” (Interviewee 1)

“I think that when you use a face-to-face reference librarian you can go right to the shelves to get the books or they can pull the books for you so it is easier in that aspect. With chat you will have to check up on the books at a later time and trust that the librarian gave you good advice” (Interviewee 3)

“The chat reference is a little less human, without the intricacies of a nice and friendly personality that can add a really nice touch to the reference experience. Online chat also limits the ability to communicate and express oneself” (Interviewee 4)

“Trying to get across what I am searching for, it may have been easier to show the person what I had done for my paper and they could have had a better grasp on what I was looking for” (Interviewee 21)

“When you are telling an actual librarian what you want, you can see them and judge by their facial expressions whether they really understand what you are asking for. I am not as certain if the chat service person knew exactly what I meant even though she said she did” (Interviewee 13).

“To get to exactly what a searcher is looking for it will take a longer time and reading the inquirer’s body language is not an available option. A librarian can also not show the person exactly the way they are searching and are just assuming the inquirer is performing the right steps and is not too embarrassed to say they are not following the help given” (Interviewee 7).

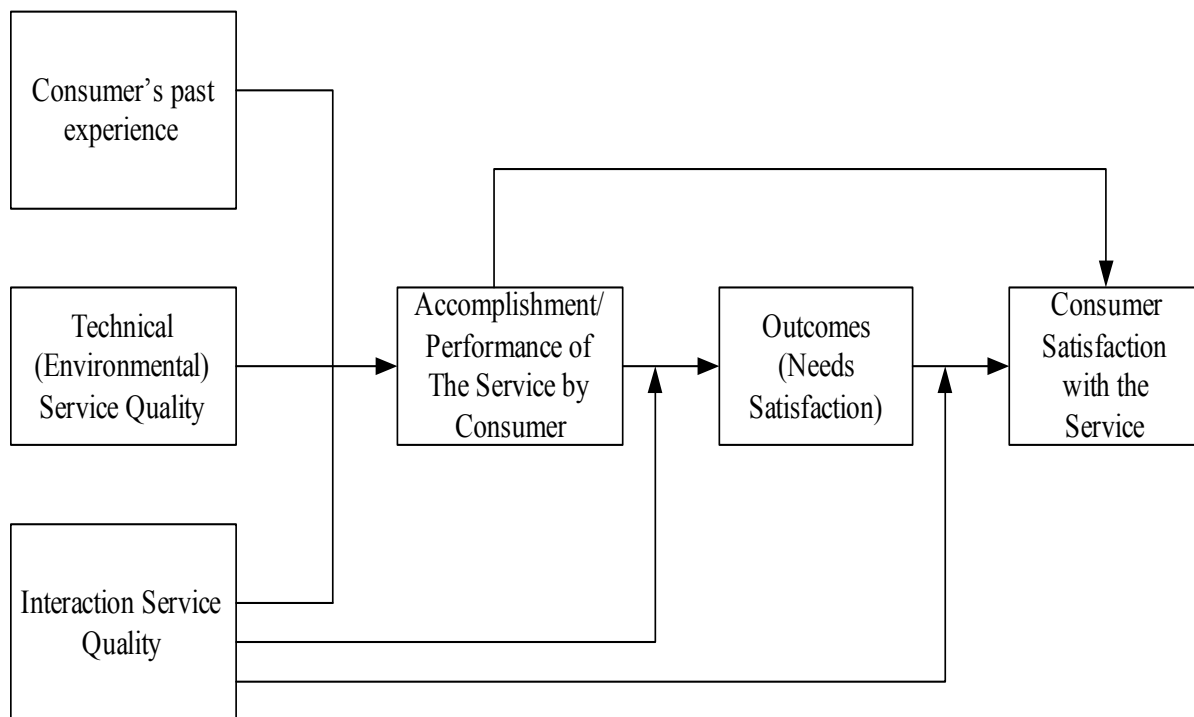
“Online you don’t have the books or resources in front of you so you can’t always see what the librarian is talking about. Even when they are giving you weblinks, it is always easier to look at them with the librarian standing next to you as opposed to a couple of states away” (Interviewee 17).

