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Franchise capabilities and system performance: A configurational perspective

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Abstract

This study investigates the configurations that promote the performance of franchise systems. Drawing on the dynamic capabilities perspective, we describe franchise capabilities and propose a model that consistently articulates dynamic capabilities, operational capabilities (know-how), franchise ownership strategy (plural form versus “turnkey” franchisors), and franchise system performance. Using a configurational (fuzzy-set Qualitative Comparative Analysis) approach on a sample of 119 France-based franchisors, we investigate the interplay of sensing and adaptive capabilities, business know-how and organizational know-how, and franchise ownership strategy that potentially drive franchise system performance. We contribute to the franchising literature by providing a nuanced understanding of how franchise systems should manage their capabilities, depending on their development strategies.

1. INTRODUCTION

A growing stream of research has investigated the role of dynamic capabilities (DCs) in firm strategy, value creation, and competitive advantage (e.g., Eisenhardt & Martin, 2000; Harreld et al., 2007; Helfat et al., 2007; Teece, 2007; Wilden et al., 2013). Despite the diversity of the theoretical perspectives from which DCs have been conceptualized, there is consensus on their positive effects on firms' performance (Bitencourt et al., 2020; Gupta et al. 2020; Hernández-Linares et al., 2021; Wang et al., 2015). DC-related dimensions and their positive relationships with firm performance have also been proven in several organizational contexts, such as the specific organizational context of family businesses (Park et al., 2019), small businesses (Arend, 2013), multinational enterprises (Teece, 2014) and startups (Wu, 2007). Despite the increasing number of studies investigating DC-firm performance relationships, the question of how DCs affect performance (Bitencourt et al., 2020; Ferreira et al., 2020; Scheuer & Thaler, 2022) is still open, particularly in interorganizational contexts (Ruiz-Ortega et al., 2023; Sandberg et al., 2021), such as the specific interorganizational context of franchise systems (El Akremi et al., 2015; Schweiger et al., 2020; Zimuto & Maritz, 2019).

Franchise system performance has been studied from diverse theoretical perspectives (Combs et al., 2004), including relational exchange theories (Spinelli & Birley, 1996), the resource-based

view (Ghantous & Das, 2018; Wu, 2015), the knowledge-based view (Jeon et al., 2016), the entrepreneurial perspective (Watson et al., 2016), and the organizational identity perspective (Zachary et al., 2011). More recent research has proposed understanding franchise system performance from the DC perspective (Alon et al., 2020; Chien, 2022; El Akremi et al., 2015; Gruchmann et al., 2019). Given the heterogeneity of the local market, competition, institution and cultural environment in which the franchise systems—via their franchisees—are embedded (Jell-Ojobor et al., 2022), they must develop specific know-how (also known in the organizational literature under the terms of operational capabilities—OCs; Cepeda and Vera, 2007) and share it through the entire franchise system to respond quickly to local changes and expectations (El Akremi et al., 2009; Ghantous et al., 2013; Perrigot et al., 2020). This assumes that the franchisor has sufficient DCs among the whole system (Alon et al., 2020; Chien, 2022; Gruchmann et al., 2019).

Despite the insights provided by some researchers on the relationships among DCs, OCs and performance (see Cepeda & Vera, 2007; Fainshmidt et al., 2016; Scheuer & Thaler, 2022), few studies have explored their complex articulation in the specific interorganizational context of franchise systems. However, the role of DCs and know-how, which is the core part of OCs in business format franchising, and of their evolution is a longstanding and central issue to the performance of franchise systems (El Akremi et al., 2015). It is thus crucial to understand how different dynamic and operational (in terms of know-how) franchise capabilities should be articulated. Therefore, in this study, we investigate which configurations of dynamic and operational franchise capabilities lead to superior system performance.

To unpack the complex interrelations among DCs, OCs, and performance within franchise systems, we rely on the configurational perspective (Fainshmidt et al., 2019; Wilden et al., 2016; Wilden et al., 2019). By adopting the configurational perspective (Miller, 1996), we aim to address the following question: under what conditions do the articulations between the DCs and OCs within franchise systems lead to superior performance? To operationalize OCs within the specific context of franchise systems, we adopt the know-how perspective (El Akremi et al., 2009; Ghantous et al., 2013; Perrigot et al., 2020). We consider DCs to be higher-order strategic processes that integrate, recombine, and generate new organizational know-how for franchisors and new local know-how for franchisees, which in turn shape franchise system performance. To address the abovementioned question, we conduct an empirical study among 119 franchise systems using fuzzy set qualitative comparative analysis (fsQCA) (Greckhamer et al., 2018; Kan et al., 2016). The configurational approach is particularly useful to address our research question because some researchers (for instance, Gillis et al., 2020) were unable to find any relevant DC/OC-performance relationships using linear analytical approaches. Furthermore, as business practice shows and resource-based view (RBV) postulates, different resource endowments are viable—and thus there is not only one high-performance solution. fsQCA is hence a perfect fit to the capabilities and RBV literature mobilized here.

