

MOBILE INTERNET SERVICE: ASSESSMENT OF QUALITY AND
SATISFACTION FROM THE CUSTOMER'S PERSPECTIVE

by

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MOBILE INTERNET SERVICE: ASSESSMENT OF QUALITY AND
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University of Nebraska, 2008

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With the development of mobile technologies, the use of mobile internet service has spread rapidly. The mobile internet can be considered from different perspective. Specifically, this dissertation studied mobile internet service from the customers' perspective. To conduct this research in the specific context of service operations management (SOM), literature on service, quality, risk, satisfaction, and continuance intention as SOM research domains was reviewed. Moreover, six attributes of mobile internet service were identified; ubiquity, localization, personalization, reachability, convenience, and instant connectivity.

To examine research hypotheses, 400 questionnaires were distributed to Korean students attending universities

in the Republic of Korea due to the highest national percentage of mobile internet service usage in the world. 367 questionnaires out of 400 were returned and the response rate reached approximately 92 percent. Of 367 questionnaires, 316 data were usable.

Based on the results of this study, among attributes of mobile internet service, three attributes -- ubiquity, reachability, and instant connectivity -- were found to have significant effects on mobile internet service quality. As many previous studies have found, mobile internet service quality influenced customer satisfaction, which in turn affected continuance intention. Moreover mobile internet service quality also had a direct effect on continuance intention. Mobile internet risk did not affect mobile internet service quality, and also did not affect mobile internet service satisfaction and continuance intention, respectively.

One of the main contributions of this study is that the roles of mobile internet service quality and mobile internet service satisfaction are important factors in customers' continuance intention with regards to mobile internet service. Service operations managers should consider mobile internet as a service rather than a

technology. Moreover, they must understand mobile internet service quality and satisfaction from the customers' perspective.

PREVIEW

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PREVIEW

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CHAPTER 1: INTRODUCTION

1.1 THE PROBLEM

The portion of economies accounted for by the service sector has grown rapidly. Today's economies, especially in the developed and fast developing countries, have shifted from manufacturing to service industries (Lee et al., 2007). However, there have been few empirical studies in service operations research despite the growing importance of services (Machuca et al., 2007). For many years, service operations management (SOM) has received scant attention from operations academics. One of the main reasons is that some researchers in operations management lack an understanding of services (Heineke and Davis, 2007).

In general, it is known that operations division is regarded as the "back office" which supports people in the front office in order to make sure everything works smoothly (Efinancialcareer.com, 2000). Thus, the operations division has little chance to provide service to end users directly. Operations personnel indirectly obtain information about customers and their perceptions through people in the front office. Given these circumstances,

operations people may not know exactly what customers want, how customers evaluate services, what makes a customer satisfied, and what key factors affect customers' perception of service quality. To be competitive in the cross-functional business world, the operations division has to expand its boundaries through converging various concepts in other functional disciplines.

Mobile technology-mediated services have frequently been identified as the new service frontier (Kleijnen et al., 2004; Newell and Newell-Lemon, 2001). Mobile wireless technologies through mobile phones and personal data assistants (PDAs) are useful tools to provide value-added services to customers (Nysveen et al., 2005). Due to the huge advantage of mobile services, both traditional retails and online service providers have added mobile service enhancements to their multichannel operations.

Recently, mobile internet market has been growing dramatically. For example, the mobile market's growth in the United States has been enormous and is expected to reach \$2.1 billion by 2011 (Macilveen, 2008). Although many statistics indicate that the mobile internet market is huge, few studies on mobile internet service have been conducted. The SOM research perspective has yet to deal with

technology-mediated services relating to electronic or even mobile technologies. This study examines mobile internet service from the SOM research perspective in order to address this gap.

1.2 RESEACH PURPOSE AND RESEARCH QUESTIONS

The purpose of this study is to indentify factors influencing mobile internet service quality and investigate the relationships among mobile internet service quality, mobile internet service risk, mobile internet service satisfaction, and continuance intentions from the customer's perspective. In despite of the widespread usage of mobile internet service, recent market indexes indicate poor bottom line results. According to ATKearney's (2005) mobile report, only a small minority of customers in the United States (five percent) and Europe (six percent) showed intention to use their mobile phones for mobile service transactions. The primary reason of this result may be companies' failure to understand mobile services from the customer's perspective (Shankar et al., 2003; Van der Heijden, 2006).

Thus, understanding customers' perceptions of mobile

internet service is useful, so mobile service providers can allocate their resources to improve mobile services (Keijnen et al., 2007). To examine the drivers and barriers of mobile internet service in the SOM research context, this study focuses on the following research questions: 1) Can mobile internet service be one of important SOM research topics? 2) Which factors affect mobile internet service quality? 3) How does mobile internet service quality relate to mobile internet service risk, mobile internet service satisfaction, and continuance intention?

