

# A Multidisciplinary Design Model for New Service Offering Transfers and Internal Integration in Retail Chain Services

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**ABSTRACT:** *Service science proposes a multidisciplinary approach to analyzing services. Models of internal integration have been studied extensively in operations management and organizational design research. However, there are few applications of these multidisciplinary models to study retail chain service environments, where knowledge transfer of a new service offering must be communicated and transferred to remote service operators who are primarily responsible for effective execution. This paper explores how to mitigate new service offering 'stickiness' through an organizational design system that leverages information and communication technologies to promote internal integration practices and operational consensus in retail chain services. Furthermore, this paper offers a multidisciplinary framework of internal integration and several researchable propositions to advance scholarly service science research that will influence retail service practice.*

**KEYWORDS:** *Service Science, Retail Design Strategy, Service Operations Strategy, New Service Development.*

## 1. Introduction

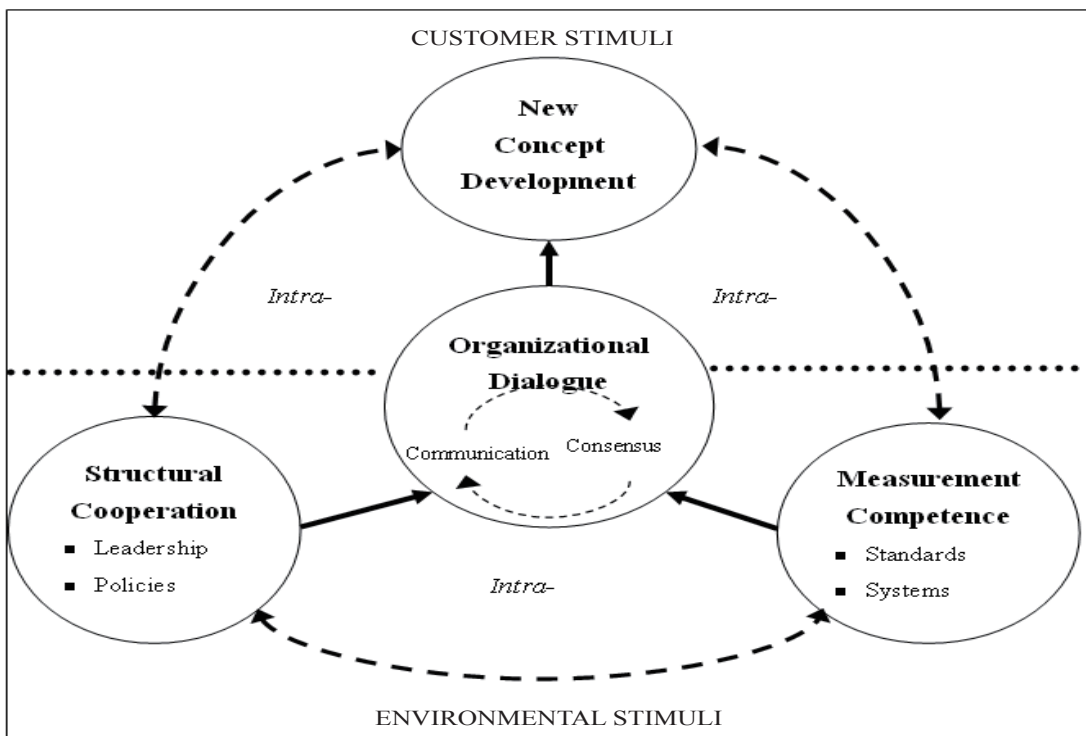
This paper examines the successful knowledge-transfer and replication of new service offerings in retail chain services (RCS), using a multidisciplinary lens advocated by the emerging view of service science (Spohrer et al., 2007). Following Menor and Roth (2007, p. 826), we define a new service<sup>1</sup> in terms of the service concept bundle and/or delivery process, “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 delivery process.” RCS organization “consists of multiple centrally-owned and, to some degree, managed outlets with the same name that sell similar merchandise (or services), have similar appearance, and follow similar business procedures” (Ghosh, 1990, p. 39). RCS may be centrally governed by a corporate office or support center, or may be part of a franchise network, and managing them requires a high degree of internal and external integration. Much of the American service landscape is dominated by RCS, including up to 30% of

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1 In this research, “new service offerings,” “new services,” and “service innovations” are used interchangeably.

annual U.S. domestic GDP (Bureau of Economic Analysis, June 2009), and RCS are on the rise internationally.

Our research proposed here revolves around the central question: How can RCS organizations instantiate new service offerings throughout their organizational design systems? We note that the ability to form and replicate new services is an important theme in service science. From a review of the related literature in internal integration and service strategy, we develop a multidisciplinary framework, as depicted in Figure 1, and offer a series of propositions and research questions that will set the stage for a broader service science research agenda on retail service chain innovation strategies. Our multidisciplinary organizational design model is an adaptation of both a service strategy (e.g., Roth and Menor, 2002; Voss, Roth, and Chase, 2008) and a supply chain (Pagell, 2004) organizational model of internal integration, which are applied to support the use of technology in RCS. Each construct in the model -- *organizational dialogue*, *new concept development*, *structural cooperation*, and *measurement competence*--refers to the dyadic relationship between local chain outlet operators and the common owner (replicator). The solid lines in the framework indicate the direct information transfers that might be most effectively achieved using information and communication technologies (ICT) (Pagell, 2004). The dotted lines represent the feedback loops among integrative practices, which are bi-directional and mutually reinforcing.



**Figure 1** Multidisciplinary Design Model of Internal Integration in RCS

Service innovations are clearly important to build or maintain competitive advantage (Roth and Menor, 2008); however, little is known about their diffusion in a retail chain. In RCS, successful new services are associated with the duplication of the innovations across geographically dispersed locations, and iterative and continuous two-way information sharing is imperative. It is often the case that a multi-site, retail chain innovation strategy is a multi-country endeavor, which requires deliberate adaptation to the local culture (Voss et al., 2004; Weng, Roth, and Miller, 2009). To promote effective new service concept replication, automation, and economies of scale in these dynamic retail service environments, service scientists would consider how models and frameworks from multiple disciplines might be used to explain the interactions of human-server, policy, culture, and job design strategies with the ICT that is being used (Roth and Menor, 2003; ifM and IBM, 2007; Hefley and Murphy, 2008; Shockley, 2009).

By synthesizing concepts from service operations, marketing, strategy, organizational behavior, and information systems literature, we conceptualize an integrated framework of new service development for retail services, with key elements as depicted in Figure 1. We show how the concept of “sticky information” (von Hippel, 1984) is useful in understanding the economics and diffusion of service innovations transfer across retail chains<sup>2</sup>. Service operations management literature, for example, has explored how service firms might organize themselves for accelerating new service development and innovation (Johnes and Storey, 1998; Johnson et al., 1999; Menor and Roth, 2007, 2008 provide comprehensive reviews of this literature). Knowledge management literature (e.g., Szulanski, 2000), on the other hand, has discussed transfers of “sticky” global information about new policies and procedures to local service establishments (chain outlets), where stickiness is “the incremental expenditure ... required to transfer a unit of information to a specified locus in a form useable by the information seeker” (von Hippel, 1998, p. 629).