“The librarian probably can’t tell from my chat words how I feel about the information she’s providing. I have to explain in words what may have been more easily conveyed through a facial expression” (Interviewee 15).

In conclusion, the characteristics of “convenience”, “anonymity”, and “inexpensiveness of the service” served as incentives for chat reference service consumers to use the service. In addition, chat reference service consumers mentioned the following factors as obstacles for using the service: 1) waiting time, 2) accessibility, 3) interface design, and 4) difficulties with expressing themselves in a virtual space.

Through these findings, we can conclude that technical quality of the service can influence the service consumer's motivational process. According to Zeithaml & Bitner (2003), consumers perceive the service quality based on "the quality of the physical surroundings where the service is delivered" (Zeithaml & Bitner, 2003, p. 92). Some researchers refer to this quality as technical quality and others refer to it as physical/environmental quality. Regardless of the terms, as Brady & Cronin (2001) state, because services are intangible and often consumers are present during the process, the surrounding environment can have a significant influence on consumers' perceptions of the service quality. This study insisted that interaction service quality would have an influence on the academic library service consumer's motivational process. The researcher's argument was supported by the study results. However, through the analysis of interview data, it is certain that technical service quality should be added to the study model.

Based on all of these study findings (correlation analysis, multiple regression analysis, and interview data analysis), the study model was finalized as follows:



**Figure 5-3.** Finalized Academic Library Service Consumer Motivation Model.

Academic library service consumer's motivational process can be influenced by three important factors such as 1) consumers themselves, 2) service providers, and 3) situational (environmental) factors. How well the service consumers perform the service depends on their past experience with the service. When they have much experience in using the service, consumers can perform the service very well. Service providers' role is also very critical in service delivery process. According to the service providers' attitude, behavior, and/or knowledge, service consumers' performance, needs satisfaction, and satisfaction with the service can be determined. In addition to human factors (service consumers and service providers), surrounding environmental conditions are also important in service delivery process. These three factors decide service consumers' performance, needs satisfaction, and satisfaction with the service. Through these whole processes, service consumers can be motivated to use the services. If problems occur in one of these processes, consumers cannot be motivated to use the service. All of the processes should be working properly to motivate service consumers to use the service.

### **Summary of the Chapter**

Through correlation and multiple regression analysis, it was found that there are five factors which influence an academic library service consumer's motivational process: 1) "Consumer's past experience", 2) "Interaction service quality (service personnel's response)", 3) "Accomplishment/Performance of the service by consumer", 4) "Outcomes (needs satisfaction)", and 5) "Consumer satisfaction with the service". In addition to these five factors, the importance of the technical quality of the service influenced the service consumer's motivational process was found through a confirmatory interview. In conclusion, the following six factors are important to explain an academic library service consumer's motivational process: 1) "Consumer's past experience", 2) "Interaction service quality (service personnel's response)", 3) "Accomplishment/Performance of the service by consumer", 4) "Outcomes (needs satisfaction)", and 5) "Consumer satisfaction with the service", and 6) "Technical service quality"

## **CHAPTER 6**

### **CONCLUSION**

#### **Implications**

There are few studies which examine users' motivations for using library services including chat reference services (Pomerantz & Luo, 2006). Motivation studies pay attention to individuals' fundamental needs and/or forces underlying their behavior and can answer to the questions of why and how: why users do or do not use the library and how libraries can make users use the library more frequently (Zweizig, 1976). Today, libraries realize that high quality library products and well-developed library services are not enough to attract users' attention. Without understanding users' fundamental motives underlying their behavior, libraries cannot succeed in today's competitive environment. Therefore, now is the time for libraries to study users' motivations. Motivation study should be the first step of any kind of library user studies. From this point of view, this study can be a meaningful effort for a library user motivation study.

Bushing (1995) insisted that libraries have failed to recognize the importance of marketing for three reasons:

1. Equation marketing with the publicity;
2. A lack of understanding of what marketing is; and
3. A lack of understanding customers in determining library products.