In doing so, this study aims to make three main contributions to the franchising literature and fits into the configurational theorizing process proposed by Furnari et al. (2021). First, this study distinguishes between the higher-order DC construct and OCs by referring to the concept of

know-how to unpack these notions in the specific organizational context of franchise systems (El Akremi et al., 2009; Ghantous et al., 2013). This allows us to consistently articulate DCs and OCs in relation to franchise system performance (present growth and financial performance) in a resource-based view (RBV) framework. In doing so, we extend previous research that has attempted to understand the concept of DCs in franchise systems (El Akremi et al., 2015; Schweiger et al., 2020; Zimuto & Maritz, 2019). Second, to understand such complex and nonlinear relationships, we use the configuration-based method and apply fsQCA (Greckhamer et al., 2018; Kan et al., 2016). We test the relationships among DCs, OCs, and performance through survey research using a sample of franchisors. In doing so, we extend the previous research that has enabled an understanding of DCs from a configurational perspective (Fainshmidt et al., 2019; Wilden et al., 2016; Wilden et al., 2019) to the specific context of franchising. We also contribute to filling a gap in the literature identified by Scheuer and Thaler (2022) regarding research on multiple DCs and OCs operating simultaneously. Finally, identifying different causal combinations of DCs and OCs to achieve high performance provides theoretical and practical implications on how franchise systems manage their DCs and OCs and the critical management capabilities depending on their development strategies (Gillis et al., 2020).

2. THEORETICAL BACKGROUND

2.1 Dynamic and operational capabilities

“Dynamic capabilities are the firm’s processes that use resources—specifically, the processes to integrate, reconfigure, gain and release resources—to match and even create market change. Dynamic capabilities thus are the organizational and strategic routines by which firms achieve new resource configurations and markets emerge, collide, split, evolve, and die” (Eisenhardt & Martin, 2000, p. 1107). DCs consist of strategic, organizational, and managerial processes that create value for firms within dynamic markets by reconfiguring resources (Ambrosini & Bowman, 2009; Cepeda & Vera, 2007; Eisenhardt & Martin, 2000; Teece et al., 1997).

Different levels of capabilities are distinguished in the literature. Zero-level capabilities (Winter, 2003), also known as operational or ordinary capabilities, are defined as those that enable the firm to earn a living in the present, which is essentially the resource base¹. The next level is termed first-level capabilities, which operate on zero-level capabilities (Winter, 2003). These are DCs.

¹ Following Winter (2000), in this study, ordinary capabilities are equated with operational capabilities.

DCs and OCs differ in their purposes and intended outcomes (Cepeda & Vera, 2007; Helfat & Winter, 2011). According to Protogerou et al. (2012, p. 618), capabilities encompass OCs and DCs, which both refer to a firm's capacity to perform a particular task; however, they can be distinguished based on the following criteria: "*operational capabilities help the firm to perform basic functional activities [...] while DC are referring to the transformation and reconfiguration of operational capabilities*". Assuming a hierarchical view of capabilities, we consider that higher-order DCs serve as a basis for acquiring and reconfiguring lower-level capabilities to make a sustainable living.

2.2 Relationships among dynamic capabilities, operational capabilities and performance

According to the RBV, each pool of resources, including OCs, has its own intrinsic performance. This performance depends on the valuable, rare, imperfectly imitable, and nonsubstitutable (VRIN) or valuable, rare, imperfectly imitable, and organizational (VRIO) attributes of the resource pool (Barney, 1991, 2002). However, a pool of resources does not remain VRIN and a source of superior performance forever. In an evolving social, economic and technological environment, OCs must be modified and adapted to maintain high efficiency and performance. Thus, DCs become applicable, as they facilitate the creation, adjustment, reconfiguration, and leveraging of resources and OCs.

Hence, OCs and DCs are directly linked to each other but do not play the same role in performance. OCs relate to technical fitness, namely, how effectively a capability performs its function regardless of how well the capability enables a firm to make a living (Helfat et al., 2007). Some OCs are conducive to performance (they are "VRIN"), while others are not. Nevertheless, OCs relate to the *present* performance, although not in a linear and monotonic way, depending on their VRIN characteristics. DCs appear to also be directed toward performance because they relate to evolutionary or external fitness, that is, to how well a capability enables a firm to make a living (Helfat et al., 2007). Evolutionary fitness, and hence DCs, refer to the selection environment and concern sustainable or *long-term* performance².