Researchers acknowledge that sticky information (or know-how) is more costly and difficult to transfer than is non-sticky (or more routine) information. Because of the inherent complexities of “what is being transferred,” namely, both new service/product bundles and supporting delivery systems, a central notion of new service innovation research is this: new service offerings and concepts will often require sticky information transfers of new knowledge gained from customers, competitors, etc. As depicted in Figure 2, a service offering is defined by all the elements that customers may purchase. This “bundle” is particularly complex because it includes multiple tangible and intangible elements that are intricately linked together: (1) explicit services, (2) facilitating goods,

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<sup>2</sup> The transfer of information in a retail chain service, where the service bundle is more complex, is posited to be somewhat “more sticky” than transfer of transaction-based information innovations. (See Roth and Menor 2003 for elements of the service bundle.) Take for example Best Buy’s introduction of electric-powered bikes (see section 3.1 below). We note the “physical” part of a more complex service innovation package that required “experts” (e.g., Geek Squad) for sales and maintenance.

(3) supporting facilities, (4) facilitating information content, (5) implicit benefits, (6) sensations, and (7) peripheral services (Sasser et al., 1978; Menor and Roth, 2003; Fitzsimmons and Fitzsimmons, 2008). All of these elements must be aligned for the customer experience; and therefore, each must be conveyed simultaneously in a new service concept transfer across the chain. Thus, the importance of managing the bundle “holistically” across a geographically dispersed chain is one major reason for information/know-how stickiness.

<ul style="list-style-type: none"> <li>• <b>Explicit services</b> (core transaction)</li> </ul>	Satisfy hunger, transportation, surgery, ATM banking transaction, entertainment
<ul style="list-style-type: none"> <li>• <b>Facilitating goods</b> (physical items and amenities used)</li> </ul>	Food, ATM/debit cards, forms, receipts, checks, internet connection devices, packaging golf clubs
<ul style="list-style-type: none"> <li>• <b>Supporting facilities</b> (brick and mortar)</li> </ul>	Servicescape, store décor, store technology and equipment, store or branch network, kiosks
<ul style="list-style-type: none"> <li>• <b>Facilitating information content</b></li> </ul>	Directions, schedules, fee structures, data, medical records, web page design, diagnostics
<ul style="list-style-type: none"> <li>• <b>Implicit benefits</b> (psychological benefit)</li> </ul>	Comfort, status, convenience, feelings of well-being, relief, safety
<ul style="list-style-type: none"> <li>• <b>Sensations</b></li> </ul>	Taste, novelty, imagination, “eye candy,” fun, delight, WOW! factor
<ul style="list-style-type: none"> <li>• <b>Peripheral services</b></li> </ul>	Services/Facilities that supplement or “surround” the core service (e.g., valet parking for hospitals, shopping at airports)

**Figure 2** New Service Customer Experience Concept  
(A “Complex Bundle” of What Customers Buy, adapted from Sasser et al., 1978; Roth and Menor, 2003)

A second major reason for such stickiness has to do with the service delivery process itself. Namely, services involve the customer in the production process. As a result, service organizations have four generic attributes that separate them from goods producing companies (i.e., simultaneous production and consumption; time perishable capacity; intangibility of ideas, concepts, and solutions; and heterogeneity [variation] of outcomes from customer to customer) (Fitzsimmons and Fitzsimmons, 2008). We posit that collectively these generic attributes of services contribute to the information stickiness of a new service concept. Accordingly, transferring new service innovations across a retail chain will be more intricate and costly than conventional wisdom may dictate.

New service offerings or ideas can also be likened to a firm's best practices (Szulanski, 2000) that require transfer and execution by remote retail chain outlets. However, understanding the difficulty and cost of these service innovation transfers is critical. As a result, the following two questions should be explicitly considered when RCS strategically evaluate their decision to diffuse the innovation organization-wide: (1) What internal and external factors influence the development of new service concepts or offerings? (2) How will the operational know-how related to the new service offering be best transferred throughout the retail system? Importantly, transferring service innovations across the retail chain system will "involve a unique combination of human and information systems...Ironically, to leverage knowledge ... [the firm] will need to focus on the community that owns it and the people who use it, not the knowledge itself" (McDermott, 2000, pp. 23, 28). In this sense, we view the "community" as the totality of the RCS organization, and it is the subject matter of our discussion.

In practice, organizational routines and habits can become embedded throughout the community of RCS outlets, which creates a "groupthink" dilemma for common owner (replicator) managers. Groupthink occurs when organizations share common experiences or ideologies which may indirectly influence psychological consensus (Janis, 1982). On the one hand, groupthink is beneficial to chain operations, as it may help to achieve operational consistency among RCS outlets. On the other hand, groupthink can be a barrier to successful sticky new information transfer, as it may inhibit the growth of new ideas and the diffusion of new product or service innovations. Moreover, new service concepts need experimental testing in actual service environments to evaluate their benefits. While new service offerings are relatively easy to manage in a small number of retail locations, often they are not easily replicated over a wider chain network encompassing hundreds or perhaps thousands of similar domestic and international retail outlets.

In summary, by considering new service concept development, technology use, and delivery system strategy (Roth and Menor, 2003) within the context of "new" information transfers to chain outlets, service scientists might better understand why some new services successfully replicate and others do not. In addition, there is little research to guide practitioners on how to design organizational systems to spread new service concept ideas (Kaplan and Norton, 2008). The area of innovation transfer in globalization retail services is even less understood by service providers (Roth et al., 1997). This is particularly problematic in RCS, where there is both cultural and geographic distance between the information source and the information seeker, and when the new service operating knowledge may be difficult to transfer with any precision (Xue and Field, 2008). Moreover, Weng et al. (2009) have found that commonly held beliefs of service recovery on outcomes differ significantly between U.S. and Taiwanese customers. Collectively,

these studies and cases of service management suggest that not only will domestic service innovation transfers be difficult but also that international transfers may be even more so, since Western models are not a ‘one-size-fits-all’ for globally dispersed customers. Next we discuss our organizing framework, which serves as the basis of a research agenda.

