

**Knowledge management practices by middle managers to attain organizational  
ambidexterity**

**Jie Xiong**

ESSCA School of Management

1 rue Joseph Lakanal - BP 40348, 49003 Angers Cedex 01, France

Tel: +33 (0)2 41 73 57 21 Email: [jie.xiong@essca.fr](mailto:jie.xiong@essca.fr)

**Jie Yan**

Grenoble Ecole de Management

12 Rue Pierre Semard, 38000 Grenoble, France

Tel: +33 (0)4-7670 6071 Email: [jie.yan@grenoble-em.com](mailto:jie.yan@grenoble-em.com)

**Peiran Su**

Oxford Brookes University

Headington Rd, Headington, Oxford OX3 0BP, United Kingdom

Tel: +44 (0) 1865 48 5724 Email: [psu@brookes.ac.uk](mailto:psu@brookes.ac.uk)

**Carole Bonanni**

Rennes School of Business, France

2 Rue Robert d'Arbrissel, 35065 Rennes, France

Tel: +33 (0)2 99 54 63 63 Email: [carole.bonanni@rennes-sb.com](mailto:carole.bonanni@rennes-sb.com)

**Qian Li\***

School of Business and Management, Shanghai International Studies University

550 West Dalian Road, Shanghai, 200083, China

Tel: +86-21-35372500 Email: [liqian@shisu.edu.cn](mailto:liqian@shisu.edu.cn)

*\* corresponding author*

**Acknowledgements:**

The authors thank the editor and two anonymous reviewers for their comprehensive and insightful feedback on this work. We are also grateful for the constructive comments from the participants at the XXIII AIMS 2014 conference and DRUID 2011 conference on our early versions. This research was supported by the National Natural Science Foundation of China [Grant #71772142], and the Humanities & Social Science Grant from the Ministry of Education, China [Grant #20YJA630098].

**Declarations of interests:** none

**Author biographies**

**Jie Xiong** (PhD, EMLYON Business School, France) is an associate professor at ESSCA School of Management, France. His research interests include corporate social responsibility and catching up strategy.

**Jie Yan** (PhD, Hull University, UK) is a professor in Entrepreneurship and Innovation Management at Grenoble Ecole de Management, France. His research focuses on user behaviors in social media, organizational networks and entrepreneurial activities.

**Priran Su** (PhD, University College Dublin, Ireland) is a senior lecturer in strategy at Oxford Brookes University, UK. He is researching strategic evolutions in firm survival and in product innovation.

**Carole Bonanni** (PhD, Université Paris XIII, France) is an associate professor at Rennes School of Business, France. Her research interests include technology strategy and entrepreneurship.

**Qian Li** (PhD, Fudan University, China) is an associate professor in the School of Business and Management at Shanghai International Studies University, China. Her research interests focus on topic related to corporate strategy and finance.

#### **CRedit author statement**

**Jie Xiong:** Conceptualization, Methodology, Writing- Original draft preparation and the first & second & third revision preparation. **Jie Yan:** Data curation, Visualization, Writing- Original draft preparation and the first, second & third revision preparation. **Peiran Su:** Investigation- first & second revision preparation. **Carole Bonanni:** Investigation-original draft and first revision preparation. **Qian Li:** Investigation, Validation, Writing- Reviewing and Editing- the first, second & third revision preparation.

# **Knowledge management practices by middle managers to attain organizational ambidexterity**

## **Abstract**

This study explores how middle managers deal with knowledge inflows whilst striving to achieve ambidexterity. This is enabled through a two-dimensional conceptual framework involving knowledge sources (vertical or horizontal) and acquisition activities (structural and contextual). We based our study upon interviews conducted with 64 managers from hypermarket retailers in China, in addition to field observations and secondary data. Our findings reveal that these middle managers leverage different combinations of structural and contextual mechanisms to govern the vertical (top-down and bottom-up) knowledge inflows within their business units. Structural mechanisms comprise differentiation and integration. For their part, contextual mechanisms consist of a combination of discipline, stretch, support and trust. These combinations also enable horizontal knowledge inflows to be managed from outside the business unit. These also enable middle managers' ambidexterity, first at the business unit level and second at the organization level. Our findings offer managerial guidelines for handling knowledge inflows from various sources and with different patterns. They also assist middle managers with their contribution to their firms' pursuit of organizational ambidexterity.

**Keywords:** middle managers; knowledge inflows management; mechanisms; organizational ambidexterity; China

## INTRODUCTION

Ambidexterity implies an organizational ability to simultaneously exploit existing competencies and explore new opportunities. This enhances corporate competitiveness and performance (Vrontis et al., 2016). Ambidexterity can be difficult to achieve because of ubiquitous tensions between explorative and exploitative activities (Simsek, 2009). Organizational ambidexterity is conditioned by effective management of knowledge acquisition by tracing consumers' shifting preferences and by new technologies' impact (O'Reilly et al., 2009), such as inbound open and process innovation (Ardito et al., 2020) or R&D alliance (Petruzzelli, 2019).

In the knowledge acquisition process, many studies observe top management teams' (TMTs) impact at the individual level, e.g., cognitive complexity (Graf-Vlachy, Bundy, and Hambrick, 2020), behavioral integration (Lubatkin, Simsek, and Ling, 2006), leadership styles or psychological factors (Kauppila and Tempelaar, 2016). Fewer publications address middle managers' roles, although they are critical linkages between an organization's TMT and its operating core (Westley and Mintzberg, 1989). They are initiators of strategy renewal (Floyd and Wooldridge, 1999) and strategic practitioners (Mantere, 2008). Few studies have considered knowledge acquisition efforts in the pursuit of ambidexterity from the middle manager perspective (Wooldridge, Schmid, and Floyd, 2008). Furthermore, according to Wooldridge et al., (2008) their manner and tactics either encourage or discourage organizational ambidexterity.