The literature has highlighted that DCs are positively related to performance (Baía and Ferreira, 2019; Fainshmidt et al., 2016; Pezeshkan et al., 2016). Scheuer and Thaler (2022) underline that debates about precisely how DCs affect performance continue with a recent surge around the indirect effects of DCs. They identified 40 studies in the literature on how DCs affect performance through various mediators. In these studies, OCs generally appear as a mediator

² In this paper, we refer to performance as a measure that incorporates present growth and financial performance and not to long-term measures such as sustainability.

between DCs and performance. Even when mediators are not labeled as OCs, the constructs used are close to OCs. Fainshmidt et al. (2016) also noted this point in their meta-analysis and specifically tested the hypothesis that OCs mediate the DCs-performance relationship. However, it is not clear to what extent these positive effects are mediated by the improvement of OCs (e.g., Fainshmidt et al., 2016; Karna et al., 2016). Fainshmidt et al. (2016, p. 1366) concluded that “lower-order DCs are affected by higher-order DCs, but only partially mediate their effect on organizational performance”. The only partial mediating effect of OCs can receive several explanations. First, many studies did not include any mediator in the relationship between DCs and performance. Second, the studies, even meta-analyses, did not systematically distinguish between long-term and short-term performance measures. However, as outlined above, DCs are linked to long-term performance whereas OCs are linked to short-term performance. Finally, the concepts of OCs and DCs are sometimes loosely defined and can overlap. Scheuer and Thaler (2022) explain that there is an issue about the labelling of the constructs in some studies, and it is likely that sometimes the mediator and the outcome (“performance”) overlap, or that some mediating variables may be hidden in prior literature. In fact, Karna et al. (2016) propose in their meta-analysis study that OCs and DCs are closely associated. Drnevich and Kriauciunas (2011) examined the performance effects of both OCs and DCs at two levels, process and firm. Their results show that OCs positively affect both levels by improving business process performance and product quality; in contrast, the results for the effects of DCs were mixed with a positive effect on the process but a negative effect on the firm level.

2.3 Qualifying the relationships in terms of necessity and sufficiency

Because firms cannot achieve high performance without VRIN operational resources or capabilities according to the RBV (Barney, 1991, 2002), *the relationship between OCs and performance is necessary*. This statement simply establishes that if we observe a firm with high performance, there must be some (VRIN) OCs sustaining and explaining this performance. This does not mean that all or some OCs systematically lead to performance. There are plenty of OCs that allow the effective operation of particular tasks (“doing things right”) but that result in low firm performance if these capabilities or tasks are not useful in relation to the firm's competitive advantage. Hence, OCs are necessary but are not sufficient to achieve high performance. An OC or a particular bundle of OCs leads to high performance in only some contexts and under particular conditions (Drnevich et al., 2011). Hence, OCs are related to performance as a necessary condition but are not sufficient on their own to achieve high performance.

For an OC or a bundle of OCs to retain its VRIN features and lead to high performance, it has to be reshaped from time to time. DCs play this role by creating, adjusting, reconfiguring, and leveraging resources and OCs (Ambrosini & Bowman, 2009). Hence, *in conjunction with OCs* (which they help leverage, create, and adapt), *DCs can be seen as a sufficient condition for performance*. Neither DCs nor OCs are sufficient by themselves. Alone, they are insufficient, but they are sufficient when combined (at least in some contexts). This line of reasoning is completely consistent with the literature on the DCs-performance relationship, which emphasizes OCs as a mediator (e.g., Fainshmidt et al., 2016; Scheuer and Thaler, 2022). It is particularly relevant if we consider short-term to medium-term performance measurement as we did.

3. DYNAMIC CAPABILITIES, OPERATIONAL CAPABILITIES AND PERFORMANCE IN FRANCHISE SYSTEMS

The concepts must now be given substance: what are the core OCs that constitute the necessary conditions for high performance in franchise systems? How and under what conditions do they combine with DCs to lead to high performance?