## **2. Conceptual framework development**

In this section, we present the theoretical basis of our framework and propositions. The Figure 1 framework provides guidance on how information and communication technology (ICT) might be used to aid in transferring the stickiest of information throughout a chain organizational system. At the center of our internal integration model is organizational dialogue, which we argue is a key theoretical indicator of consensus among the network of RCS outlets and common owner. Supply chain research has argued that the level of consensus in groups is driven by the ability of teams to pool and share information (cooperation); the volume and type of information that is shared between group members (measurement); and the status, backgrounds, and locations (proximity) of group members. Since RCS members are often challenged by a lack of proximity among departments and to the common owner, it becomes increasingly difficult for a centralized R&D group to pool and transfer new service information and know-how to all outlet locations. Therefore, it is important that integrative design practices are in place first to foster a common vision and understanding of the new service concept in its development stage, which will enable deliberate regional modifications to the concept as required and will mitigate unplanned deviations. Second, the appropriate organizational structures and measurement systems must reinforce the concepts and their internal transfer.

Because internal integration is the last stage of sticky information transfers (Szulanski, 2000), and because RCS suffer from many of the natural impediments (Szulanski, 1996) to such transfers (e.g., distance from the locus, cultural differences, causal ambiguity of new service offerings, and lack of absorptive capacity at the receiving chain outlet), achieving “robust” organizational internal integration platforms is particularly important for chains to avoid costly disruptions from new service or product offering implementations (Kaplan and Norton, 2006). Internal integration practices using ICT support the strategic alignment necessary within an organization to achieve higher levels of innovation performance and to overcome information barriers to operations (Pagell, 2004). As such, the current research on internal integration leaves many opportunities to focus new research efforts in RCS contexts for the study of new concept development and diffusion. This point is important because achieving a degree of internal organization is a prerequisite to external integration in any operational system (Hillebrand and Biemans, 2003, 2004).

Organizational internal integration research has examined dyads between internal production functions like marketing and operations (Verma et al., 2001; Hausman, Montgomery, and Roth, 2002) and marketing and logistics (Ellinger, Daugherty, and Keller, 2000); and production triads like marketing, R&D, and manufacturing departments (Kahn and McDonough, 1997). Much of the prior related organizational research focuses on only one technology or element in an integration system, such as the use of electronic commerce technologies (Subramaniam and Shaw, 2002), information technology (Narasimhan and Kim, 2001), or specific purchasing practices (Min and Galle, 1999). Few studies examine integration in organizations from more of a holistic (unified) perspective (Froehle et al., 2000; Pagell, 2004; Kaplan and Norton, 2006), or from the perspective of deploying a new service concept idea throughout an organizational system with many remote outlets. Regarding the latter, the academic literature on franchises is perhaps the closest to meeting this goal (Fitzsimmons and Fitzsimmons, 2008). Specifically, we discuss how each of the integration practices argued for in the model might benefit RCS organizations.

### ***2.1 Organizational dialogue***

Organizational dialogue is at the center of our information and knowledge transfer framework. Organizational dialogue has been found to be linked with organizational learning and knowledge transfer processes within firms (Roth et al., 1994; McDermott, 2008). In this research, organizational dialogue is operationally defined by an iterative cycle of communication and consensus building within the RCS organizational community. Organizational dialogue facilitates the sharing of understanding, information, and know-how among entities in RCS communities, and it is a key enabler of internal integration. Moreover, dialogue is required even if the new innovation comes from an external source (e.g., from a customer or competitor), as it enables the organization to assimilate diverse ideas and concepts more efficiently (Zahra and Nielson, 2002). In this sense, organizational dialogue is a prerequisite for the firm to begin achieving the benefits of external integration and external knowledge (Froehle et al., 2000), by providing the intermediate mechanism needed to digest and internally process newly acquired knowledge.

Arguably, the quality of the organizational dialogue is first associated with internal integration, and in turn, the relative efficiency and effectiveness of new service concept development and deployment. Theoretically, internal integration is the process of interaction by which departments within the same organization work together in a cooperative manner to arrive at mutually acceptable outcomes (Kahn and Mentzer, 1998; O'Leary-Kelly and Flores, 2002; Pagell, 2004). Hildebrand and Biemans (2003) suggest that internal cooperation and collaboration are, in fact, conceptually the same, and the internal dialogue they create contributes to the establishment of a continuous

learning cycle within a firm. Therefore, interaction mechanisms, including ICT, that link communication and consensus-building functions are necessary for attaining the requisite level of organizational dialogue.

Unfortunately, the extant integration studies focus mostly on the presence of ICT, not the organizational functions of ICT to transfer new information and build consensus (Pagell, 2004). McDermott (2008) argues that information technology can inspire knowledge, per se, but is limited without the requisite community building activities -- technical, social, managerial, and personal -- that connect “people so they can think together” (p. 22). Pagell’s (2004) case studies in supply chain management suggest that the mere presence of integrative ICT is not what actually drives internal integration. Instead, its ability to stimulate both formal and informal communication to build consensus among people in the organizational community and to work towards implementation of a goal are the keys. Integrative ICT’s value is in that it fosters internal cooperation and measurement (Vickery et al., 2003), which both positively influence the level of organizational dialogue that is present. Taken together, the above research suggests the following propositions:

- P1a: ICT that enables communication and consensus building between the common owner and RCS outlets has a direct and positive influence on internal integration.
- P1b: RCS internal integration has a positive influence on the RCS ability to achieve external integration.
- P1c: RCS internal integration mediates the relationship between ICT and organizational dialogue.
- P1d: Combinative RCS internal and external integration (versus internal integration alone) mediate and enhance the relationship between ICT and organizational dialogue.

## ***2.2 New service concept development***

New service concept development refers to the processes whereby the organization comes to know (1) its target market(s) and its customer needs or desires, and (2) how its innovation processes are linked to its competitive intentions and service strategy (Edvardson and Olson, 1996; Menor and Roth, 2008). Accordingly, market acuity, or the “ability of the service organization to see the market environment clearly” (Menor and Roth, 2007, p. 828), is identified as a main component of developing successful new service concept offerings. Information related to a newly developed service is then successfully processed when organizational mechanisms are properly aligned both internally and with the external market. This alignment is particularly important for



radical innovation transfers to be successful (Johnson et al., 1999). New service concept development is only possible to execute consistently when the service strategy within an organizational system is cohesive (Goldstein et al., 2002, p. 124). Therefore, new service innovations will be more successful when the integrative parts are already in place; they are not built-in after the fact (Johnson et al., 1999). As such, our multidisciplinary model does not focus on the process of new concept development in chain services per se; rather, our focus is on what integrative resources must be in place to make information and knowledge-transfers more efficient in such systems. We propose that the organizational dialogue and cohesion that is created by building internal organizational integration practices is the essential driver of an effective new concept development process in a widely distributed chain network, particularly when information is more difficult and costly to transfer (sticky).