This study questions how middle managers handle knowledge inflows in their efforts towards ambidexterity. We respond to calls for investigations of how to better manage ambidexterity (Turner, Swart, and Maylor, 2013). To elucidate middle managers' strategic role in the knowledge acquisition processes, we consider two dimensions that may have impacts on their roles. The first is knowledge acquisition sources, be it vertical (top-down and bottom-up within a

business unit) or horizontal (across business units). The second dimension is knowledge acquisition activities, which reflect managerial patterns that rely on structural or contextual mechanisms. The structural mechanism process is characterized by differentiation and integration. Contextual mechanisms combine discipline, stretch, trust and support.

This paper contributes to knowledge by investigating the cognizance of middle managers' acquisition process in their effort towards corporate ambidexterity. In particular, it documents efforts made when dealing with knowledge inflows. This paper differentiates itself from previous studies by prioritizing knowledge inflows for the TMT (Mom et al., 2007) as well as from those whose sole consideration is how middle managers implement strategy (Wooldridge et al., 2008). We conceptualize middle managerial patterns through detailed observations of the grocery industry sector in an emerging economy.

## **THEORETICAL DEVELOPMENT**

### **Middle-management's Knowledge acquisition sources**

According to Schultz (2001), knowledge inflow refers to “the ‘aggregate volume’ of tacit and explicit knowledge” obtained. To enhance knowledge depth for exploitation and knowledge breadth for exploration, organizations search for them from both internal and external business units (Katila and Ahuja, 2002). For example, in vertical chains, middle managers encounter various types of knowledge and information inflows from top management to front-line officers. Middle managers gather top-down knowledge inflows and implement top managers' strategic decisions to support exploitative activities. Conversely, to ensure explorative activities, bottom-up knowledge inflows from lower managers or employees can occur (Mom, Van den Bosch, and Volberda, 2009;

O'Reilly and Tushman, 2013). Embedded within these vertical chains, middle managers experience vertical knowledge inflows through contextual processes (stretch, discipline, support and trust).

Middle managers are also confronted with horizontal knowledge inflows from other business units (Floyd and Wooldridge, 1997), especially in cross-functional projects and collaborations (Mom, Ven den Bosch, and Volberda, 2007). Middle managers are expected to recognize the pertinence of these complex knowledge inflows and to determine efficient assimilation of this knowledge. As external knowledge inflows tend to be sticky (Von Hippel, 1998), middle managers need improved differentiating capabilities in open innovation contexts (Vrontis et al., 2016). Cross-functional tasks also tend to require combinations of multiple disciplines, routines and knowledge sources. These traverse the boundaries of individual business units (Floyd and Lane, 2000). Therefore, middle managers need to first differentiate discontinuous, fragmented external knowledge inflows prior to reintegrating them under the purview of meeting their own units' needs.

### **Mechanisms to achieve ambidexterity for middle managers**

Whilst concurrently implementing existing opportunities and ideas (Wooldridge et al., 2008), frontline managers often confront middle managers with new challenges. Conflicts between these efforts, or between old and new, are central features of middle managers' routine operations (Giangreco and Peccei, 2007). Consequently, middle management level's very nature reflects the firm's effort towards ambidexterity. Alongside their inherent ambidexterity, middle managers need knowledge inflows from both top managers and employees. In this capacity, they function as

hubs and essentially adopt structural as well as contextual mechanisms to best manage the resulting ambidexterity.

### **Structural mechanisms**

From an organization structure perspective, when seeking to balance the exploration and exploitation dilemma, formal separation is a primary solution. Through separation, exploration and exploitation occur simultaneously within an organization's business units (Cao, Gedajlovic, and Zhang, 2009; Jansen et al., 2009; Tushman and O'Reilly, 1996). Although these units are designed to be highly differentiated and internally consistent, inconsistencies can still arise. These can occur when some units pursue exploration whilst others seek exploitation (Tushman and O'Reilly, 1996). Small and decentralized, those units pursuing exploration generate innovation through experimentation. Contradistinctively, larger and more centralized units pursuing exploitation generate efficiency and returns (Benner and Tushman, 2003). Subsequently, unique exploration and exploitation units require distinct evaluating systems and separate managerial teams (O'Reilly and Tushman, 2013; Taylor and Helfat, 2009). In sum, an organization can synchronously explore as well as exploit and balance them within clear and defined parameters.

The process may be overseen by senior managers who also coordinate activities that rely upon various resources and capabilities. These managers must understand and manage the inherent contradictions between exploration and exploitation to organize and synchronize conflict pressures (O'Reilly and Tushman, 2008). The debate is made more complex by recent research viewing exploration and exploitation units across hierarchical levels (Lubatkin et al., 2006). For instance, the innovation literature proposes a more drastic case of organizational separation involving



skunkworks, derivative products and corporate venture capital investments. Thereby exploration occurs in external independent units (Ahuja, Lampert, and Tandon, 2008).

According to Martin, Keller, and Fortwengel, (2017), operational activities with alignment (exploitation) and adaptation (exploration) always generate some degree of conflict. Such hostilities can be overcome through structural ambidexterity implying reliance on dual structures in response to contradictory demands (Tushman and O'Reilly, 1996). Manipulating different structures or establishing cross-functional project teams can lead to differentiation, namely in attempts at easing tensions. Alternatively, firms might opt for decentralization to define their long-term structures (Siggelkow and Levinthal, 2003). Both differentiation and integration can arguably lead to ambidexterity (Raisch et al., 2009). In particular, structural differentiation and integration can supplement an organization's capability of managing multiple, discordant and contradictory demands. Structural differentiation involves the "segmentation of the organizational system into subsystems, each of which tends to develop particular attributes in relation to the requirements posed by its relevant external environment" (Lawrence and Lorsch, 1967). Thus, business units' dissimilarities are grounded in functions, mindsets, time orientations or product/market domains (Lawrence and Lorsch, 1967). In contrast, through structural integration, some integration mechanisms can promote more effective information-processing. Thence, organizations seek "to coordinate and integrate differentiated activities through pre-established mechanisms and interfaces" (Ghoshal and Bartlett, 1994).