1.3 RESEARCH METHODOLOGY

Several research methods are employed for the empirical portion of this dissertation. First, previous studies relating to mobile internet service are reviewed to develop a research model that consists of 10 research variables: 1) ubiquity, 2) localization, 3) personalization, 4) reachability, 5) convenience, 6) instant connectivity 7) service quality, 8) service risk, 9) service satisfaction, and 10) continuance intention.

Second, a survey is employed to test the research model. Before collecting data for this study, survey

questions were generated based on the literature review. Utilizing the initial survey questions, qualitative interviews were conducted with 20 people using mobile internet service to identify additional factors which were not developed through the literature review. To refine the survey questions and test face validity, a pilot test was conducted with 50 subjects covering 31 questions in ten constructs. Based on ten constructs, 12 hypotheses were developed to test research questions. Data were randomly collected from a university in the Republic of Korea.

Finally, two statistical tools, SPSS 15.0 and Mplus 3.0, were used to test the research model and 12 hypotheses. SPSS 15.0 is employed for the reliability test with values of Cronbach's α . Mplus 3.0 is applied for the validity tests, confirmatory factor analysis, path analysis through structural equation modeling (SEM) and goodness of fit tests of the model. Based on these research methods, 12 hypotheses were tested.

1.4 ORGANIZATION OF DISSERTATION

This dissertation consists of five chapters. The first chapter has discussed the problem, purpose of the research,

and research model.

The second chapter reviews previous research on mobile internet service. Studies on the concepts of service are presented first to help establish mobile internet as a service. This is followed by research on the status of service operations in the context of the operations domain. Finally, studies specifically related to mobile internet service are reviewed.

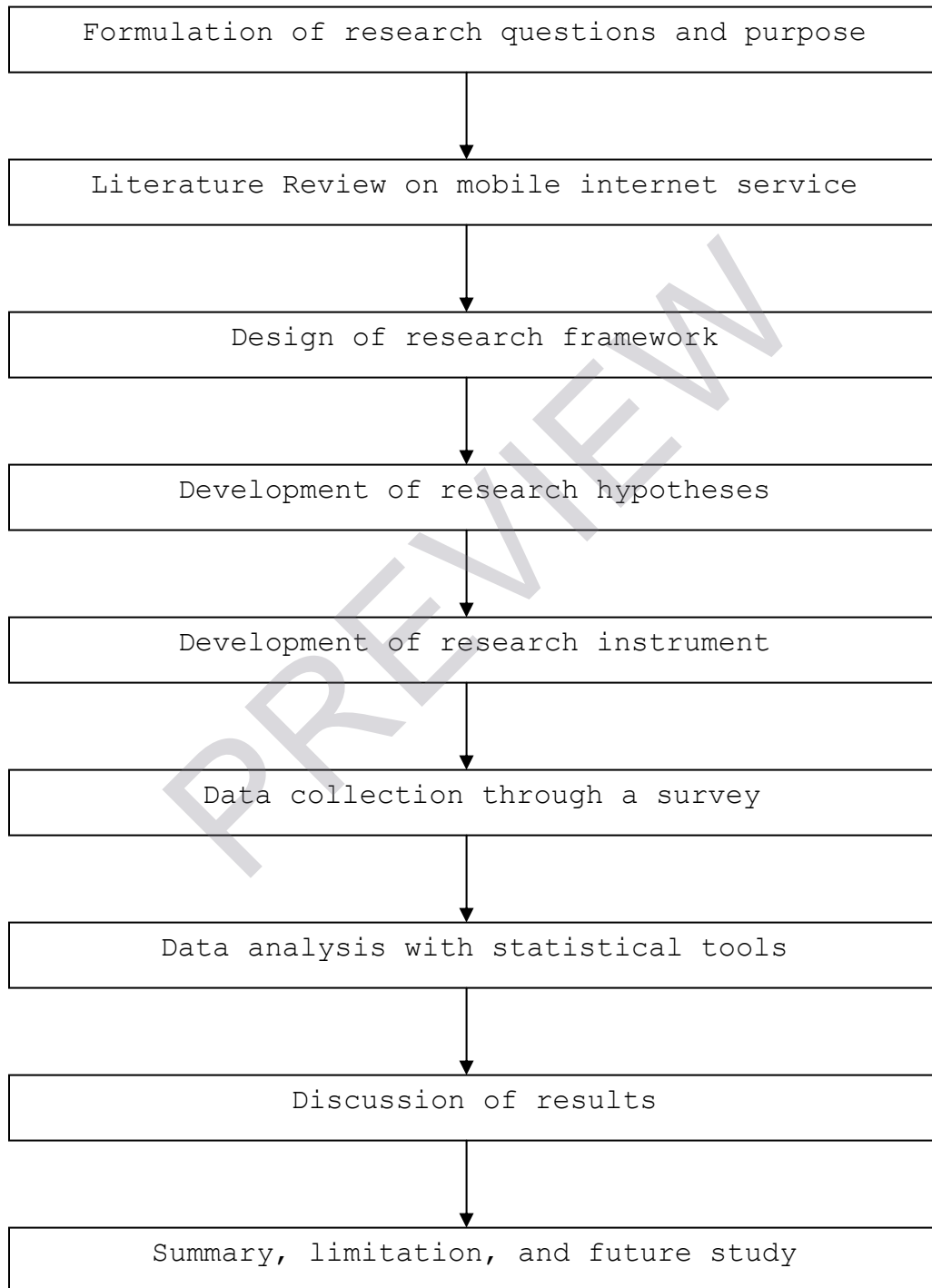
The third chapter develops a research model based on the literature review. 10 constructs and 12 hypotheses are generated in this chapter. Moreover, the data collection procedures and respondent demographics are discussed.