In summary, prior related work suggests that communication and consensus building are key indicators of the internal integration that influences new service development processes (Froehle et al., 2000). For RCS, this organizational dialogue--stemming from the internal communication and consensus building cycle--is an important indicator of the firm's innovation capabilities because it helps span the distant boundaries of the firm to distribute knowledge. This, in turn, enables the successful internal development and transfer of a new service concept. Therefore:

- P2a: Organizational dialogue positively and directly influences the efficiency of new service concept development intra-firm transfer between the common owner and RCS outlets.
- P2b: Organizational dialogue that is associated with combinative internal and external integration positively influences the marketplace effectiveness of intra-firm new service concept development processes.
- P2c: Organizational dialogue in RCS has a greater influence on new concept development processes when new service information and know-how transfers are "sticky," versus when new service transfers are more easily codified.

### ***2.3 Structural cooperation***

Structural cooperation is characterized by the firm's embedded attributes--leadership, policies, culture, and incentives -- that set the overall service climate for change (Roth et al., 1997). Structural cooperation facilitates combinative internal and external integration, and importantly, the opportunity for such integration to be exploited by RCS stakeholders. The new service development literature argues that overarching organizational structure plays a critical role in facilitating the usefulness of internal integration practices to drive shared organizational dialogue (Froehle et al., 2000). ICT has the potential to decrease

coordination costs and transaction risks in interdepartmental collaboration because it creates a communicative structure to share sticky information; however, in emerging research Oliveira and Roth (2009) suggest that service climate factors are important antecedents of a firm's ability to benefit from ICT deployments. It is only by using the communication functions of ICT effectively that remote actors are able to take constructive actions to mutually solve fuzzy problems.

Structural cooperation among organizational stakeholders will help (or hinder) in executing a new service concept idea, because it leverages organizational and market knowledge for some greater purpose. For example, the Starbucks coffee chain's early recognition that its Italian espresso-bar design was not a critical component of its business template (or a best practice) was an important step in recognizing which operating parts of its business needed to be replicated exactly by the chain outlets globally (Schultz and Yang, 1997; Winter and Szulanski, 2001). Moreover, the incentives for information exchange must be "non-rivalrous" in use with respect to how to reproduce and operate a successful business best practice (Winter and Szulanski, 2001, p. 733). In examining the home electronics chain Tweeter, DeHoratius and Raman (2007) found that the organization's incentive program had a strong positive effect on chain store manager behavior, with respect to implementing new retail strategies and priorities. Therefore, for new service strategy implementations to be successful, a necessary condition is the structural cooperation of stakeholders. We posit that in successful service innovation environments, the appropriate leadership and incentives will be in place to foster shared communication about best practice templates and their relative performance versus expectations.

The organization's structural cooperation will determine the level of communication -- defined as the amount of verbal and non-verbal interaction, both formal and informal, that can take place between the outlet operators and the central owner. Several research models demonstrate that location and proximity are key antecedents to internal integration, primarily because of the fact that location proximity tends to stimulate more communication (Pinto, Pinto, and Prescott, 1993; Pagell and Lepine, 2002; Pagell, 2004). However, the physical separation of corporate headquarters (e.g., service support center) and the local service establishments (e.g., outlets) provides challenges to internal integration in RCS. Remote RCS outlets may, therefore, not achieve high levels of internal integration without the aid of strong leadership, culture, policies, and incentives, which act together to make the communication between parties more valuable in achieving consensus (Roth et al., 1994). OM research further suggests that well-designed measures and performance systems are important levers for creating integration and consensus only when the surrounding corporate environment is supportive of these systems (Froehle et al., 2000; Pagell, 2004).

In RCS environments, strategic plans, policies, and new initiatives often originate in the corporate headquarters and then are communicated to the retail outlets (Lal, Knoop, and Tarsis, 2007). Location managers are often left to interpret and execute these policies without any sort of additional support or opportunity for input. For RCS organizations, new corporate policies and initiatives can be communicated formally through a variety of methods, including formal memos, service intranet systems, or mandatory manager meetings. Policies and initiatives may also be communicated informally through phone calls and emails from divisional managers, or in regional meetings of service management teams. While the frequency and use of both formal and informal communication are operationally important, the informal communication often occurs much closer to the actual problem-solving event; and this frequency increases the likelihood that all managers impacted by a new service or product issue will actually talk about it (Pagell, 2004). As the level of communication among the RCS community increases, a higher level of organizational dialogue is enabled to mutually solve problems.

RCS can learn from each other by increasing structural cooperation. When the causal ambiguity surrounding a new service offering is present, research suggests that structural cooperation will help transfer the stickiest of the new information and know-how (Szulanski et al., 2004). Darr, Argote, and Epple (1995), for example, found that pizza franchises experience operational learning in the same way as manufacturing environments, such that locations under the same ownership structure learn best practices from the experience of other locations at a much faster rate than those locations with multiple owners. Services that are part of the same ownership or authority network also tend to transfer new product or service information through informal phone calls and personal meetings about best practices more frequently. It appears that when more locations communicate together about a new innovation element they learn to improve the process and better their collective performance (Darr et al., 1995; Pagell, 2004).

These lines of reasoning lead us to make the following propositions:

- P3a: Structural cooperation positively and directly influences combinative internal and external integration among the RCS community.
- P3b: Structural cooperation influences the relative effectiveness of ICT's mediation role in increasing RCS organizational dialogue.
- P3c: Structural cooperation has a greater influence on organizational dialogue in RCS when new service information and know-how transfers are sticky, versus when new service transfers are more easily codified.

## **2.4 Measurement competence -- the 3S's**

This study operationalizes the term “measurement competence” to describe the degree to which internal organizational metrics systems “help quantify the efficiency or effectiveness of action” of remote organization activities (internal quote from Neely, Gregory, and Platts, 2005). ICT serves an important role in building robust measurement systems. Success at achieving internal integration is contingent on effective change management through measurement (Shapiro, 2002; Pagell, 2004). Literature has defined performance measurement as a system of metrics used to broadly quantify the efficiency or effectiveness of an action (Neely et al., 2005). Take for example balanced scorecard decision support systems that have the goal of establishing dashboards to incorporate numerical expressions of firm strategic, operational, and tactical policies (Eckerson, 2006). These systems should embody data warehousing capabilities that integrate service input with output measures designed to optimize performance. Performance measurement systems help facilitate the consistency of an action or decision (Mintzberg, 1978; Roth et al., 1997). At the same time, they stimulate action by internal stakeholders (Neely et al., 2005). Therefore, as in supply chain management (Pagell, 2004), ICT can influence performance management in RCS when it supports the other organizational factors that lead to internal integration and consensus.

We characterize organizational measurement competence by the 3S's: (1) service standards; (2) systems that have adequate informational richness and internal reach; and (3) sensing mechanisms (technology) that help detect and monitor the effectiveness of new corporate strategic actions in the internal or external environment.