## **Contextual mechanisms**

In contextual ambidexterity, the balance between exploration and exploitation occurs at any organizational level, with both being simultaneously conductible. Contextual ambidexterity consists of a relevant organizational context made of discipline, stretch, trust and support (Gibson and Birkinshaw, 2004). Organizational separation focuses on differentiated organizational units. Contextual ambidexterity, on the other hand, necessitates elaborate and intricately designed systems, culture and processes aimed at synchronous exploration and exploitation (Gibson and Birkinshaw, 2004). To maintain a balance between innovation, quality or problem solving for exploration and exploitation, organizations rely on individuals. For example, Toyota, has been known for decades for its exploration and exploitation (Osono, Shimizu, and Takeuchi, 2008). Aoki and Wilhelm (2017) argue that Toyota's success rests on its ability to maintain contradictions and solve problems. Individual attention to exploration or exploitation may shift over time or across levels. Such a situation requires an organizational culture promoting experimentation and efficiency.

Exploratory and exploitative activities can simultaneously occur at any organizational level. Symmetrically, ambidexterity can be gained in any organizational context (Gibson and Birkinshaw, 2004; O'Reilly and Tushman, 2013). To attain contextual ambidexterity, middle managers must demonstrate behavioral alignment and adaptability capacity. They must balance creativity with attention to detail, while concurrently ensuring the stability of interactions across all business units (Giangreco and Peccei, 2007).

Notwithstanding possible differences, contextual and structural mechanisms may be complementary in their support for organizational performance (Raisch, Birkinshaw, and Probst, 2009). Structural mechanisms attempt to reach ambidexterity through dual structures (Tushman

and O'Reilly, 1996; Ossenbrink, Hoopmann, and Hoffmann, 2019). Contextual mechanisms consist of distinct processes or systems designed to promote and facilitate individual employees' abilities at all levels and to assess how to balance conflicting actions (Gibson and Birkinshaw, 2004). Although both mechanisms may be beneficial, how middle managers leverage them to reach corporate ambidexterity has not yet been fully investigated.

## METHODOLOGY

### Research context

The Chinese hypermarket industry has followed four phases. The first phase (1978-1990) was characterized by initial rapid development and the emergence of various new business models. During the second phase (1990 -1998), China's retail industry was gradually exposed to the outside world. In 1992, the report "*Reply on the Utilization of Foreign Investment in Commercial Retailing*" was released. Yet, at the onset, this policy change only pertained to clothing and department stores but was extended to food and chain stores in 1995. The peak period of foreign supermarkets' entry into the Chinese market was when international brands such as Carrefour and Walmart vied to enter the country between 1995 and 1997. During this period, business exploration gradually moved towards the scale and quality exploration stage. The third stage (1998~2008) is characterized by the pursuit of a growth trend. In the fourth stage (2008 to present), hypermarkets' development in China has been severely challenged, with most retailing brands being under pressure to transform.

The firms included in the study needed to have experienced a clear pattern of directional knowledge inflows. For comparative purposes, we carefully sought similar cases with different knowledge and national backgrounds. Pursuantly, three hypermarket grocery retailers were chosen: Carrefour China operating in 28 countries, Walmart China in nine, and RT-Mart China<sup>1</sup> in two.

In 1995, Carrefour entered China and adopted the international advanced supermarket management model known for its three categories of Hypermarkets, Supermarkets and Convenient Stores. Learning from Carrefour, the industry started to poach their management staff. Carrefour subsequently became known as the "Whampoa Military Academy" of the retail world. After years of expansion, mired with in-store closures and negative growth, on June 23<sup>rd</sup>, 2019, Carrefour sold 80% of its Chinese operations to Suning Tesco for 4.8 billion RMB and officially exited the country.

In 1996, Walmart entered the Chinese market with the first shopping mall and Sam's Club in Shenzhen. To become more adaptable to local consumers, it expanded its proportion of local products. Its locations have become an important symbol for the development of its global sourcing center in China. Recently, Walmart made significant strides in the field of e-commerce. Its hypermarkets and Sam's Clubs now have established e-shopping platforms. Additionally, it announced a strategic cooperation with Jingdong, specifically for the Chinese market. This strategy has been accompanied by store closures. From 2016 to 2020, Walmart closed 80 of its Chinese domestic stores. Furthermore, in 2021 alone, according to media news<sup>2</sup>, the number of Walmart store closures has reached double digits.

---

<sup>1</sup> China recognizes firms from Taiwan, such as RT-Mart, as overseas companies (Wang, Li, and Liu, 2008).

<sup>2</sup> Derived from Sohu, August 15<sup>th</sup>, 2021. Available at: [https://www.sohu.com/a/483564515\\_114778](https://www.sohu.com/a/483564515_114778)

RT-Mart is a large mass-market supermarket originating from Taiwan. In 1997, RT-Mart established "Shanghai RT-Mart Company Limited" in mainland China. With the Internet Era, RT-Mart transformed and explored online as well as offline integration with the store-warehouse integration model. RT-Mart's digital transformation was accelerated with Alibaba's investment in late 2017. This was confirmed on October 19<sup>th</sup> 2020, when Alibaba became its controlling shareholder with 72% of its stocks.

### **Data sources**

Data is sourced from field observations, semi-structured interviews and archives.

***Interviews.*** We conducted interviews with 64 middle managers representing all three hypermarket retailers. They included store managers, purchasing managers, section managers, site-research managers and other functional managers. Further interviews were conducted with industrial informants who have close relationships with middle managers: retailing experts from consulting companies and investment banks, journalists and researchers. From a historical perspective, influential factors at institutional and organizational levels were controlled. Yet, without a recalculated list of target informants, we relied on snowball sampling to reach and identify interviewees (Lincoln and Guba, 1985).

Respondents originated from different work units: 20 are employed by the selected retailers; 25 by those retailers' common competitors; seven represent common suppliers in the industry and 12 are industry experts who frequently interact with those interviewed middle managers. Some informants were interviewed more than once. Interviews lasted from 30 minutes to 4 hours, with an average of 73 minutes. In total, we gathered 4,655 interview minutes. We systematically browsed archival data to prepare for the interviews and challenge informants' memories.

*Archives and field observations.* Archives represent a collection of information about retailers, including retail industry and company reports. Field observations were also conducted at the different regional locations where selected retailers operate: Shanghai, Beijing, Guangzhou and Wuhan.