This does not mean that there is not substantial research or efforts related to marketing in the library field. The problem rather, is that these efforts center on pragmatic approaches. For years libraries have applied selected marketing practices to increase circulation and to attract users. In addition, library marketing studies do not provide either a library marketing model or a theory. A well-tested and empirically-supported library marketing model can be the foundation of library marketing planning and implementation. This study can play a preliminary role in developing a library marketing model, in particular, a library consumer motivation model.

Library marketing studies did not discern the difference between service consumers and tangible product consumers. As mentioned in Chapter 2, services should be dealt with differently

from tangible products because of the various unique characteristics of services. As a result, service consumers should also be dealt with differently from tangible product consumers. This study only focused on service consumers. From this standpoint, this study can have implications for library marketing studies, especially regarding library service consumer studies.

As Coffman (2004) mentioned, most articles on chat and/or digital reference services have focused on comparing various chat software packages, analyzing the reference interview transcripts, studying the reference librarians' performances, assessing user satisfaction, and evaluating overall reference service process. As a result, "dozens and dozens of case studies describe how libraries have done it 'good' or done it 'bad'" (paragraph 1). There were few researches which studied chat reference users from the users' point of views. Even if many researchers mention users and users' perspective in their studies, it is apparent that they did not succeed in revealing chat reference users' real voices. It is because, as Gross, et al; (2001) stated, "the understandings supplied about digital reference users come mainly from analysis of questions logs and a few small surveys of current digital reference users asking about satisfaction with the digital reference services provided by the library" (p. 15). Therefore, this study can be regarded as a meaningful effort to suggest possible new directions of chat reference service user studies.

This study can provide practical guidelines for libraries which plan to provide chat reference service to their users. Through the finalized study model, this study insisted that consumers, service providers, and technical aspects of the service should work properly for consumers to be motivated to use the service. According to the study results, service providers' response (attitude, behavior, and knowledge) is critical in the chat reference service consumer motivational process. Libraries should train their chat reference service providers for consistent service provisions. When libraries construct a chat reference service, they should consider why users use chat reference service and at which points they feel uncomfortable. According to the study results, users use chat reference service because the service is convenient, anonymous, and less expensive. The factors of wait time, complicated service access points, accessibility of the service, and complicated site design demotivate users to use chat reference service. Libraries should pay attention to these demotivators in the chat reference service design process in order to motivate chat reference service consumers to use the service more frequently.

This study can suggest marketing strategies, in particular service marketing strategies for libraries. According to the finalized study model, both interaction service quality and technical service quality are important elements in the service consumer's motivational process. Therefore, library service marketing strategies should target to improve these two factors to encourage library service consumers to use library services more frequently.

## **Future Research**

The following are some recommendations for future research based on the finalized academic library service consumer motivation model.

1. This study suggested and developed an academic library service consumer motivation model. The model was tested using chat reference service as an example. Through the various statistical analyses results, an academic library service consumer motivation model was modified. The next step should be verification of the modified model using another academic library service example. Through these processes, an academic library service consumer model will be elaborated.
2. The modified model can be testified using another academic institution. The purpose of this process is to verify that the modified academic library service consumer motivation model can be applied to other academic institutions.
3. The target population of the model was academic library users. However, the possibility whether the model can be applied to the public library user population may be one area of future research. If the model can also explain a public library service consumer's motivational process to use public library services, it will be possible to suggest the model as a general library service consumer motivation model.
4. Comparative study of public library service consumer motivation and academic library service consumer motivation using the same service example can be one area of future research. Through these comparative studies, we can tell whether there exist differences or similarities between the public library service user motivational process and the academic library service user motivational process.

5. This study used chat reference service as an example to test the suggested model. However, further study can be pursued to compare chat reference service consumers, digital reference service consumers, and face-to-face reference service consumers. Chat reference service consumers and digital reference service consumers can be compared with face-to-face reference service consumers.
6. This study did not focus on gender difference and age difference in the library service consumer's motivational process. However, further study can be pursued to discover if there are any gender or age differences in library service consumer motivation.
7. Library services do not involve monetary costs to library consumers. As a result, the variables of "Effort by consumer" and "E→P Expectancy" in the study model which are the most common factors of expectancy models, did not show any meaningful implications to explain an academic library service consumer's motivational process. Therefore, in the finalized study model these two variables were excluded. However, even if library service consumers did not pay money to use library services, they pay intangible costs because of various barriers such as waiting time, difficult interface design, and difficulties in using the service. In this context, further study can focus on the question, "How do these intangible costs influence a library service consumer's motivational process?"