### **2.4.1 Standards**

Standardized performance measurement has been shown empirically to be a best practice among service exemplars (Roth et al., 1997). Such systems create a common language within the organization (Winter and Szulanski, 2001). Likewise, goal theory states that when goals are explicitly specified, monitored, and tracked, they will produce higher levels of performance than will vague, non-quantitative goals (Linderman et al., 2003). The performance measurement research also suggests that the design of a performance measurement system should not be in conflict with other measures at different levels within the organization (Fry and Cox, 1989). Furthermore, the overall measurement system has to be consistent with firm strategy in order to achieve high levels of coordination (Lorange, 1982; Hrebiniak and Joyce, 1984). Standardization and specification of work measures immediately enhances the problem-solving abilities of employees in more complex and dynamic service environments by immediately revealing problems (Spear, 2005).

### **2.4.2 Systems**

Research suggests that problem-solving processes benefit from both information richness and reach in a technology or measurement system. Information richness in this context is the degree to which the measurement system provides “information to change understanding within a time interval” (Daft and Lengel, 1986; 1990). Rich measurement systems help resolve ambiguity in an organizational system quickly, without unnecessary effort or time, to convey understanding of a specific situation. Oliveira and Roth (2009), Rosenzweig and Roth (2007), and Hales (2005) empirically demonstrate that information richness is a critical element in B2B ICT effectiveness because it makes communication systems more useful in solving difficult problems. In service operations theory, information richness is a significant determinant of how much human contact is needed to deliver a service effectively (Kellogg and Chase, 1995). Additionally, there is evidence that data dashboard systems in highly integrated firms need to provide enough detail to examine the root causes of problems (Vickery et al., 2004). Advocates of balanced scorecard techniques suggest that when business units are held accountable for certain measures, they must also understand and be in control of the determinants of the measures to improve their performance (Kaplan and Norton, 1992), as well as be able to monitor their performance by analyzing the measures.

The degree to which a wide distribution of information through a technology is supported throughout the organization can be called the “internal reach” of the measurement system (Hales, 2005). The use of ICT infrastructure to communicate across business units is critically important to leverage internal integration capabilities (Subramaniam and Shaw, 2003). Research on electronic data interchange (EDI) and B2B e-commerce applications shows that the benefits of technology are achieved when the information it produces is broadly accessible (Subramaniam and Shaw, 2003; Hales, 2005). Therefore, broadly pooling information across diverse parties will lead to improved group performance (Mohammed and Dumville, 2001).

### **2.4.3 Sensing**

Sensing technology that gathers performance feedback on a new service innovation has been widely discussed as a means to monitor the effectiveness of any action or behavior. See for example Pampino et al. (2003) and Nolan et al. (1999), who provide comprehensive reviews of the organizational behavior literature in this area. Whether or not feedback systems need to provide immediate information or delayed feedback on processes or new product introductions is subject to debate, but it is clear that feedback systems are important in services (Voss et al., 2004). Sensing technology will work best in chain service environments when it is used along with other supporting behavioral control procedures (Pampino et al., 2003, p. 35). Moreover, lead users of new technologies or

services are much more likely to provide feedback on their effectiveness than are users in less sticky information transfer environments (Magnusson et al., 2003). For example, firms can use CRM technologies to effectively identify opportunities to improve new service concepts or offerings in much the same way that independent software developers participate in open-source communities to gather information and customize new product/service offerings (Magnusson et al., 2003; Jeppesen and Frederiksen, 2006).

Because measurement plays a critical role in aligning networked organizations, the degree of measurement competence in the 3S's performance measurement system is posited to improve internal dialogue and consensus in chain service organizations. If all three important measurement capabilities are in place, then RCS will have a high level of measurement competence and be able to discuss sticky new service problems in a meaningful way. Therefore:

- P4a: Measurement competence positively and directly influences combinative internal and external integration among the RCS community.
- P4b: Measurement competence influences the relative effectiveness of ICT's mediating role in increasing RCS organizational dialogue.
- P4c: Measurement competence has a greater influence on organizational dialogue in RCS when new service information and know-how transfers are sticky, versus when new service transfers are more easily codified.

## **2.5 External stimuli**

New service concept development is a dynamic and fluid process in RCS that requires information transfers from both within and outside of organizational boundaries. In particular, important sources of new information that can be used in developing a new service concept can and should come from external sources. We define these external sources as two general types: customer stimuli and environmental stimuli. Customer stimuli are those elements of the target market that permit new service innovations to be offered to them. Roth and Menor (2003) argue that understanding the specific nature of the target market is critical for any effective new service strategy. McDonald's, like many retail chain stores, tailors both its overseas menus and operations to fit in with foreign target market tastes and customs.<sup>3</sup> Similarly, environmental stimuli determine the degree to which technological progress or social dynamics influence the target market for a new product or service. Environmental stimuli play into the new service development process by adapting to the target market's needs over time and by identifying new opportunities to serve the target market.

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<sup>3</sup> McDonald's has run a varied menu in its 1996 overseas stores since the early 1990s. See Friedman, M.L., "Foreign Affairs Big Mac 1," *The New York Times*, Dec. 8, 1996.

We posit that the ability of the organization to digest customer and environmental stimuli from external environments toward some meaningful purpose (e.g., to transfer sticky information or to get feedback from customers back through the system) is affected by the degree of structural cooperation, measurement competence, and new concept development processes. Without building the corresponding integrative capabilities and organizational dialogue, however, the key stakeholders may not view these external stimuli as opportunities but rather as “primordial soup” that has no relevance to the target market. In a similar vein, Johnson et al. (1999) note that “innovative firms having a higher level of absorptive capacity are by definition able to identify, extract, and exploit information to facilitate ongoing development efforts quickly and effectively and are in a more advantageous position to make the most of future development opportunities” (p. 19). Therefore, the integrative capabilities developed within a distributed innovation system are most important in the early opportunity development and product/service creation cycles, when information transfers are likely to be the stickiest (Noori et al., 1997).

### **3. Discussion**

In discussing the model factors and their implications, we give an illustrative example. We then discuss how ICT, integration, and information stickiness play several important functions in a retail chain’s organizational success and sustainable competitive advantage.

