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# IT service climate, antecedents and IT service quality outcomes: Some initial evidence

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ABSTRACT

Although many IT service management frameworks exist, we still have limited theoretical understanding of IT service quality within a broader nomological network. Building on recent conceptual work on the IT service climate construct, this study empirically establishes it as a predictor of IT service quality using survey data from both IT units and their clients. Also examined was a set of antecedents which provide a foundation upon which a favorable service climate can be built. The IT service climate instrument, when incorporated into employee feedback initiatives, can provide guidance to IT executives about practices to improve service quality.



## 1. Introduction

As the interdisciplinary area of Service Management and Engineering has matured in recent years, researchers from diverse backgrounds such as computer science, cognitive science, engineering, information technology, organizational behavior, human resources management, marketing and operations research have contributed to our understanding of service.

Within the information technology (IT) literature, the notion of IT service has traditionally been described as a human-mediated service delivered by IT personnel to business clients (e.g., Kettinger and Lee, 2005; Pitt et al., 1995). As the Internet became a dominant platform for business transactions, the notion of IT service has been expanded to include both software as a service and online self-service without direct human intervention (Tate and Evermann, 2010). The research reported here is concerned only with service to business clients that is mediated by IT personnel. The concept of IT service climate presented herein has greater relevance with such human-mediated service. The latter two types of services are likely to require quite different models in assessing their quality.

IT now permeates most business processes within and across organizations, and IT departments are seeking ways to identify, measure and improve the services they provide to their clients. In the research literature, IT departments have long been viewed as service providers, and service quality has been a topic of interest for many years (e.g. Kettinger and Lee, 1994). One stream of this literature, largely rooted in the traditional notion of human-mediated IT service, has identified IT service quality as one of the three pillars of IT success along with information quality and systems quality (DeLone and McLean, 2003; Pitt et al., 1995). Recent empirical evidence found that IT service quality was more strongly associated with desired

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organizational outcomes than was information quality or systems quality, leading to the conclusion that managers aiming to achieve the greatest organizational impact should set a high priority on IT service quality (Gorla et al., 2010).

Despite its potential for significant organizational impact, our understanding of the IT service quality phenomenon remains limited as much of the past work has focused on developing the service quality construct and measurement instrument (e.g., Jiang et al., 2002; Klein et al., 2009; Kettinger and Lee, 1994, 2005; Pitt et al., 1995), most notably ServQual (e.g. Pitt et al., 1995).

However, in addition to identifying a service shortfall (the "*what*"), IT managers also need to find the root causes (the "*why*") and choose appropriate corrective actions (the "*how*"). For example, a perceived lack of responsiveness may have several sources, such as lack of service orientation, lack of resources, or lack of expertise (Jia and Reich, 2008). Thus, managers need tools to complement measures of service quality; instruments to measure the service-related factors within the IT function that can pinpoint causes of service shortfalls. This study aims to offer one such tool.

In the organizational climate theory literature, seminal research on service climate in the retail banking context (e.g., Schneider and Bowen, 1985; Schneider et al., 1980, 1996, 1998) has demonstrated a strong relationship between service climate and service quality. Recent research extending that literature to the IT service context suggests a new construct, *IT service climate*, as a predictor of IT service quality, and posits several antecedent variables of IT service climate based in theory and literature (Jia and Reich, 2008).

Continuing that program of research, the current study represents an initial step toward validating the IT service climate construct and empirically assessing its relationships with IT service quality and antecedent variables in its nomological network. Establishing IT service climate as a predictor of IT service quality can expand the scope of IT service quality research beyond measurement to prediction; the nomological net extending from antecedent conditions through service climate to service quality.

The IT service climate theory and instrument developed in this study will contribute to IT services management practice as an important diagnostic tool for managers. An understanding of antecedent conditions and the dimensions of IT service climate, will help managers develop appropriate organizational interventions to enhance customer service and achieve stronger IT alignment.

The rest of the paper is organized as follows. We first summarize the relevant literature and present research hypotheses. We then present the four steps involved in construct validation and report the results of hypothesis testing. The paper concludes with a discussion of its contributions to research and practice.

## 2. Literature review

In this section, we summarize the literature in the two areas which underpin this research: service quality and service climate. Both areas are first discussed generally and then in an IT context.

### *2.1. Service, service quality and IT service quality*

In the service marketing literature, services were traditionally distinguished from goods as having four unique characteristics, i.e., intangibility, heterogeneity, inseparability, and perishability (e.g., Zeithaml et al., 1985). As goods become more service-like (Grönroos, 2006), recent conceptualizations have advocated a more inclusive view of service (e.g., Lovelock and Gummesson, 2004; Edvardsson et al., 2005). For example, Vargo and Lusch (2004) argued for a service-dominant view of all exchange, defining service as "the application of specialized competences (skills and knowledge), through deeds, processes, and performances for the benefit of another entity or the entity itself (self-service)."

The concept of service quality, defined as the consumer's overall impression of the relative inferiority/superiority of the service (Zeithaml, 1988), was first conceptualized as a customer perception by Grönroos (1982), and then extended to the gap model and the associated ServQual instrument (Parasuraman et al., 1988) and other related extensions (e.g., Cronin and Taylor, 1992). Despite the many critiques regarding its dimensions, measurement approaches and applicability in different service contexts (e.g., Carman, 1990; Cronin and Taylor, 1992, 1994; Parasuraman et al., 1991, 1993; Teas, 1993, 1994; Tate and Evermann, 2010; Van Dyke et al., 1997), the ServQual instrument has remained the most popular measure of service quality (Zeithaml, 2000).

IT researchers have adopted an expansive view of IT service from IT departments; from hardware and software selection and installation, systems development and maintenance, to helpdesk, network, web design, and training (Kettinger and Lee, 2005; Pitt et al., 1995). The IT-ServQual instrument (Kettinger and Lee, 1994; Pitt et al., 1995), consisting of four dimensions (i.e., reliability, responsiveness, assurance and empathy), has been widely used to measure the quality of service IT departments provide to business users (e.g., Gorla et al., 2010; Jiang et al., 2002; Kettinger and Lee, 2005; Kettinger et al., 1995; Watson et al., 1998).

Though in other contexts, the notion of IT service may refer to the service science conceptualization of software as a service, or online self-service without direct human interaction (Tate and Evermann, 2010), this study uses business clients as informants and focuses on the human-mediated service delivered to them by IT personnel. This is in keeping with the focus of the prior IT service quality literature and is "a relatively unproblematic application of the original ServQual concepts" (Tate and Evermann, 2010, p. 61).