The fourth chapter presents the results of the reliability and validity tests, which measure the consistency and accuracy of the research measurement design. This chapter also provides the results of the tested on 12 hypotheses and the goodness of fit for the model.

The fifth chapter summarizes the research and results of the study. The final chapter also presents the theoretical and practical contributions of this study, and indicates research limitations, followed by possible directions for future research.

An overview of this research is shown in Figure 1.1

Figure 1.1 Overview of Dissertation Process



CHAPTER 2: LITERATURE REVIEW

This chapter reviews the literature on mobile internet service. In this study, mobile internet is considered from the service operations management (SOM) perspective. This is done by drawing on concepts such as service quality, customer satisfaction, and behavioral intention from the marketing and management information systems (MIS) domains. The chapter begins by reviewing the nature of services and types of service before presenting mobile internet service from a SOM perspective. Previously, mobile internet service has been viewed as a specific technology or an information system. The presentation of mobile internet service in this way is accomplished through a review of the current status of research on service operations management. Finally, the market for mobile internet service, type of mobile services, and the unique characteristics of mobile internet service are discussed.

2.1 UNDERSTANDING SERVICE

2.1.1 Importance of Service Sector

The word *service* has its roots in the Latin word *servus*, which means slave or servant. In keeping with this origin, most services were humble works before the 20th century. Service jobs included butlers, maids, and gardeners for the wealthy, chambermaid and bellhops in hotels, waiters/waitress in restaurants, and clerks in retail operations (Heineke and Davis, 2007). At the time, service workers were viewed as unprofessional and unknowledgeable. However, the status of services increased rapidly during the 20th century, especially during the second half.

The strong growth of the service sector in the economy has occurred in developed countries (Lee et al., 2007). In terms of GDP, services account for approximately two-third of total GDP in developed countries and at least half of total GDP in emerging economies (Baltacioglu et al., 2007). In the United States, the service sector accounted for more than 80 percent of real GDP growth, but less than 70 percent of the total economy in 2006 (Howells and Barefoot, 2007).

According to OECD (2005), the service sector accounts

for over 70 percent of total employment in OECD economies. Services account for 78.8 percent of U.S. employment. This growth in the service sector has taken place in other countries as well (see Table 2.1). The service sector accounts for over 70 percent of total value-added activities in Australia, Denmark, France, The Netherlands, Sweden, and the United Kingdom. More than 65 percent of total value-added activities in Italy, Japan, and Spain are services (Wölfl, 2005).

Table 2.1 Percentage of Workers in the Service Sector

| Country | 1960 | 1970 | 1980 | 1990 | 1995 | 2000 | 2005 | 2006 | 2007 |
|----------------|------|------|------|------|------|------|------|------|------|
| United States | 58.1 | 62.3 | 67.1 | 72.0 | 74.1 | 76.2 | 78.6 | 78.5 | 78.8 |
| United Kingdom | 49.2 | 53.6 | 61.2 | 66.7 | 71.4 | 73.9 | 77.0 | 77.2 | n/a |
| Netherlands | 50.7 | 56.1 | 65.1 | 69.5 | 73.4 | 75.2 | 76.5 | 77.1 | 77.3 |
| Canada | 54.7 | 62.6 | 67.9 | 72.4 | 74.8 | 74.9 | 76.0 | 76.6 | 77.1 |
| Australia | n/a | 57.3 | 64.9 | 70.5 | 73.1 | 73.9 | 75.8 | 75.8 | 75.9 |
| Sweden | 44.6 | 53.9 | 62.9 | 67.9 | 71.5 | 73.4 | 75.6 | 76.4 | 76.7 |
| France | 40.7 | 48.0 | 56.3 | 65.6 | 70.0 | 72.9 | 73.4 | 74.6 | n/a |
| Japan | 41.9 | 47.4 | 54.8 | 59.2 | 61.4 | 64.3 | 68.6 | 68.8 | 68.9 |
| Germany | 40.2 | 43.8 | 52.8 | 45.0 | 60.8 | 64.3 | 67.4 | 68.8 | n/a |
| Italy | 33.4 | 40.1 | 47.7 | 58.6 | 62.2 | 64.9 | 65.5 | 65.9 | 66.1 |

Source: U.S. Bureau of Labor Statistics (2008)