The literature on DCs and OCs in the franchising context is scarce. In our review of literature on the DCs-performance relationship, in particular in meta-analyses, there is no study of franchising. However, existing studies on DCs and OCs in this context highlight that franchisees' capabilities and franchisors' management practices have a relatively consistent positive effect on franchise performance (Boulay et al., 2023). The evidence, which is consistent with the RBV framework, shows that franchise systems that are able to develop and/or nurture strategic assets perform better than systems relying on substitutable resources. Among strategic assets, the different forms of know-how are the cornerstones of the franchise business model success, both, at the franchise system and unit levels. Franchising relies on a long-term relationship strongly rooted in knowledge sharing between franchisors and franchisees (Iddy & Alon, 2019; Perrigot et al., 2021). Paswan & Wittman (2009, p. 173) explain that franchisors "perfect a business system and then sell the know-how and benefits of the business system to prospective franchisees and subsequently to customers". Further, Maalouf et al. (2020) argue that franchising implies the transfer of a set of organizational routines to franchisees who may convert them into capabilities. These capabilities are at the core of competitive advantage in turbulent market environments (Teece et al., 1997; Perrigot et al., 2021).

We thus consider the different franchise systems' know-how as their critical OCs. These are the "zero-order" capabilities used to perform daily operations, such as offering products that meet customer needs (El Akremi et al., 2009; Ghantous et al., 2013). Their renewal and reshaping by DCs according to the corresponding franchisor's strategic intent and environmental needs might be a prerequisite of a sustainable competitive advantage. The success of a franchise system depends on both the ownership of unique know-how and the sharing of know-how with system members for better performance outcomes. Hence, to make a clear distinction between DCs and OCs, we focus on know-how as the most important OCs in franchising because they are the key OCs that are being changed by DCs to achieve high performance. The three categories of DCs—sensing, seizing and reconfiguring—play an important role in the franchising context (Weaven et al., 2021).

3.1 OCs: Transferring valuable know-how at the local level and controlling the system

The primary task of a franchisor is to create and maximize value in the franchise system by optimally transferring know-how to franchisees. In addition to providing franchisor-owned strategic assets, franchisors create value based on knowledge-sharing routines (Gillis et al., 2014). These routines include providing advice through franchisee consultants, creating newsletters, and facilitating national, regional, and local meetings. These routines allow

franchisors to not only communicate current standards and monitor franchisees but also learn about their franchisees' adaptations or innovations and share successful changes throughout the system (Bradach, 1998). Moreover, they allow franchisees to share ideas and learn from one another. Hence, value creation in a franchise system depends not only on the franchisor's know-how but also the symbiosis between these partners and franchisees' know-how and capabilities (Jell-Ojobor et al., 2022). The types of know-how we have discussed thus far are those that are transferred to franchisees and system units. They can be defined as "business know-how" and are at the heart of value creation in franchise systems. These types of know-how operate at the local level, but the franchisor remains in charge of them.

Other types of know-how, which can be qualified as organizational, are not transferred to local units and are the exclusive responsibility of franchisors. These types of organizational know-how are numerous. They include the codification and transmission of knowledge to franchisees, human resource management support for franchisees, and internal cohesion management (El Akremi et al., 2009). Among these types of organizational know-how, one—namely, the control of the system—is crucial to system performance, although probably in a contingent way (Yakimova et al., 2019). The franchise literature emphasizes the role of monitoring (Combs et al., 2011). To protect its brand value and the business practices transferred to local units, a franchisor must deter deviant and opportunistic behaviors and ensure that the transferred business practices are correctly implemented. The need to master such monitoring capabilities is nevertheless conditional. Mastering control capabilities is of greater importance for high performance when the uniformity and integrity of the system are at risk. Moreover, franchisors can develop certain know-how that substitutes/limits or complements the need to monitor franchisees. In this regard, the management of the internal cohesion of a franchise system is an important capability that is akin to relational forms of governance (Cochet et al., 2008). Mastering such an internal cohesion capability could limit the need for or effectively complement monitoring by making franchisees more collaborative and proactive, e.g., in their reporting and audits. Controls are not only coercive but also enabling (Yakimova et al., 2019). Including the mastery of system cohesion in our analysis enables us to consider the concept of control in a broader sense that is not limited to its monitoring or disciplinary dimensions and allows us to embrace franchise management capabilities more broadly, even if not completely; these capabilities are "*the main cognitive, behavioral, and organizational routines that enable a franchisor to achieve both standardization and adaptation in working with franchisees*" (Gillis et al, 2020, p. 5).

Among the different types of know-how in a franchise system, we contend that the three types of know-how identified—namely, business know-how of value and know-how regarding mastering organizational control and/or cohesion—are crucial to performance. Since a consistent model characterizes know-how as a necessary condition for performance, we posit the following:

H1: Business know-how of value or the mastery of organizational control or cohesion know-how together constitute a necessary³ condition for high performance.

