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New service development competence in retail banking: Construct development and measurement validation

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Abstract

New service development (NSD) has emerged as an important area of research in service operations management. However, NSD empirical investigations have been hindered by the lack of psychometrically sound measurement items and scales. This paper reports a two-stage approach for the development and validation of new multi-item measurement scales reflecting a multidimensional construct called NSD competence. NSD competence reflects an organization's expertise in deploying resources and routines, usually in combination, to achieve a desired new service outcome. This competence is operationalized as a multidimensional construct reflected by five complementary dimensions: NSD process focus, market acuity, NSD strategy, NSD culture, and information technology experience. In the first stage of measure development, we analyse judgment-based, nominal-scaled data collected through an iterative item-sorting process to assess the tentative reliability and validity of the proposed measurement items. Our results demonstrate that a reduced set of measurement items have reasonable psychometric properties and, therefore, are useful inputs for multi-item measurement scale development. In the second stage of measurement development, we conduct a confirmatory factor analysis of the five NSD competence dimensions using survey data collected from a sample of retail bank key informants and confirm the unidimensionality, reliability, and validity of the proposed five multi-item scales. The NSD competence scales developed in this research may be used to advance scholarly understanding and theory in NSD. Further, these NSD scales may provide a useful diagnostic and benchmarking tool for managers seeking to assess and/or improve their firm's service innovation expertise.

Keywords: New service development; Scale development; Empirical measurement methodology

1. Introduction

New service development (NSD) has emerged as an important research topic in service operations management (Menor et al., 2002; Fitzsimmons and Fitzsimmons, 2000). While the development of new services has long

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been considered by scholars and managers as an important competitive necessity in many service industries (Miles, 2005; eBRC, 2005; Tidd and Hull, 2003; Meyer and DeTore, 1999; Gallouj and Weinstein, 1997), it has remained among the least understood topics in the service management and innovations literature (Drejer, 2004; de Jong et al., 2003; Johnson et al., 2000; Tax and Stuart, 1997). As a result, current theory and understanding of the strategies and tactics for developing new services is inadequate, especially given the conventional wisdom that service innovations are among the critical drivers of competitiveness for most service

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firms (Berry et al., 2006; Gustafsson and Johnson, 2003; Cooper and Edgett, 1999; Karmarkar and Pitbladdo, 1995; Bharadwaj et al., 1993). Additional NSD understanding and theory that advances managerial insights and practices is required given the prevailing anecdotal evidence suggesting that service innovation efforts are typically carried out non-systematically (Thomke, 2003a; Griffin, 1997; Roth et al., 1997). Retail banks, for example, "have traditionally downplayed product and service development, which was reflected by a near universal absence of R&D departments" (Thomke, 2003b: 115); this partly explains why the current innovation success rate of financial services, for example, hovers around 3% (Business Week, 2005).

We define a new service as an offering not previously available to the firm's customers that results from either an addition to the current mix of services or from changes made to the service delivery process. Hence, our definition reflects both service concept and service delivery system innovations. However, the need to align service concepts and delivery systems with target market requirements for effective service encounters (Roth and Menor, 2003) complicates most NSD efforts. For the longest time, the commonly accepted view in NSD was that service innovations "happen" as a result of intuition, flair, and luck (Langeard et al., 1986). Scholars have begun to seriously question this assertion and now suggest that the effective development of new services requires formal processes and practices like those typically found in new product development (NPD) (Fitzsimmons and Fitzsimmons, 2000). This has sparked new debate about what constitutes, and contributes to, effective NSD (Menor et al., 2002; Johne and Storey, 1998). The objective of this research is to advance NSD theory and understanding through conceptually and empirically examining the critical managerial dimensions underlying service innovation. We present a twostage procedure for the development and validation of new multi-item measurement scales in NSD, specifically those reflecting the NSD competence construct.

A careful review of the literature reveals that empirical research in NSD has largely been the domain of services marketing scholars (see Johne and Storey, 1998) and that, for the most part, understanding and theory has been hindered by the lack of psychometrically sound or generally accepted multi-item measurement scales. Thus, the development of theoretically and psychometrically sound metrics reflecting NSD competence would be a valuable research contribution. This study, while specifically utilizing retail banking data, contributes to the measurement effort of theoretically important constructs related to innovation (e.g., Gatignon et al., 2002), and is among the first of its kind in the literature to adopt a multidimensional, complementary conceptualization of NSD resources and practices.

The remainder of this paper is organized as follows. First, we introduce the NSD competence construct and review the relevant literature relating to each of its five complementary dimensions. Second, we illustrate a two-stage approach for evaluating the psychometric properties of the measurement items posited to reflect theoretically important constructs representing each of the five NSD competence dimensions. In the first, or "front-end", stage of measurement item and scale development, we establish tentative measurement item reliability and validity using multiple rounds of item sorting to obtain responses from independent panels of informed judges. In the second, or "back-end", stage we further demonstrate the measurement properties of the items and new multi-item scales by applying confirmatory analyses on survey data collected from NSD key informants. Finally, we offer research and practice implications associated with the measurement of NSD competence before concluding.

2. New service development (NSD) competence

The contribution of operations management scholars to the study of NSD has been limited to conceptual frameworks (e.g., Bitran and Pedrosa, 1998; Voss et al., 1992), a few field-based studies in NSD practices (e.g., Froehle et al., 2000; Noori et al., 1997), and several volumes of papers on NSD (e.g., Verma et al., 2002; Fitzsimmons and Fitzsimmons, 2000). We draw on the extant service management and innovation literatures, and a series of interviews conducted with service professionals involved in NSD-related activities, to identify five critical, complementary, dimensions reflecting a firm's competence in NSD: NSD process focus, market acuity, NSD strategy, NSD culture, and information technology (IT) experience. Operational definitions as well as related measurement items for each dimension are examined in this paper.

We posit that an NSD competence reflects an expertise that enables an organization to deploy resources and routines, usually in combination, to achieve a desired new service end. Our conceptualization of "competence" is consistent with the business strategy literature where a firm's competence includes the portfolio of skills and resources it possesses along with the way those skills and resources are used to produce outcomes (Sanchez et al., 1996; Fiol, 1991). Our conceptualization is also consistent with the

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