#### ***3.1 Example of the integration model elements -- Best Buy customer-centricity stores***

Effective new service offering transfer is seen in the U.S. chain retail landscape with what Best Buy calls its “customer-centricity” stores. For Best Buy, customer centricity is a mechanism that is used to enter into new product and service ventures. By 2009, the organization-wide customer-centricity approach had given Best Buy an integrative new concept development system and the opportunity to begin selling “green vehicles” in 19 of its U.S. retail store outlets (Bustillo and Wingfield, 2009). These “green vehicles” include futuristic electric-powered scooters, bicycles, and Segways, that are new products to the market, geared toward lead users of technology, and are highly information intensive with a price point of about \$11,000 per bike. The new product offering initiative is, in part, a response to an emerging customer interest in environmental sustainability, technological progress, and a dynamic retail market that has developed outside of the firm’s boundaries but is still within Best Buy’s core target demographic. First, environmental stimuli from outside the organization are affecting Best Buy’s new product and service offering choices, as it attempts to capitalize on a sustainability and environmental movement with its new e-bike offering. In addition, the new product offering endeavor is taking place

in customer-centricity stores specifically tuned to pre-defined target markets (customer stimuli) where stores tend to be located in younger, more urban, and more highly educated communities. Potential e-bike customers may therefore already be coming into these Best Buy stores for their information-intensive consumer electronics services and products (Lal et al., 2006; Shockley, Roth, and Fredendall, 2009).

The introduction of the electronically-powered bikes and complementary supporting store services is a new service innovation “bundle” that requires internal integration and a sticky knowledge-transfer of know-how to sell the new “green vehicle” concept across the greater Best Buy store network. The customer-centricity approach gives specific Best Buy store managers the ability to focus on the active selling of lifestyle solutions (e.g., bundling of different products and services) tailored to individual pre-defined customer segments (target markets), versus a less targeted “one-size-fits-all” self-selection/superstore model of chain store retailing which may not be suitable for every target market environment.

In creating the customer-centricity store concept in 2002, Best Buy management recognized that it had to provide a more value-added service offering to compete effectively versus Wal-Mart and other U.S. low-cost segment competitors (Boyle, 2006). Since then, customer centricity has become the strategic mechanism Best Buy uses to periodically retune its store designs, merchandising, and store selling-system strategies for new concepts and service offerings (Bustillo and Wingfield, 2009). Customer-centricity stores incorporate system-wide adjustments to compensation strategies, communication procedures, and performance measurement systems that then may be integrated throughout the wider chain store network (Lal et al., 2006). While the retailer’s transition to more high-contact store services (e.g., leveraging its “Geek Squad” technical services and other high-contact store resources in a cost-sensitive selling environment) has met with struggles from time to time, many of the new service and product offerings initially targeted in these experimental stores have ultimately increased sales and profits once deployed across the wider chain store network, and it has been beneficial as lead users of new product offerings were replaced by more functional users in the general population over time (Lal et al., 2006).

New service concept development at Best Buy may at first appear to have a top-down implementation strategy common in many U.S. chain store service systems. However, new retail ideas and strategies are actually crafted from within pre-established chain service communities, and ideas are shared through both formal and informal communication practices. Internal performance measurement systems are then tailored to create organizational dialogue about a new service concept in a particular market setting. This know-how can then be recycled back through other stores, buyers, and suppliers to communicate and build internal consensus and improve the new service strategy



(Froehle et al., 2000). New service concepts or product bundle offerings, like Best Buy's offering of "green vehicles," are often defined by how the service intends to serve customers (Goldstein et al., 2002; Roth and Menor, 2003). Yet, at Best Buy, new service concepts get incorporated into the organizational design architecture through the informed strategic choices that key organizational stakeholders make about structure (e.g., service layout and physical facility), infrastructure (e.g., human resource policies/ job designs), and the coordination of internal and external resources that create differentiated service experiences and enhance customer-perceived value (Roth and Jackson, 1995; Voss et al., 2008). Of these three architectural components that make up service strategy, Best Buy leverages its coordinative capabilities from the customer-centricity program to support both a cooperative structure and robust measurement capability that allows it to optimize the new product offering for its intended target segment. For e-bikes, an information-intensive and potentially highly-sticky new product offering, this shared know-how gives it some competitive advantage with its target market. Best Buy's competitors, which may have neither the same knowledge-creation network nor the same relationship with the target market, may not be able to bring such a new offering to economic scale as effectively.

### ***3.2 ICT, integration, and information stickiness***

Critical to understanding new concept development processes, as depicted in Figure 1 and the Best Buy example, are the internal and external integration practices that are enabled by the structural cooperation and measurement functions of ICT. Yet, relative to research in manufacturing environments such as computer-aided design and manufacturing, ERP, and MRP systems, the use of ICT in service systems is only recently gaining more research attention (Roth and Menor, 2003; IFN and IBM, 2007). Service science oriented literature suggests that computing plays a critical role in the ability to bring to immediate scale the communication, storage, and internal processing of new service concept information (Rust and Miu, 2006). Our post-industrial society is information-based, with internal and external service systems connected by people and technology, and with the service value proposition often based on shared information among corporate stakeholders (Spohrer et al., 2007, p. 73). Once codified, new knowledge can and should be used to analyze and suggest solutions to customer problems when customer co-production roles fall outside the routine (Hefley and Murphy, 2008), as may frequently happen when sticky new service concepts come to market.

As such, ICT is a critical element in bringing new service offerings to economic scale and in overcoming the impediments to information transfer (Froehle et al., 2000). Stickier information transfers may also need to involve more complex combinations of tacit and codified knowledge to be useful in a chain network. Zysman (2006) suggests that the digital or algorithmic transformation of service ideas occurs only when service

tasks (or information/knowledge) can be easily converted into “formalizable, codifiable, and computable processes with clearly defined rules for their (scaled) execution” (p. 48). While more formal sharing of information within chain service organizations occurs through established reports or performance measurement systems, ICT also enables the more informal (more communicative) sharing of tacit knowledge, which is critical to success if new concept information transfers are sticky (von Hippel, 1998).

Research suggests that to reduce information stickiness from a new service (or product) offering introduction, chain service organizations must: (1) determine the best way to provide early opportunities to transfer the stickiest of the new information, and (2) proactively reduce the factors that impede its transfer (Szulanski, 2000). Prior work examining information stickiness has looked at its sources in addition to the facilitators of, and the barriers to, knowledge transfer of best practices across projects and organizations (Szulanski, 1996; Szulanski and Capetta, 2003; Szulanski et al., 2004; Haas and Hanson, 2005). The three major barriers to sticky information transfers can be: (1) the information recipient’s lack of absorptive capacity (Cohen and Leventhal, 1990); (2) the failure to understand the causal relationships of the information being transferred, and (3) the relative distance between the source of the transfer and the recipient (Szulanski, 1996; Xue and Field, 2008). These environmental conditions are also typically seen in RCS organizations that periodically must make new service or product offerings to remain competitive across different service environments -- like McDonald’s, Starbucks, Best Buy, etc. Szulanski (2000) contends that internal integration is at the last stage of the successful information-transfer cycle; while in the earlier stages of transfer, organizational system design strategies should focus on providing a wide range of new information-sharing opportunities to exchange the more tacit elements of the new innovation.