Hypothesis 1 states that having one of the three types of know-how (or any combination of two or all three) is necessary for high performance. It might be that certain combinations of only two types of know-how constitute a necessary condition for high performance. This is an empirical issue⁴.

The fact that know-how, if properly chosen, constitutes a necessary condition for high performance follows from our theoretical framework. However, it does not provide information about the main concern of management: under what circumstances does this know-how lead to high performance; that is, can we find certain conditions under which the know-how is a sufficient condition for high performance?

In that regard, good mastery of control know-how is of greater importance for high performance when the uniformity and integrity of the system are at risk. The franchise literature identifies the development mode—a strategic variable reflected by the proportion of franchised units in a system—as such a risk (Gillis & Combs, 2009; Gillis et al., 2020). First, the literature refers to the acuteness of the risk of free riding in a system, as a system with a greater number of franchisees has a greater risk of free riding (Michael, 2003). Furthermore, systems that implement franchising more extensively than their rivals may have advantages regarding system innovation (especially at the local level), but these advantages come with higher risks related to system uniformity and are probably gained at the expense of plural form symbiosis itself (El Akremi et al., 2015). As the franchising rate in a system (proportion of franchised units) increases, the franchisor's risk of losing control over business processes increases (El Akremi et

³ In QCA studies, conditions or combinations of conditions are "quasi-necessary" or "quasi-sufficient" in that the causal relation holds in a great majority of cases, but some cases deviate from this pattern. Like the majority of studies (e.g. Pappas and Woodside, 2021), we decided to stick to the simplest wording and simply wrote "necessary" or "sufficient".

⁴ Theoretically, we can mention that H1 has a corollary. If the union of the three types of know-how is a necessary condition for high performance, it follows that not mastering any of these types of know-how is a sufficient condition for low performance.

al., 2015). A high level of company ownership (proportion of franchisor-owned units), in contrast, promotes standardization and guarantees valuable replication. It may help to diffuse novelty across the entire system while maintaining uniformity. The specific advantage of hierarchies based on company ownership is that they help secure chain-wide standardization and increase strategic flexibility (Gillis & Combs, 2009). The mastery of control know-how is thus crucial for achieving high performance when the franchising rate is high (turnkey systems). In contrast, in systems with low franchising rates, control and uniformity may be maintained in the system without necessarily mastering such capabilities. Hence, we propose the following:

H2: A good mastery of control know-how is a sufficient condition of high performance in the context of a high franchising rate (or in “turnkey systems”).

We could reframe Hypothesis 2 in fsQCA terms: good mastery of control know-how is an INUS⁵ condition of performance. This means the following. i) Good mastery of control alone is not sufficient to lead to high performance; thus, it is necessarily associated with other conditions, in particular but not solely with a high franchising rate (“insufficient by itself but a necessary part of”). ii) There may be many other configurations that lead to high performance but do not necessarily include control know-how and a high franchising rate (“an unnecessary but sufficient condition”). Thus, Hypothesis 2 stipulates that there is at least one configuration in which the association of at least good mastery of control know-how and a high franchising rate lead to high performance. However, particularly in our context, where different types of know-how may interact to deliver high performance, we do not dismiss the idea that a high-performing configuration, which associates control know-how with a high franchising rate, also includes other types of know-how. An association between control and cohesion know-how indicates that these types of know-how are complementary rather than substitutes. The value of business know-how could also be incorporated into this configuration, as business know-how and organizational know-how are interrelated in franchise systems (Perrigot et al., 2020). Whatever the specific form of this expected configuration is, we expect that it will cover a significant part of all high-performing configurations; however, many other high-performing configurations may exist that do not include either control or a high franchising rate.

⁵ In terms of fsQCA, control and the franchising rate qualify as INUS (Insufficient but Necessary part of an Unnecessary but Sufficient) conditions. This is exactly what control and franchising are in relation to performance. Alone, they are insufficient; however, together, they are (necessary) parts of a sufficient condition (although this condition is not necessary: a number of other conditions can lead to high performance).

3.2 Dynamic capabilities

We expect that system and local capabilities are at the core of competitive advantage in certain contexts. However, exogenous (for example, economic and technological) and endogenous (for example, executive renewal and franchising rate variations) changes might jeopardize this competitive advantage. To ensure the sustainability of OCs as a source of competitive advantage and to promote long-term performance, a franchise system should develop DCs.