### **Limitations of the Study**

The limitations of this study lie in generalizing the study results. This generalizability relates to three factors:

1. In general, there is not agreement among researchers about appropriate sample size to draw meaningful implications through data analysis. However, as Cohen et al (2000) stated, a sample size of 30 was mentioned by many researchers as a minimum number of sample when researchers plan to use some form of statistical analysis on the data. Even if the sample size of this study was over 30, it is true that the sample size of this study



was not large enough to generalize the study results to the whole academic library user population.

2. This study used only Florida State University (FSU) chat reference services. It is hard to regard FSU chat reference services as a representation of academic library chat reference services.
3. This study used chat reference service as one example of academic library services.

Therefore, the suggested model cannot be applied to all the academic library services.

As mentioned above, this study should be considered as an exploratory study of academic library service consumer motivation.

Another limitation relates to the innate drawback of motivation study. In general, motivation researchers study past phenomenon and predict future human behavior. Motivation researchers can overcome this drawback through well-developed research design and various research efforts in the same field. In spite of this drawback, implications and importance of motivation study to understand human behavior should not be overlooked.

## **Conclusion**

The purpose of this study was to provide a preliminary theoretical foundation of academic library service consumer motivation. To achieve this purpose, this study developed an academic library service consumer motivation model based on expectancy theory which was introduced by Victor H. Vroom (1964) and modified by Porter & Lawler (1968) and Campbell, Dunnette, Lawler, & Weick (1970). The study model consisted of eight variables: 1) “Value of outcomes”, 2) “E→P Expectancy”, 3) “Effort by consumer”, 4) “Consumer’s past experience”, 5) “Interaction service quality”, 6) “Accomplishment/Performance of the service by consumer”, 7) “Outcomes (needs satisfaction)”, and 8) “Consumer satisfaction with the service”.

On the basis of the proposed study model, this study had four research questions: 1) What factors influence an academic library service consumer’s motivational process to use library services?, 2) Are there relationships among the factors which influence an academic library service consumer’s motivational process to use library services?, 3) What relationships exist among the factors which influence an academic library service consumer’s motivational process

to use library services?, and 4) Based on these relationships, can the academic library service consumer's motivational process be explained?.

To verify the proposed study model and answer the research questions, chat reference service was used as an example of academic library services and correlational research method was employed. To confirm the findings which were obtained through correlational research method and complement the fourth research question of this study, confirmatory interviews were conducted. The participants of this study were information studies graduate students at FSU. The collected data were analysed through correlation analysis and multiple regression analysis.

According to multiple regression analysis results, there are five factors which influence academic library service consumer's motivational process such as "Consumer's past experience (Consumer's past experience with chat reference service and Consumer's past experience with digital reference service)", "Interaction service quality (service personnel's response)", "Accomplishment/Performance of the service by consumer", "Outcomes (needs satisfaction)", and "Consumer satisfaction with the service".

Through correlation analysis, it was found that there exist relationships among the variables of the study model regardless of directions (positive or negative). Some relationships were weak and small. Through correlation analysis results, the importance of the variable of 'Interaction service quality' in the service sector, including chat reference service, was discovered. Interaction service quality can influence service consumer's performance, needs satisfaction, and satisfaction with the service. In addition, according to the study results, service consumer's satisfaction can be influenced by their service performance.

Through correlation analysis, multiple regression analysis, and confirmatory interviews, it was found that academic library service consumer's motivational process can be influenced by three important factors such as 1) consumers themselves, 2) service providers, and 3) situational (environmental) factors. How well the service consumers perform the service depends on their past experience with the service. When they have a lot of experience using the service, consumers can perform the service very well. The service providers' role is also very critical in service consumers' motivational process. According to the service providers' attitude, behavior, and/or knowledge, service consumers' performance, needs satisfaction, and satisfaction with the service can be determined. In addition to human factors (service consumers and service providers), surrounding environmental conditions are also important in the service consumers'

motivational process. These three factors decide service consumers' performance, needs satisfaction, and satisfaction with the service. Through these whole processes, service consumers can be motivated to use the services. If problems occur in one of these processes, consumers cannot be motivated to use the service. Therefore, all of the processes should be working properly to motivate service consumers to use the service. Based on these study results, the proposed study model was modified and finalized. Verification of the modified study model could be one of future research directions.