A comparative case study of Chinese hypermarket retailers was performed to illustrate how middle managers implement different mechanisms to handle various knowledge inflows and sources. Both vertical and horizontal knowledge inflows were considered to determine how middle managers integrate them through various structural (differentiation and integration) and contextual (discipline, stretch, support and trust) mechanisms.

### **Data analysis**

For better understanding of the intricacies surrounding knowledge in-flow management mechanisms, theoretical sampling was utilized (Glaser and Strauss, 1967). Consistent with grounded theory principles, case selection was driven by the emerging theoretical categories. Both the maximum and minimum variance along dimensions allowed the core model to be amplified. That is, the selected retailers originated from diverse countries and demonstrated distinct internationalization scopes, organizational cultures, control systems, and interactions with Chinese authorities and with China as their host country (Planet Retail, 2010). Our extensive study allowed us to identify behavioral differences among middle managers employed by these retailers and draw more generalizable conclusions.

During the interviews, we drafted memos and collected middle manager's behavioral data at the retailer level. First, in the qualitative inductive analysis (Miles and Huberman, 1984), we

open-coded informants' phrases, then labeled each phenomenon using comparing, conceptualizing and categorizing techniques. Next, theoretical patterns were built for various knowledge inflows and mechanisms adopted by middle managers to best manage these. Coding and revision of theoretical patterns were continued until no new theoretical category emerged. As a result, we have the proposed theoretical dimensions.

We observe that governmental policies have an impact on the behaviors of middle managers working in a variety of corporate cultures. All three retailers are well-known in the industry and receive regular media coverage. Furthermore, the required information could be obtained directly from the relevant departments, such as purchasing and product management.

## **FINDINGS**

As government policies affecting Carrefour, Walmart and RT-Mart differ (Wang et al., 2008), distinct corporate cultures emerge. Taiwanese retailer RT-Mart is formally classified as foreign; albeit, considered a domestic retailer, it receives preferential treatment from China's Central Government. As Carrefour and Walmart are from Europe and the United States respectively, they represent purely foreign firms. Walmart and Carrefour maintain a close relationship with China's public authorities, the former with the central government and the latter with local governments.

The three companies' middle managers face a paradox in their daily retailing, operations and purchasing activities: retailers' internal demands are primarily operations-related whilst their external demands are procurement-driven (Aoyama, 2007). As a result, when middle managers receive knowledge from various sources, differing mechanisms may be implemented to meet these internal and external demands.

### **Knowledge inflows from the top-down**

Carrefour sought to replicate its overseas success, counting on its pioneer status in China (Planet Retail, 2010). Carrefour's distinct advantages and extensive comparable assets (Chuang, Donegan, and Ganon, 2011) enabled middle managers to exercise significant authority and address daily workflows and routines. As a result, their day-to-day workflows and routines can be decoupled from detailed operational guidelines. Trust and devolution underpin the management relationship. With regards to managers' strategic decisions, a former Carrefour store manager recalled:

“A department head must make decisions about the department's profits and sales.... You decide who oversees which new products to sell and which products could increase your sales.”

Soon after Carrefour's entry into China, Walmart introduced its already successful efficient supply chain system and its high operational standards into the country (Chuang et al., 2011). Walmart's subsidiaries and overseas branches must abide by corporate headquarters' strategic vision and operational processes. A former Walmart product manager explained how top-down knowledge inflows were handled:

“Top managers require us to follow and obey pre-existing rules.... In addition, we provide managers with dedicated, rotation-based training so that they are able to meet our global standards.”

As the last entrant or follower in this industry, RT-Mart has relatively limited experience (Planet Retail, 2010) and mainly accesses knowledge from the external environment and learns



from international leaders. Middle managers break down these skills and insights for their subordinates' benefit. An RT-Mart section manager explicates this:

“Our boss claimed that we should put all of our efforts into learning about Carrefour.... We copied Carrefour’s free shuttle bus service for potential customers.”

### **Knowledge inflows from the bottom-up**

Bottom-up knowledge is transmitted to middle managers from frontline managers whose competitive knowledge proceeds from formal or informal communications. Unlike top-down knowledge inflow management, middle managers integrate knowledge and information from frontline managers, a former Carrefour store manager explained:

“Based on the estimation from each section manager, we forecast the outcomes for the next month.”

Walmart realized economies of scale through the acquisition of Taiwanese retailer Trust-Mart in 2007 and became the largest hypermarket retailer in China (Planet Retail, 2010). During the integration process, Walmart’s middle managers analyzed competitors and synchronized useful knowledge through systematic observation of frontline managers’ and employees’ practices in the target company. These observations were then integrated into Walmart’s knowledge base, a former Walmart purchasing manager remembers:

“After we acquired Trust-Mart, we compared our purchasing contracts with those of Trust-Mart, article by article.”

Similarly, RT-Mart benchmarks its operating system and location selections by observing other retailers. Its strategy is determined after carefully analyzing competitors, learning from them

and avoiding similar mistakes. As a result, middle managers collect information and knowledge from frontline managers. Middle managers sometimes decide to promote innovations or new practices by synthesizing knowledge inflows, as a purchasing manager explained:

“We group several specialists, including well-experienced middle managers, to find solutions when we find low product quality from some suppliers.”

### **Horizontal knowledge inflows**

In daily operations, when involved in cross-functional projects, middle managers frequently collaborate not just with frontline and top managers, but also with managers or employees from other business units. Horizontal knowledge inflows informally originate from colleagues at the same managerial level in business units other than their own.

When entering China, Carrefour adopted a localization and autonomous strategy (Planet Retail, 2010) that required its middle managers to engage in frequent cross-functional activities. A former store manager acknowledged the resulting horizontal knowledge inflows:

“We have to attend yearly, monthly and weekly meetings and also occasional meetings with middle managers from other areas to deal with some urgent problems.”