Although DCs are not to be analyzed in sequential terms (Gelhard et al., 2016), they are often decomposed into different subcomponents in a seemingly chronological order: sensing, seizing, and reconfiguring/transforming capabilities (e.g., Baden-Fuller & Teece, 2020; Ellonen et al., 2009; Teece, 2007) or absorptive, adaptive, and innovative capabilities (for instance, Wang et al., 2015). These categories are also found in the franchising context. Using a qualitative approach, Weaven et al. (2021) showed that franchises need to be able to develop and deploy specific DCs when confronted by an economic crisis. Three main dimensions emerged from their interview data in relation to DCs relevant to surviving an economic downturn. They are sensing (business assessment and information acquisition), seizing (product portfolio decisions, and investment in technologies and human resources) and reconfiguring/ transforming (innovation, decentralization and knowledge management).

However, as outlined by Wang et al. (2015), the classification between constituents of DCs is not fixed, and some DC constituents overlap. It is also worth noting that DC constituents are interdependent. For example, Weaven et al. (2021) mentioned that the management by the franchisor of the business relationship in the system affects the flow of information. Hence, any DC that affects the business relationship also affects the sensing DC. Hence, it is difficult to clearly delineate the DC constituents. If anything, we could distinguish between sensing capability, which refers essentially (but not uniquely) to exogeneous available information and reconfiguring which is about endogenously transforming organization. Seizing would then lie in between.

The literature proposes other classifications and groupings of DCs, based on this logic. Hence, adaptive and innovative capabilities are sometimes condensed into transformative capabilities (Pandza & Holt, 2007; Wang et al., 2015), which relate to a firm's ability to constantly redefine a portfolio of product or service opportunities based on endogenous knowledge (Pandza & Holt, 2007). This grouping encompasses much of the seizing and reconfiguring DCs. These DCs relate to the adaptation of OCs at the franchisor level (e.g., the capacity to integrate new knowledge and reconsider existing practices) and to the ability to foster innovation (for example, the use of information to launch novel products or services, the ability to engender and support innovative behavior not only among franchisees but also among managers, and the adoption of new methods of production and new ways of doing things within firms). We take this view and consider that the fundamental functions of DCs are mainly conducted by sensing and adapting. We focus on these two DCs because they are the main DCs that cause the change in OCs in the franchising context.

In our framework, all of these sensing and transformative DCs apply to organizational and business (local) OCs. They are intended to adapt existing OCs or, when necessary, create novel capabilities that enable a firm to make a living in the long run. By themselves, or in conjunction with OCs, these DCs constitute, to echo Gillis et al. (2020), “franchise management capabilities”. As DCs are intended to make it possible to maintain the effectiveness of organizational know-how and the value of the know-how transferred to franchisees, we expect that DCs are a sufficient condition for high performance in association with OCs. In other words, we expect to observe the presence of sensing *or* adaptive capabilities in conjunction with one or more types of know-how in high-performing configurations. Accordingly, we propose the following:

H3: Sensing or adaptive DCs are, in conjunction with OCs, sufficient conditions for high performance.

4. METHODOLOGY

4.1 Sample and data collection

Both mail and face-to-face survey methods were used to collect data from France-based franchisors. We used the franchise listings provided by the *Fédération Française de la Franchise* (French Franchise Federation, FFF) to obtain the examined franchisors' contact details. We also contacted franchise systems that were not in the listings but that had participated in a prior research project conducted by the authors. A total of 930 top executives of franchise systems actively operating in France were contacted in December 2017. The survey was addressed to the managing directors of each franchise system. Our target respondents also included top executives with a deep understanding of the orientation of the franchise system strategies, including network directors, directors of development and franchise directors. Because DCs and OCs are organization-level constructs, we believe that these respondents are appropriate informants in the context of capturing DCs and OCs in franchise systems.

After three reminders at the beginning of 2018, we received a total of 108 questionnaires (at least partially completed). As a complementary data-collection method, we personally administered surveys at the annual meeting of *Salon de la Franchise* (Franchise Exhibition) in March 2018. Fifty-five questionnaires were gathered at this time. Incomplete questionnaires were excluded, bringing the total number of usable questionnaires to 119. Our final sample consisted of 119 franchise systems for an overall response rate of 12.8%. By way of comparison, there were 1900 franchise systems in France in 2016. Considering that this study required the involvement of top franchise executives, the sample size was considered appropriate, and similar sample sizes have been reported in prior studies that have investigated the strategic management of franchising systems (see, for instance, Dada and Watson (2013)). Moreover, a nonresponse bias analysis was conducted by comparing early and late responses (Armstrong and Overton, 1977). We also conducted *t test* comparisons of the mail survey and face-to-face survey respondents. According to the tests, there were no statistically significant differences in the mean responses corresponding to the constructs measured in the study.