## **APPENDIX A**

### **EXAMPLE OF COVER LETTER (FOR LIS 5511 STUDENTS)**

Dear Students,

As you know, I defended my prospectus a few weeks ago. Now, I am collecting data for my research. The foci of my study are academic library service users and FSU library chat reference service. At this point, I really need your help. If you wish to participate in the study, Dr. Maria Chavez-Hernandez agreed to offer an extra credit for the participants of my study. Participants of this study will be offered 2 points which will be added to your total score at the end of Spring '07 semester in LIS 5511. However, participation is your choice and totally up to you. If you choose not to participate in this study, there will be no penalties for your class work and scores in LIS 5511 this semester. Furthermore, your personal information (name, email address and any demographic information) will not be disclosed. Your personal information will be used only to give an extra credit to you. The following is a brief instruction for those who want to participate in the study:

First of all, please log on to FSU library website [www.lib.fsu.edu](http://www.lib.fsu.edu) or <http://ci.fsu.edu/go/goldstein/>

Second, please log on to the chat reference service desk icon. For FSU library, click the icon of "Ask us now" and for Goldstein library, click the icon of "Ask a Librarian" (for those who will use the Goldstein library chat service, please make sure whether you talk with the Goldstein library staff).

Third, you can ask any questions (the questions can be related to any assignments (I recommend this). However, the questions can be various depending on your information needs related to your assignments or anything else.

Fourth, answer to the questionnaire which the researcher would send to you by email. I will not evaluate the quality of your questions. Therefore, any questions can be asked to the chat reference librarian.

Fifth, return the answered questionnaire to me with your query (which you asked to the chat reference librarian) by email. If you have any questions about this study, you can contact me anytime through email at [ssl3453@fsu.edu](mailto:ssl3453@fsu.edu). Attached is a questionnaire and informed consent form.

Thank you in advance

Seongsin Lee

## **APPENDIX B**

### **EXAMPLE OF COVER LETTER (FOR GENERAL INFORMATION STUDIES GRADUATE STUDENTS)**

Dear Students,

I am Seongsin Lee, a doctoral candidate of the College of Information.

I am collecting data for my dissertation. The foci of my study are academic library service users and FSU library chat reference service.

Without your input I am unable to collect the data I need.

Your personal information (name, email address and any demographic information) will not be disclosed.

Following is a brief instruction for those who want to participate in the study:

FIRST:

Please log on to FSU library website [www.lib.fsu.edu](http://www.lib.fsu.edu) or <http://ci.fsu.edu/go/goldstein/>

SECOND:

Please log on to the chat reference service desk icon. For FSU library, click the icon of "Ask us now" and for Goldstein library, click the icon of "Ask a Librarian" (for those who will use the Goldstein library chat service, please make sure whether you talk with the Goldstein library staff).

THIRD:

You can ask any questions--I recommend this--and the questions can be related to any assignments depending on your information needs related to your assignments or anything else.

FOURTH:

Answer the questionnaire attached to this document I will not evaluate the quality of your questions. Therefore, any questions can be asked to the chat reference librarian.

FIFTH:

Return the answered questionnaire to me with your query (which you asked to the chat reference librarian) by email. If you have any questions about this study, you can contact me anytime through email at [ssl3453@fsu.edu](mailto:ssl3453@fsu.edu).

ATTACHED are the questionnaire and informed consent form.

Thank you in advance

Seongsin Lee

## APPENDIX C

### QUESTIONNAIRE

#### Demographic Information:

1. Your gender:

1) Male 2) Female

2. Your age:

1) 23—35 2) 36—45 3) over 45

#### Before Using the Chat Reference Service:

Instruction: Before using the chat reference service, please answer to the following questions.