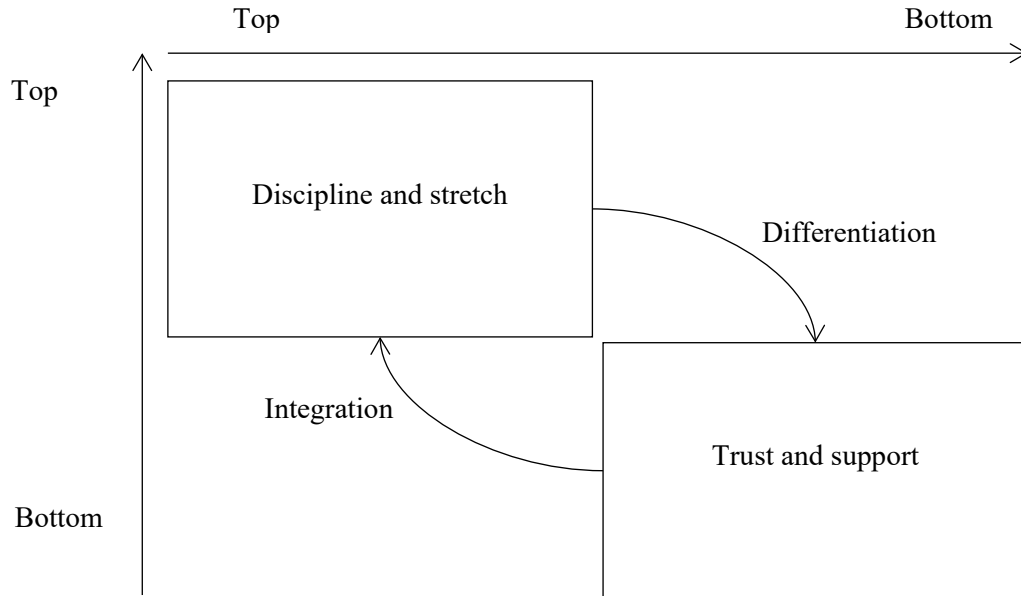
In addition to horizontal communication, Walmart also uses a centralized decision-making system. As sales data, delivery and inventory information is shared with all suppliers, knowledge inflows are managed across departments, a store manager explains:

“If there is any conflict between the purchasing and operating departments, we will coordinate and solve the problem.”

Lastly, RT-Mart encourages cross-functional meetings and communications. For urgent projects, development departments can request a team three months in advance. Members of these teams come from diverse backgrounds and expert fields. A core member of the development department, a section manager, described this:

“We communicate with the relevant departments, such as purchasing and product managers, to obtain the necessary information.”

**Figure 1. Middle managers’ knowledge acquisition as a dynamic process**



## DISCUSSION

### **Middle managers administrating top-down knowledge inflows**

To reach ambidexterity at firm level, a company must synthesize its knowledge exploration and exploitation efforts (Nonaka, Kodama, and Hirose, 2014). Accordingly, middle managers need to

handle both vertical and horizontal knowledge inflows (Heyden, Fourné, Koene, Werkman, and Ansari, 2017). Top-down knowledge inflows traditionally come from those people or units at the highest hierarchical level (Gaur, Ma, and Ge, 2019; Gupta and Govindarajan, 1991). Typically, they relate to the recipients' exploitation activities (Mom et al., 2007) for these are relatively narrow and unambiguous (Heyden et al., 2017). When receiving knowledge inflows from a higher organizational level, middle managers gain a deeper understanding of functional areas rather than enhancing their own knowledge (Katila and Ahuja, 2002). They supervise and decompose knowledge through differentiation to ensure accuracy and clarity (Egelhoff, 1991).

In the early days of its entry into China, Walmart's "fundamentalism" placed emphasis on customer service quality. Deceptive prices or frequent promotions were not used to avoid confusion amongst customers or to urge them to purchase unnecessary or unwanted goods. Although this may be an improved customer service experience, this approach failed to generate a profit for Walmart. This situation can be attributed to the Chinese retail industry at the time: Chinese customers would prefer frequent sales and promotions and were not inclined to pay more for the customer service experience. Noticeably, top-down knowledge inflows have strong limitations, when top management's experience and local customers' preference have discrepancies.

RT-Mart's top managers always compelled their employees to pay attention to work process optimization. Such expectations do not only regard existing work flows or routines, but also consider newly emergent and identified practices. Once top managers have evaluated new practices, they provide positive feedback in relation to good initiatives. This operates as an incentive for store managers attracted to new practices aimed at optimizing their day-to-day

activities. Indeed, store managers are eager to learn and often volunteer to improve their activities. This could be explained by the internal competition between stores.

Middle managers allocate time and energy to make judgments and balance conflicting demands (Gibson and Birkinshaw, 2004). As they are inherently disadvantaged by time and resource limitations, they ultimately encourage subordinates to innovate. While subordinates and frontline managers can complete these tasks effectively and in accordance with corporate strategy, middle managers must rely on discipline and stretch functions, which are critical to this process. Hence, the following proposition:

*Proposition 1.* Within business units, when handling top-down knowledge inflows, middle managers adopt differentiation through discipline and stretch.

### **Middle managers governing bottom-up knowledge inflows**

Bottom-up knowledge inflows will benefit middle managers supporting exploration activities as understanding of changes to existing technologies, products, processes, and markets gradually increase (Floyd and Lane, 2000). Frontline managers and employees define new businesses and knowledge originating at the grassroots level. Middle managers, in turn, evaluate and sponsor strategic initiatives, select promising ideas, and disseminate them to higher level management (Dutton and Ashford, 1993). In bottom-up knowledge inflows, middle managers' knowledge breadth is more important than knowledge depth for TMTs' strategic corporate direction (Naveh, Meilich, and Marcus, 2006; Floyd and Wooldridge, 1997). Middle managers can generalize the firm's overall achievements and discover new viable opportunities with this broader knowledge. This is feasible if they trust and support knowledge inflows from their subordinates, who are

actively engaged in defining new opportunities and knowledge within the business units (Branzei, Ursacki-Bryant, and Vertinsky, 2004). To summarize, because information affects TMT strategic corporate decisions in bottom-up knowledge inflows (Floyd and Lane, 2000), it is critical that middle managers be provided with unambiguous information.