INSERT TABLE 1 ABOUT HERE

The sample included both young and well-established franchise systems, as well as both very small and very large franchise systems, in various sectors (Table 1). The average age of the systems, defined as the number of years that the corresponding company had been franchising, was 15 years, and the average size was 97.5 franchised units. These figures and the sample distributions are very close to the sample of the CSA 2016 survey on franchising, which is representative of French franchise systems (average age =14 years; average size=95 units).

4.2 Measures

Using a framework derived from the literature on alliances, Gillis et al. (2020) focus on three dimensions that reflect franchise management capabilities: communication, coordination and bonding. They aggregate these different capabilities into a multidimensional construct reflecting "management capabilities". By using a different framework, we distinguish between the components of franchise management capabilities, categorizing them as know-how and DCs pertaining to adaptation and detection. In our framework, it is the articulation between these capabilities and not their aggregation that constitutes franchise management capabilities. Beyond these differences, we find similarities among the concepts measured: the "knowledge sharing routines" of Gillis et al. (2020), for example, are incorporated in adaptive DCs in our measures; the "trust routines" refer to cohesion know-how; and standard operating routines are quite similar to control know-how.

More specifically, a research instrument was developed to serve as a basis for collecting data pertaining to DCs, OCs, and franchise system performance. Where possible, existing constructs and measures were used to ensure their validity. All of the questionnaire items were operationalized using self-reported seven-point Likert scales ranging from 1 (strongly disagree) to 7 (strongly agree). It should be noted that in empirical research, the operationalization of resources and capabilities has not yet reached standard measures (Laaksonen & Peltoniemi, 2018; Protogerou et al., 2012). The development of the scales was based on the RBV literature (for example, Teece et al., 1997). For a complete overview of all of the items used in the survey, please refer to Appendix A.

The DC construct was measured based on two subdimensions, namely, sensing⁶ and adaptive capabilities, and each was measured using specific items. We measured DCs as a higher-order

⁶ Our measure of sensing capability is limited to one dimension: the ongoing information acquisition. However, this dimension is measured thoroughly. The acquisition of new knowledge can be completed through different sources (actors) and thus can be more or less extensive (if multiple actors are involved). Weaven et al. (2021) mentioned this information acquisition as important in sensing DC, particularly in franchise systems.

reflective construct using 19 items adapted from Wang et al. (2015).

To measure OCs, we asked the franchisors to indicate on a seven-point scale the degree to which different types of organizational know-how were mastered in their systems and the degree to which the different types of local know-how transferred to franchisees were rare and inimitable, and this was done across several items. The monitoring/control side of organizational know-how was measured using four items. Cohesion capability was also measured using four items. To measure the value of business know-how, we used the scale developed by El Akremi et al. (2009) and Ghantous et al. (2013), which is based on nine items. These items allowed us to qualify the nature of business know-how, especially regarding its scarcity and inimitability.

Performance is a multidimensional concept for which it is possible to find a wide variety of measurements (Rauch et al., 2009). In this study, perceived measures were used to operationalize franchise system performance. The two most commonly used measurements of franchise performance are system growth (for example, Combs & Ketchen, 2003; Kaufmann & Dant, 1996; Shane, 1996) and financial performance (for example, Combs & Ketchen, 2003; Hoover et al., 2003; Lafontaine, 1992; Michael, 2003). The first measurement reflects increases in the number of franchised units in a system. The second measurement is typically framed in terms of sales and/or profits. To assess the performance of the examined franchise systems, we used an integrative measurement of entrepreneurial performance (Chandler & Hanks, 1993; Murphy et al., 1996) that encompasses both growth and financial measurements.

The franchising rate was measured as the number of franchised units divided by the overall number of outlets in the system.

4.3 Validation of measures

The construct validation of the perceptual measures was tested in two steps. First, we checked for content validity, which requires gathering measures that represent the concept of interest. As in Protogerou et al. (2012), the scales of the DC measures were developed based on theoretical contributions and, in particular, Teece et al.'s (1997) DC framework. Our items, although more numerous, are in line with those of Wang et al. (2015). The OCs and franchise system performance scales employed were adapted from existing, validated scales used in the franchising literature.

Second, we addressed construct validity. Regarding reliability testing, the Cronbach's α and the composite reliability (CR) values for all the constructs were above the recommended threshold of 0.7 (see Appendix A), indicating internal consistency and reliability for our measures. For each construct, KMO indexes were very close (local know-how) or higher than 0.8 (all other constructs). We then conducted a factor analysis. Several constructs were unidimensional (organizational know-how and performance), while others were not (local know-how and DCs). Regarding discriminant validity, the square root of the average variance extracted (AVE) for each construct was higher than the values of the correlation estimates between that particular construct and the other constructs in the model (see Table 2). This indicates that the AVE is greater than the shared variance between the constructs, demonstrating a good discriminant validity. We concluded that the specified indicators were sufficient in their representation of the constructs and our analyses provided a reasonable level of confidence that our measures were valid and reliable.