One of the characteristics that makes service production systems unique is that co-production occurs between customers and servers (Xue and Field, 2008). Co-production is the simultaneous production of the service tasks that takes place in service encounters between the customer and the server, which may be an employee or technology system-server (e.g., ATM, Website, etc.) (Xue and Field, 2008, p. 359). For example, effective deployment of a new server technology may involve several co-production roles, such as providing information-handling processes that are more dependent on the transfer of either tacit knowledge (e.g., through the knowledge-base of a service employee) or explicit knowledge, relying on supporting routines and analytical technology systems to aid in the information transfer (Huete and Roth, 1988; Froehle et al., 2000). In the case of lead users of new services -- those individuals who are more likely to need the human server to transfer the stickiest of information -- the value of the new service offering is often in its ability to effectively problem-solve using more tacit information transfers from other lead users (Oliveira and von Hippel, 2009). Once designed, new service offerings requiring

sticky information transfers are often executed and implemented very poorly because chain outlet service managers fail to understand the role of the new offering within the existing operating system strategy (Darr et al., 1995).

### **3.3 Sustainable competitive advantage**

Sustainable competitive advantage will be achieved when the integrative elements of the conceptual framework (Figure 1) are in alignment, and the functions of ICT help facilitate organizational dialogue among key stakeholders. Internal integration is both a key determinant of organizational performance and of long-term competitiveness. Hayes and Wheelwright (1984) state that, at the strategic level of analysis, organizational internal integration is linked with a firm's long-term competitive advantage. Parasuraman, Zeithaml, and Berry (1985) suggest that a service's perceived "quality" is the service system's capability of delivering a favorable "comparison between (customer) expectations and performance," and improved understanding and execution may lead to competitive advantage in the marketplace.

New service concept success is also critical for retail chains to stay relevant to their target markets by exceeding those expectations. Therefore, the principal outcome of better integration practices is organizational dialogue that accelerates the innovation/introduction cycle and simultaneously improves its performance: execution, efficiency, flexibility, and -- importantly -- new service innovation transfers in chain service systems. Taken together, structural cooperation and measurement competence are posited to deliver highly integrated RCS organizations, with rich organizational dialogue that makes new concept development more effective. Taking a multidisciplinary view of new service concept information and know-how transfers helps explain how retail chains can and do achieve competitive advantage in these areas.

## **4. A way forward: A research agenda for retail chain services**

We have argued that RCS might achieve and manage new concept information transfers more effectively by designing their organizational systems to support key integrative practices. Specifically we posit that both structural cooperation and measurement competence foster internal integration most effectively by using information and communication technology (ICT) to enhance organizational dialogue. This organizational dialogue then influences new concept development process effectiveness by stimulating the communication and consensus building activities that integrate knowledge back through the new concept development process. In addition to examining the propositions related to our framework (Figure 1), we develop several researchable questions from a review of information stickiness, knowledge management, and internal

integration literatures, as well as examine the role that ICT plays in building internal integration practices in RCS. New research examining the integration practices that help facilitate these transfers is also warranted. Next, we discuss how answering each of these questions provides an agenda for future service science research to better understand how new service concept development occurs in distributed learning environments (e.g., retail service chains).

Stickiness concerns the cost of new information/know-how transfers related to new services concept development. Roth and Menor (2003) have argued that service strategy and new concept development practices should vary based on whether or not the new service offered is a core service or a peripheral service (Figure 2). However, a new service concept, like Best Buy's "green bikes" product offering, may not be a core service at all but rather a "facilitating good." Yet, its introduction still involves a sticky information transfer because it is part of a "complex product bundle" offered to a specific target market. Szulanski (1996) argues that absorptive capacity of a knowledge-transfer recipient can either aid or hinder the speed of the innovation cycle for a firm in these cases. Research could examine, for example, if there are knowledge-spillover effects from selling and coordinating the sale of big screen TV's and e-bikes in a Best Buy consumer electronics store format.

**Question #1:** Can service employees really apply prior knowledge and experiences to a completely different product line? How can overall absorptive capacity be evaluated in conjunction with retail information systems in these cases?

In particular, increasing geographic or cultural distance (like a retail chain's expansion into a foreign market) can impede new service concept development if information is sticky to transfer (Jensen and Szulanski, 2004). Yet there is little research that examines how chains overcome cultural distance across or even within geographic areas to deploy service innovations. Both external and internal customers in services have reference points, which they compare against expectations of a service offering (Parasuraman et al., 1985). Many studies using Hofstede's (1980) cultural dimensions framework find that cultures with greater power distance or more individualism will expect a higher level of service. However, there is a great need for studies examining how culture might impact customer expectations of chain services, particularly since these services attempt to cross both cultural and national boundaries. For example, how might sticky information transfers differ across cultural boundaries -- Is a particular sticky transfer for one culture not sticky at all for another? Uncertainty-avoidance differences across cultures may inhibit the knowledge-learning cycle as it involves sticky information transfers. Argote (1991) argues that input uncertainty is a natural impediment to organizational dialogue in

services, and that stakeholders will react to uncertainty in highly variable ways, which is probably not desirable over a chain-wide disintegrated system.

**Question #2:** What organizational and cultural factors influence the stickiness of new service concepts in retail service chains? What role does absorptive capacity play for RSC communities in “reducing” relative stickiness?

The stickiness of any new service concept knowledge-transfer will influence how ICT will need to be deployed and managed throughout RSC to build organizational dialogue about a new service innovation. ICT’s value to new concept innovation, therefore, comes from its ability to overcome distance barriers to build organizational dialogue by either: (1) connecting organizational members in a communicative role, and/or (2) measuring the value-added activities and objectives of the organization. Most literature in operations management concerning the use of ICT to build integrative capabilities indicates a positive relationship to firm performance because of ICT’s ability to create systemic knowledge. Specific examples include the use of electronic data interchange (Rassamethes, Kurokawa, and LeBlanc, 2000), computerized production systems (MRP I/II) (Vollman, Berry, and Whybark, 1997), and internet/intranet connectivity in purchasing (Hales, 2005). Vickery et al. (2003) proposes a macro-level construct related to technology called “integrative IT” that includes some combination of MRP, EDI, and “other” integrative systems. Furthermore, studies of B2B integration find that any ICT that spans boundaries both inside and outside of the firm has a positive impact on firm performance (Oliveira and Roth, 2009). While the communicative and measurement roles that ICT plays are often mentioned in these studies, it is rarely empirically examined from more of a functional and mediatory perspective (Froehle and Roth, 2004). More work is needed to understand the impact when different mixes of information in the service concept bundle (Roth and Menor, 2003) are managed simultaneously in retail chain environments.

**Question #3:** How does the mix of sticky/non-sticky information in the service concept bundle affect information transfer, technology investment, and scaling in RCS? What is the role of technology mediation in scaling?