Carrefour in China insisted on the store-centered, single-store management model and granted store managers as much authority as possible over four management areas: product, personnel, assets and customers. The company invested 10 million yuan in research to conduct in-depth studies on the traditional Chinese farmers' markets. In such markets as wet markets, salespersons attract customers by yelling, while pork is sold by hanging, and freezer storage for fresh fish is often replaced by fish tank sales. Ultimately, the fresh food delivery process is to establish a fresh food supermarket adapted to the Chinese context.

When implementing strategy, RT-Mart's store managers are keen to learn. In Shanghai, RT-Mart has a specialist team composed of many middle managers acting as information channels between top-and front-line managers. They are motivated by collecting information about any good practices aimed at consolidating top managers' strategic intents. Their role consists of visiting various stores and communicating with their operating manager. Symmetrically, these specialists record each problem mentioned by store and department managers to report quick and relevant feedback to top management.

This reasoning suggests the following proposition:

*Proposition 2.* Within business units, when governing bottom-up knowledge inflows, middle managers adopt integration through support and trust.

### **Middle managers handling horizontal knowledge inflows**

Because knowledge inflows from peers at the same managerial level are typically ambiguous, complex and tacit (Heyden et al., 2017; Mom et al., 2007), making judgments and decisions based on this can be particularly difficult. Thus, middle managers seek to enhance their ability to clarify and interpret such complicated and vague information as well as to expand their understanding of newly received knowledge (Jansen, George, and Van den Bosch, 2008). By encouraging more internal and external connections (Floyd and Wooldridge, 1997), external knowledge inflows provide experience and insights beyond business units' borders. Middle managers must still rely on vertical inflows to judge and select the external knowledge pertinent to firm currents. In this process, they learn and understand external knowledge effectively communicated to other project members based upon support and trust. Because transferring tacit knowledge through horizontal ties necessitates close collaboration, middle managers serve a variety of roles, including knowledge and information filters (Taylor and Helfat, 2009), links between internal and external business units, consultants for cross-functional projects, and as friends sharing perspectives with other teammates. (Wooldridge et al., 2008). A regional manager of the biggest Chinese hypermarket retailer describes Carrefour management as follows:

“As Carrefour implements its decentralized decision system in China, store managers and regional managers make their own efforts when operating in their cities. When they meet monthly, they exchange ideas and share problem-solving skills. They look for the most popular products provided by regional suppliers in different regions. When they discuss the future action plans, they benchmark the well-sold items of different regions. This kind

of specialization helps store managers promote unique products which are highly recognized by local consumers.”

In summary, we propose:

*Proposition 3.* Across business units, when dealing with horizontal knowledge inflows, middle managers complement differentiation and integration with trust and support.

**Table 1. Middle managers’ knowledge acquisition: Three processes through two levels.**

Level	Process	Mechanisms
Within business units	Top down	Differentiation
		Discipline and stretch
	Bottom up	Integration
		Trust and support
Across business units	Horizontal	Differentiation and integration
		Trust and support

## CONCLUSION

Based on 64 interviews, field observations as well as the secondary data and informed by a triple case study — Carrefour, Walmart, and RT-Mart in China —we provide a framework for middle managers’ contextual and structural mechanisms used by middle managers for dealing with vertical and horizontal sources of knowledge inflows. In their quest to achieve ambidexterity, middle managers develop a series of tools to help them comprehend differences amongst various knowledge sources. These mechanisms appear as combinations of structural and contextual mechanisms for handling vertical and horizontal knowledge inflows. Structural mechanisms are



characterized by differentiation and integration, whilst contextual mechanisms are characterized by stretch, discipline, support and trust.

### **Theoretical implications**

Through this framework, our study makes a twofold contribution to knowledge. First, it goes beyond prior studies on ambidexterity that focused on the top management team (TMT) level (Heavey and Simsek, 2017) by delving into the middle management level in detail. We identify the roles and strategies used by middle managers to deal with various knowledge inflows. Symmetrically, we emphasize their importance and complex influences on organizational ambidexterity (Taylor and Helfat, 2009). Due to their unique positions within the organization, the middle managers' traditional wisdom implementation may be reconsidered in strategy definition (Floyd and Lane, 2000). Although their implementation function benefits the organization's strategic plans, it contributes less to organizational ambidexterity. Associated with a complementary and extended role for TMT, middle managers' involvement in strategy formulation (Raes et al., 2011) may further enable organizations to achieve ambidexterity. Our findings reveal their complex role in governing divergent knowledge inflows which, in turn, facilitate organizational activities.

Second, this study uncovers ways of reaching ambidexterity: corporate methods for reaching ambidexterity in middle-level management combine structural and contextual mechanisms (Raisch et al., 2009). Within business units, middle managers can apply discipline and stretch to realize differentiation through top-down knowledge inflows. For bottom-up knowledge inflows, they can develop support and trust, the latter being more conducive for knowledge integration. When knowledge flows across business units, ambidexterity can be

reached through combinations of differentiation and integration enabled by support and trust. Middle managers appear as links between different levels in firms' hierarchy. To meet the objectives associated with their dual capacity, they should adequately combine different mechanisms (Turner et al., 2013). Yet, as middle managers may not have the same level of resources and power as top managers, combining structural and contextual mechanisms can be challenging. Given that knowledge is sticky (Von Hippel, 1998) and that middle managers have limited cognitive capabilities (Shi et al., 2009), their contribution to organizational ambidexterity through knowledge management is often problematic. By revealing how middle managers administer horizontal and vertical knowledge inflows, we bring new insights into how middle managers handle and process knowledge inflows. The combinations organized to address the paradox of knowledge inflows enable us to better understand middle managers' unique contribution to organizational ambidexterity.

### **Managerial implications**

A significant managerial implication is how middle managers can promote organizational ambidexterity through knowledge flows from various sources. Interestingly, achieving ambidexterity is only central to TMT's role. However, middle managers may also play a role in this. They must concentrate on differentiating the sources of knowledge flow. Such actions can help them choose appropriate ways to maximize knowledge value and facilitate organizational knowledge management.

This study also highlights middle managers' role in the hypermarket industry in an emerging market. In Chinese hypermarkets, middle managers can rely on bottom-up information leading to incremental or radical innovations in their quest for ambidexterity. For recollection, as

exploration is a risky strategy and companies are more willing to enhance current capabilities, reaching ambidexterity is complex (Gibson and Birkinshaw, 2004). As a result, intensive interactions between middle managers, top managers and frontline managers necessitated by the hypermarket industry's strong practice-oriented activities (Aoyama, 2007) may result in improved opportunities for organizational ambidexterity.