3. How **valuable** would it be to you to have your information needs met through the chat reference service?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

4. How **important** would it be to you to have your information needs met through the chat reference service?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

5. How **desirable** would it be to you to have your information needs met through the chat reference service?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

6. Probably, I will be able to access the chat reference service desk without difficulties.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)



7. If I try, I will be able to understand how to communicate with the chat reference librarians easily.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

8. I am convinced that I will be able to use the chat reference service without any problems.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

9. Please rate the level of experience that you have had with the chat reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

10. Please rate the level of experience that you have had with the digital reference services, such as email-reference service and/or web-form reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

11. Please rate the level of experience that you have had with the face-to-face library reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

After using the chat reference service:

After using the chat reference service, please answer to the following questions.

12. To what extent did you make an effort to use the chat reference service?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

13. Please rate the level of effort that you spent using the chat reference service.

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

14. There were no problems with access to the chat reference desk.

(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)

15. There were no problems with communicating with the chat reference librarian.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
16. Overall, there were no problems with using the chat reference service.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
17. The chat reference service librarians gave me helpful information.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
18. I am satisfied with the information I acquired through the chat reference service.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
19. The chat reference service librarians gave me useful information.  
(Strongly Disagree) 1 2 3 4 (Neutral) 5 6 7 (Strongly Agree)
20. Overall, how satisfied are you with the chat reference service?  
(Very Dissatisfied) 1, 2, 3, 4 (Neutral), 5, 6, 7 (Very Satisfied)
21. How likely is it that you use the chat reference service in the future?  
(Very Unlikely) 1, 2, 3, 4 (Neutral), 5, 6, 7 (Very Likely)
22. How likely would you be to recommend the chat reference service to your friends or colleagues?  
(Very Unlikely) 1, 2, 3, 4 (Neutral), 5, 6, 7 (Very Likely)
23. How willing was the chat reference service personnel to help you?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)
24. How courteous was the chat reference service personnel?  
Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

25. How able was the chat reference librarian to answer your question?

Low (1), 2, 3, 4 (Neutral), 5, 6, 7 (High)

## **APPENDIX D**

### **INFORMED CONSENT FORM**

I freely and voluntarily and without element of force or coercion, consent to be a participant in the research project entitled “Academic Library Service Consumer (User) Motivation Study Based on Expectancy Theory”.

The research is being conducted by Lee, Seongsin, who is a Ph. D student at Florida State University, for her doctoral dissertation. I understand the purpose of her research is to better understand how academic library users are motivated to use library services.

I will be asked to communicate with the chat reference librarian at FSU (Florida State University) to ask questions related to my research for assignments or any other information needs. Furthermore, after using with the chat reference service, I will be asked to answer a prepared questionnaire based on my experience with the chat reference service. The total time commitment would be under 1 hour. I understand that only the researcher has access to the collected data and that will be destroyed by February 01, 2008. All my answer to the questions will be kept confidential to the extent allowed by law and identified by a subject code number. My name will not appear on any of the results.

I understand that I could get an extra credit as a compensation for my participation in the study. I understand there is a possibility of a minimal level of risk involved if I agree to participate in this study. I am also able to stop my participation at any time I wish without any penalties (e.g., lower grade, bad reputation, etc)

I understand that this consent may be withdrawn at any time without prejudice and penalty. I have been given the right to ask and have answered any inquiry concerning the study. Questions, if any, have been answered to my satisfaction.

I understand that I may contact Lee, Seongsin at [ssl3453@garnet.acns.fsu.edu](mailto:ssl3453@garnet.acns.fsu.edu) (phone: 850-644-5775) and her major professor, John Carlo Bertot at [jcbertot@ci.fsu.edu](mailto:jcbertot@ci.fsu.edu) (phone: 850-644-8118) for answers to questions about this research or my rights. The results will be sent to me upon my request. If I have questions about my rights as a subject/participant in this research, or I feel I have placed at risk, I can contact the Chair of the Human Subjects Committee, Institutional Review Board, through the Office of the Vice President for Research, at [jth5898@fsu.edu](mailto:jth5898@fsu.edu) (phone: 850-644-7900).