Despite the fact that most of the literature on internal integration concerns the presence of integrative ICT systems, more work is needed to understand ICT’s functional roles in creating organizational dialogue through designing performance measurement architecture, which builds knowledge to aid in the transfer of sticky information throughout the system. Shapiro (2002) suggests that information systems in a supply

chain are based on either transactional ICT or analytical ICT. There is a dire need to construct RCS databases that support decision making (analytical ICT) processes within firms (Shapiro, 2002). Connectivity (transactional ICT) has been oversold in the marketplace because firms have failed to account for the behavioral components of integration practices that require deeper knowledge and understanding (Shapiro, 2002).

Using organizational dialogue as a means to understand internal integration in chains moves research in the area beyond just examining the presence of ICT systems or capabilities (Pagell, 2004), and analyzes what ICT is doing to create knowledge-creation resources and dialogue within the firm. Research is needed to understand how different technology can be used to manage various types of sticky information transfers. For example, do technology systems need to work independently or in conjunction with human-server systems in an analytical or knowledge-creating role? It could also be that some information transfers have certain security or privacy concerns that do not allow them to be transferred readily across a network of providers (Chandra and Calderon, 2005). Our model provides several opportunities and propositions for further empirical examination. One could ask, following Froehle and Roth's (2004) logic, which different attributes of ICT systems may be more or less effective in achieving high levels of internal integration and consensus in more complex service innovation settings -- especially where the majority of new service offerings involve sticky information transfers? It would also be interesting to see if the model we propose is more effective in incremental or radical innovation environments for services, as it has been found to be in logistics innovations (e.g., Germain, 1996). There is further opportunity to understand the role of users in the service concept development (see Oliveira and von Hippel, 2009), and how their involvement may facilitate (or hinder) the sticky transfers. These findings would be useful for organizational consultants, executive officers of service firms, or anyone involved in studying the effectiveness of new service innovation and design programs in these environments.

**Question #4:** What specific attributes of information and/or external customers and environments facilitate (or hinder) the new service concept information development and transfer process in RCS? Are internal integration practices more important for radical or incremental new service integrations?

Business strategies can be supported by functional strategies that are internally consistent (Pagell, 2004), and internal integration implies that the "heterogeneous departments within the organization are able to act together as a cohesive organization towards mutually acceptable outcomes" (Kahn and McDonough, 1997; Kahn and Mentzer,

1998). In RCS, heterogeneous departments are the service support center (owner) and the local service establishments (outlets). While there is a great deal of literature that examines internal integration relationships across networks, few studies outside of those examining franchises look at new concept development in chains. Because new service development does not happen in a vacuum, research needs to examine how these internal stakeholders communicate and build consensus to effectively deploy new services after they are initially developed.

RCS may face challenges to internal integration because high labor turnover inhibits the knowledge-creation process. Annual turnover rates for employees in service industries in the 1990s, for example, was about 300%, with managerial turnover approaching about 50% (Darr et al., 1995). In addition, many such service providers have only seasonal needs for workers. Therefore, RCS must often manage workers with limited experience and knowledge of business procedures, a fact that may cause confusion regarding job duties and responsibilities (Ramaseshan, 1997; Zeytinoglu et al., 2004). These particular human-resource dynamics suggest that integration, standardization, and rapid learning are critically important in these environments (Darr et al., 1995). However, they also suggest that knowledge must be codified in some way so that it is easily repeatable. An alternative for high-contact environments might be to reward front-line workers directly for the additional knowledge they acquire, or to provide them with empowerment and flexibility to override restrictive policies when they interfere with profit-generating activities (Shockley et al., 2010).

Consensus is an important indicator of internal integration because it assumes that knowledge and agreement already exist within the firm (Pagell, 2004). Higher levels of internal consensus should lead to better performance across a variety of measured outcomes. As we note, Pagell (2004) provides a broad organizational model in which internal integration and consensus are treated as a single dependent construct driven by communication and measurement. Similarly, literature examining group mental models supports the idea that highly diverse group members transfer knowledge more effectively when they collaborate to achieve cognitive consensus (Mohammed and Dumville, 2001). Other research suggests that RCS might actually benefit from becoming more complex, interdependent, and more diverse, as this would help stimulate the knowledge-creation process and help build capabilities to transfer stickier information across functional boundaries (Aiken and Hage, 1968, p. 915).

**Question #5:** What are the tangible and intangible costs of high turnover in reducing integration and organizational dialogue? How can effective ICT and human resource policies work together to mitigate these costs?

## 5. Conclusions

Our proposed multidisciplinary framework on new service concept development effectiveness synthesizes multiple disciplines and makes several important contributions to service innovation and service science research. More scholarly research is needed to investigate the relationships at the interfaces of each of these different model elements. Our framework presents a nomological network of related propositions based on existing operations, management/supply chain, service strategy, information systems, strategy, economics, and marketing theories and models; and forms the basis of a *unified theory of integration and distribution of knowledge in retail chain services*. While most studies of integration and new service innovation development examine the supporting structures in manufacturing environments, there is increasing interest in service-integration practices. However, few studies propose internal integration models and organizational design strategies to manage service innovation in RCS systems and organizations. This is ironic given that retail chains suffer from the natural impediments to sticky information transfers, and are increasingly relying on maintaining alignment with specific target markets in more multi-cultural settings.

An important theoretical contribution is made in this paper by examining the role that the information stickiness from a new service offering plays in the transfer of firm best practices in RCS. This framework builds a theoretical platform for future studies of integration in service science because it incorporates insights from diverse ideas about knowledge management, supply chain, and service operations theory. For example, future studies could examine if structural cooperation and measurement competence alone create the basis for effective organizational dialogue to transfer new service concepts; or if something else suggested by the knowledge management and innovation literature, like absorptive capacity at the chain outlet, have to exist to realize that opportunity. Furthermore, do the espoused internal integration practices in the model help service organizations break through the problem of groupthink in service chains, or do they create the ripe conditions for groupthink to be present, and is this always a bad thing? While specific to RCS organizations, this study's stated propositions and proposed research questions offer a number of contexts for research where sticky information transfers are required for new service innovations to be successful, particularly in more distributed or fragmented organizational knowledge systems.

In this paper, we analyze the retail chain service organization because it suffers most acutely from the dilemma of wanting to both standardize formats and innovate, while at the same time it suffers from the natural impediments to new concept transfers. As such, organizational designs in RCS must overcome distance in culture and geography to make these new innovations successful and scalable. We offer insight on the integrative



functions that ICT performs for innovative organizations to be successful, and offer up some important areas for future research. We believe that it is time for research in new services innovation to start examining the transfer of information and know-how in the innovation cycle, to move beyond examining simply the impediments to effective transfer, and start providing the organizational toolkits necessary for firms to master the replication and execution of these new service concepts in applied service environments. It is our hope that this multidisciplinary study of new service offering transfers provides a platform to drive new service science research in innovation in that direction.

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