This study also suggests directions for further research. As the empirical investigation spans only 12 months, the evolution of the different mechanisms could not be observed. There is notably a lack of longitudinal research on ambidexterity (Raisch et al., 2009). As a result, future research could look at dynamic or stage-based models to gain new insights into the temporal effects of knowledge acquisition.

## REFERENCES

- Ahuja G., Lampert C. M., and Tandon, V. 2008. "Moving Beyond Schumpeter: Management Research on the Determinants of Technological Innovation." *Academy of Management Annals* 2(1):1-98.
- Aoyama, Y. 2007. "Oligopoly and the Structural Paradox of Retail TNCs: An Assessment of Carrefour and Wal-Mart in Japan." *Journal of Economic Geography* 7(4): 471-490.
- Aoki, K., and Wilhelm, M. 2017. "The Role of Ambidexterity in Managing Buyer-supplier Relationships: The Toyota Case." *Organization Science* 28(6): 1080-1097.
- Ardito, L., Petruzzelli, A. M., Dezi, L., and Castellano, S. 2020. "The Influence of Inbound Open Innovation on Ambidexterity Performance: Does it Pay to Source Knowledge from Supply Chain Stakeholders?" *Journal of Business Research* 119:321-329.

- Benner, M.J., and Tushman, M.L. 2003. "Exploitation Exploration and Process Management: The Productivity Dilemma Revisited." *Academy of Management Review* 28(2): 238-256.
- Branzei, O., Ursacki-Bryant, T.J., and Vertinsky, I. 2004. "The Formation of Green Strategies in Chinese Firms: Matching Corporate Environmental Responses and Individual Principles." *Strategic Management Journal* 25(11): 1075-1095.
- Cao, Q., Gedajlovic, E., and Zhang, H. P. 2009. "Unpacking Organizational Ambidexterity: Dimensions, Contingencies, and Synergistic Effects." *Organization Science* 20: 781-796.
- Chuang, M.L., Donegan, J.J., and Ganon, M.W. 2011. "Walmart and Carrefour Experiences in China: Resolving the Structural Paradox." *Cross Cultural Management* 18(4): 443-463.
- Dutton, J.E., and Ashford, S.J. 1993. "Selling Issues to Top Management." *Academy of Management Review* 18(3): 397-428.
- Egelhoff, W.G. 1991. "Information-processing Theory and the Multinational-enterprise." *Journal of International Business Studies* 22(3): 341-368.
- Floyd, S.W., and Lane, P.J. 2000. "Strategizing Throughout the Organization: Managing Role Conflict in Strategic Renewal." *Academy of Management Review* 25(1): 154-177.
- Floyd, S.W., and Wooldridge, B. 1997. "Middle Management's Strategic Influence and Organizational Performance." *Journal of Management Studies* 34(3): 465-485.
- Floyd, S.W., and Wooldridge, B. 1999. "Knowledge Creation and Social Networks in Corporate Entrepreneurship: The Renewal of Organizational Capability." *Entrepreneurship Theory and Practice* 23(3): 123-143.
- Gaur, A.S., Ma, H., and Ge, B. 2019. "MNC Strategy, Knowledge Transfer Context, and Knowledge Flow in MNEs." *Journal of Knowledge Management* 23(9): 1885-1900.

- Ghoshal, S., and Bartlett, C.A. 1994. "Linking Organizational Context and Managerial Action: The Dimensions of Quality of Management." *Strategic Management Journal* 15(S2): 91-112.
- Giangreco, A., and Peccei, R. 2007. "The Nature and Antecedents of Middle Manager Resistance to Change: Evidence from an Italian Context." *International Journal of Human Resource Management* 16(10): 1812-1829.
- Gibson, C.B., and Birkinshaw, J. 2004. The Antecedents, Consequences, and Mediating Role of Organizational Ambidexterity." *Academy of Management Journal* 47(2): 209-226.
- Glaser, B.G., and Strauss, A.L., 1967. "The Discovery of Grounded Theory: Strategies for Qualitative Research." *Nursing research* 17(4): 364.
- Graf-Vlachy, L., Bundy, J., and Hambrick, D.C. 2020. "Effects of an Advancing Tenure on CEO Cognitive Complexity." *Organization Science* 31(4): 936-959.
- Gupta, A.K., and Govindarajan, V. 1991. "Knowledge Flows and the Structure of Control Within Multinational-corporations." *Academy of Management Review* 16(4): 768-792.
- Heavey, C., and Simsek, Z. 2017. "Distributed Cognition in Top Management Teams and Organizational Ambidexterity: The Influence of Transactive Memory Systems." *Journal of Management* 43(3): 919-945.
- Heyden, M.L., Fourné, S.P., Koene, B.A., Werkman, R., and Ansari, S. 2017. "Rethinking 'Top-down' and 'Bottom-up' Roles of Top and Middle Managers in Organizational Change: Implications for Employee Support." *Journal of Management Studies* 54(7): 961-985.
- Jansen, J., George, G., and Van den Bosch, F.A. 2008. "Senior Team Attributes and Organizational Ambidexterity: The Moderating Role of Transformational Leadership." *Journal of Management Studies* 45(5): 982-1007.