I have read and understand this consent form, I will have a copy of this consent form to keep

Accept----

Decline-----

Date-----

## **APPENDIX E**

### **APPROVAL TO TEST HUMAN SUBJECTS**

Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 . FAX (850) 644-4392

#### **APPROVAL MEMORANDUM**

Date: 2/8/2007

To: Seongsin Lee

Address: 1800 Miccosukee Commons Dr. APT 1511 Tallahassee, FL, 32308  
Dept.: INFORMATION STUDIES

From: Thomas L. Jacobson, Chair

Re: Use of Human Subjects in Research  
Academic Library Service Consumer (User) Motivation Study Based on Expectancy Theory

The forms that you submitted to this office in regard to the use of human subjects in the proposal referenced above have been reviewed by the Secretary, the Chair, and two members of the Human Subjects Committee. Your project is determined to be Expedited per 45 CFR § 46.110(7) and has been approved by an expedited review process.

The Human Subjects Committee has not evaluated your proposal for scientific merit, except to weigh the risk to the human participants and the aspects of the proposal related to potential risk and benefit. This approval does not replace any departmental or other approvals, which may be required.

If you submitted a proposed consent form with your application, the approved stamped consent form is attached to this approval notice. Only the stamped version of the consent form may be used in recruiting research subjects.

If the project has not been completed by 2/4/2008 you must request a renewal of approval for continuation of the project. As a courtesy, a renewal notice will be sent to you prior to your expiration date; however, it is your responsibility as the Principal Investigator to timely request renewal of your approval from the Committee.

You are advised that any change in protocol for this project must be reviewed and approved by the Committee prior to implementation of the proposed change in the protocol. A protocol change/amendment form is required to be submitted for approval by the Committee. In addition, federal regulations require that the Principal Investigator promptly report, in writing any unanticipated problems or adverse events involving risks to research subjects or others.

By copy of this memorandum, the Chair of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving

human subjects in the department, and should review protocols as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Human Research Protection. The Assurance Number is IRB00000446.

Cc: John Bertot, Advisor  
HSC No. 2006.218



Office of the Vice President For Research  
Human Subjects Committee  
Tallahassee, Florida 32306-2742  
(850) 644-8673 · FAX (850) 644-4392

**APPROVAL MEMORANDUM (for change in research protocol)**

Date: 5/31/2007

To:  
Seongsin Lee  
1800 Miccosukee Commons Dr. # 1511  
Tallahassee, FL 32308

Dept: INFORMATION STUDIES

From: Thomas L. Jacobson, Chair

Re: Use of Human subjects in Research  
Project entitled: Academic Library Service Consumer (User) Motivation Study Based on Expectancy Theory

The memorandum that you submitted to this office in regard to the requested change in your research protocol for the above-referenced project have been reviewed and approved. Thank you for informing the Committee of this change.

A reminder that if the project has not been completed by 2/4/2008, you must request renewed approval for continuation of the project.

By copy of this memorandum, the chairman of your department and/or your major professor is reminded that he/she is responsible for being informed concerning research projects involving human subjects in the department, and should review protocols of such investigations as often as needed to insure that the project is being conducted in compliance with our institution and with DHHS regulations.

This institution has an Assurance on file with the Office for Protection from Research Risks. The Assurance Number is IRB00000446..

cc: John Carlo Bertot  
APPLICATION NO. 2007.136



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## BIOGRAPHICAL SKETCH

### Education

*Ph. D. Information Studies*, 2003—

College of Information, Florida State University  
(Minor: Marketing)

*M.S. Information Studies*, 2003

College of Information, Florida State University

*M.P.A. Public Administration*, 1992

Graduate School of Public Administration, Korea University, Seoul, Korea

*B.A. French Language and Literature*, 1990

College of Liberal Arts, Korea University, Seoul, Korea

### Work and Teaching Experience

*Graduate Assistant*, Fall 2001—Fall 2002

CI Help Desk, College of Information, Florida State University

*Coordinator*, Spring 2003—Fall 2004

CI *iTec* Services, College of Information, Florida State University

*Teaching Assistant*, Fall 2004—Fall 2007

College of Information, Florida State University