- Jansen, J., Tempelaar, M.P., and Van den Bosch, F.A. 2009. "Structural Differentiation and Ambidexterity: The Mediating Role of Integration Mechanisms." *Organization Science* 20(4): 797-811.
- Katila, R., and Ahuja, G. 2002. "Something Old, Something New: A Longitudinal Study of Search Behavior and New Product Introduction." *Academy of Management Journal* 45(6): 1183-1194.
- Kauppila, O.P., and Tempelaar, M.P. 2016. The Social-cognitive Underpinnings of Employees' Ambidextrous Behaviour and the Supportive Role of Group Managers' Leadership." *Journal of Management Studies* 53(6): 1019-1044.
- Lawrence, P.R., and Lorsch, J.W. 1967. "Differentiation and Integration in Complex Organizations." *Administrative Science Quarterly* 12(1): 1-47.
- Lincoln, Y., and Guba, E. 1985. "Naturalistic Inquiry." *New York: Sage*.
- Lubatkin, M.H., Simsek, Z. and Ling, Y. 2006. "Ambidexterity and Performance in Small-to medium-sized Firms: The Pivotal Role of Top Management Team Behavioral Integration." *Journal of Management* 32(5): 646-672.
- Mantere, S. 2008. "Role Expectations and Middle Manager Strategic Agency." *Journal of Management Studies* 45(2): 294-316.
- Martin, A., Keller, A., and Fortwengel, J. 2017. "Introducing Conflict as the Microfoundation of Organizational Ambidexterity." *Strategic Organization* 17(1): 38-61.
- Miles, M., and Huberman, A. 1984. "Qualitative Data Analysis: A Sourcebook of New Methods." *Los Angeles, CA: Sage*.
- Mom, T.J., Van den Bosch, F.A., and Volberda, H.W. 2007. "Investigating Managers' Exploration and Exploitation Activities: The Influence of Top-down Bottom-up and Horizontal Knowledge Inflows." *Journal of Management Studies* 44(6): 910-931.

- Mom, T.J., Van den Bosch, F.A. and Volberda, H.W. 2009. "Understanding Variation in Managers' Ambidexterity: Investigating Direct and Interaction Effects of Formal Structural and Personal Coordination Mechanisms." *Organization Science* 20(4): 812-828.
- Naveh, E., Meilich, O., and Marcus, A. 2006. "The Effects of Administrative Innovation Implementation on Performance: An Organizational Learning Approach." *Strategic Organization* 4(3): 275-302.
- Nonaka, I., Kodama, M., and Hirose, A. 2014. "Dynamic Fractal Organizations for Promoting Knowledge-based Transformation--A New Paradigm for Organizational Theory." *European Management Journal* 32(1): 137-146.
- O'Reilly, C.A., Harreld, J.B., and Tushman, M.L. 2009. "Organizational Ambidexterity: IBM and Emerging Business Opportunities." *California Management Review* 51(4): 75-99.
- O'Reilly, C.A., and Tushman, M.L. 2013. "Organizational Ambidexterity: Past, Present, and Future." *Academy of Management Perspectives* 27(4): 324-338. doi:10.5465/amp.2013.0025.
- Osono, E., Shimizu, N., and Takeuchi, H. 2008. "Extreme Toyota: Radical Contradictions That Drive Success at the World's Best Manufacturer." *New York: Wiley*.
- Ossenbrink, J., Hoppmann, J., and Hoffmann, V.H. 2019. "Hybrid Ambidexterity: How the Environment Shapes Incumbents' Use of Structural and Contextual Approaches." *Organization Science* 30(6): 1319-1348.
- Petruzzelli, A. M. 2019. "Trading Knowledge for Status: Conceptualizing R&D Alliance Formation to Achieve Ambidexterity." *Technological Forecasting and Social Change* 145: 36-42.
- Planet Retail. 2010. "How to Win in China: A Guide to Grocery Retailing in Asia's Largest Market." Available at: [http://www.planetretail.net/catalog/mkrep/6/3/sum\\_China-2010.pdf](http://www.planetretail.net/catalog/mkrep/6/3/sum_China-2010.pdf)

- Raes, A.M., Heijltjes, M.G., Glunk, U., and Roe, R.A. 2011. "The Interface of the Top Management Team and Middle Managers: A Process Model." *Academy of Management Review* 36(1): 102-126.
- Raisch, S., Birkinshaw, J., and Probst, G. 2009. "Organizational Ambidexterity: Balancing Exploitation and Exploration for Sustained Performance." *Organization Science* 20(4): 685-695.
- Schulz, M. 2001. "The Uncertain Relevance of Newness: Organizational Learning and Knowledge Flows." *Academy of Management Journal* 44(4): 661-681.
- Shi, W., Markoczy, L., and Dess, G. G. 2009. "The Role of Middle Management in the Strategy Process: Group Affiliation, Structural Holes, and Tertius Iungens." *Journal of management* 35(6): 1453-1480.
- Siggelkow, N., and Levinthal, D. A. 2003. "Temporarily Divide to Conquer: Centralized Decentralized and Reintegrated Organizational Approaches to Exploration and Adaptation." *Organization Science* 14(6): 650-669.
- Simsek, Z. 2009. "Organizational Ambidexterity: Towards a Multilevel Understanding." *Journal of Management Studies* 46(4): 597-624.
- Taylor, A., and Helfat, C. E. 2009. "Organizational Linkages for Surviving Technological Change: Complementary Assets Middle Management and Ambidexterity." *Organization Science* 20(4): 718-739.
- Turner, N., Swart, J., and Maylor, H. 2013. "Mechanisms for Managing Ambidexterity: A Review and Research Agenda." *International Journal of Management Reviews* 15(3): 317-332.
- Tushman, M. L., and O'Reilly, C. A. 1996. "Ambidextrous Organizations: Managing Evolutionary and Revolutionary Change." *California Management Review* 38(4): 8-30.



- Von Hippel, E. 1998. "Economics of Product Development by Users: The Impact of 'Sticky' Local Information." *Management Science* 44(5): 629-644.
- Vrontis, D., Thrassou, A., Santoro, G., and Papa, A. 2016. "Ambidexterity, External Knowledge and Performance in Knowledge-intensive Firms." *Journal of Technology Transfer* 42(2): 374-388. doi:10.1007/s10961-016-9502-7.
- Wang, G., Li, F., and Liu, X. 2008. "The Development of the Retailing Industry in China: 1981-2005." *Journal of Marketing Channels* 15(2-3): 145-166.
- Wooldridge, B., Schmid, T., and Floyd, S. W. 2008. "The Middle Management Perspective on Strategy Process: Contributions, Synthesis and Future Research." *Journal of Management* 34(6): 1190-1221.
- Westley, F., and Mintzberg, H. 1989. "Visionary Leadership and Strategic Management." *Strategic Management Journal* 10(S1): 17-32.