INSERT TABLE 2 ABOUT HERE

4.4 Method of analysis

The configurational approach is primarily based on the fundamental premise that in an RBV framework, which articulates DCs and OCs, the strategic development of a system and performance cannot rely on only the linear or curvilinear relationships between these elements. Efforts to estimate average relationships are indeed inconsistent with a central assumption of the RBV—that firms maximize value by choosing strategies that exploit their heterogeneous resources and individual situations (Mackey et al., 2017). The fsQCA is a normative model of set-theoretic connections. A large number of social science problems can be formulated in terms of sets and set relations (Ragin, 2008), in which high-value causal statements are not necessarily sufficient for a dependent variable to have high values (Woodside, 2013). The fsQCA method can be used to identify these asymmetric relationships. The set-theoretic method applied focuses on configurations of variables as sets in which cases may or may not have membership.

Calibration

The first step in this method is to calibrate our variable so that a franchisor is said to belong or not to a set (for instance “high performing system”, “good mastery of know-how”). Different methods of calibration exist. Regardless of the method, the set membership is essentially driven by the determination of the qualitative anchor(s). As outlined by Schneider and Wagemann (2012, p. 36-37), the determination of the crossover point is critical in calibration, whereas the functional form employed in the procedure is less important. The determination of this threshold should be based on external knowledge rather than on the property of the data at hand. In our case, there is no external knowledge to define *ex ante* on a scale from 1 to 7 the thresholds for good mastery *versus* little or no mastery and high *versus* low performance. For calibration, we ranked each variable and then standardized this ranking to range from 0 to 1. As different functional forms may be employed (Pappas and Woodside, 2021), we used a straightforward linear function. This method implicitly sets the “crossover point” at the median and fits well with the distribution of our variables. This choice is generally made in the direct method (see, e.g., Greckhamer and Gur, 2021; Pappas and Woodside, 2021). We checked that the crossover point was consistent with the underlying condition. For example, for the performance variable (five items; each measured on a scale from 1 to 7), the median that separates “high performing” systems from “low performing” systems is 5.7. This threshold is far beyond the

middle of the scale (4 in all measures), which indicates “stagnation” and is thus consistent with the definition of a set of high performing firms⁷.

Analysis procedure

Regarding hypothesis testing, in fsQCA, necessary and sufficient conditions can be conceptualized as subset relations. The method then captures the degree to which a majority of cases support the statement that X is a superset of Y (quasi-necessity; $X \geq Y$) or the statement that X is a subset of Y (quasi-sufficiency; $X \leq Y$) (Ragin, 2000). The analysis of necessity consists of identifying simple conditions that are a superset of (that is, necessary for) the outcome (here, a high-performing system). For example, Hypothesis 1 states that high performing systems are a subset of those that have business know-how of value or good mastery of organizational know-how. If no simple condition (here, mastery of know-how) proves necessary, further simple conditions can be added disjunctively until necessity is obtained (Thiem, 2014). For analysis of necessity, we used a consistency benchmark of ≥ 0.9 as recommended by Schneider & Wagemann (2012).

The analysis of sufficiency is based on a “truth table”. All possible configurations, whether empirically observed or not (logical remainders), are distributed in the rows of the truth table. For each configuration, if its fuzzy set-membership is smaller than or equal to its membership in the outcome, then the configuration is marked as sufficient for the outcome. A logical minimization process is then used to find the shortest possible expression that encompasses the sufficient configurations. Logical minimization relies on basic set theory. The solutions considered in the reduction process must simultaneously fulfill two conditions. They must first show a consistency level in relation to performance significantly higher (10% confidence level) than 0.85. This threshold is above the minimum threshold of 0.75 proposed by Schneider and Wagemann (2012) and is in line with recent studies. Ganter and Hecker (2014) or Greckhamer and Gur (2021), for example, choose a threshold of 0.8. Pappas and Woodside (2021) recommend a threshold of 0.8 or higher. Second, the solutions must exhibit a consistency level in relation to performance significantly higher than that corresponding to low performance at the 10% significance level. This second condition ensures that configurations that appear in the solutions are conducive to performance but not to nonperformance. This test targets the same goal as fixing a minimum level for the PRI (proportional reduction in inconsistency) score. The tests were conducted using the fuzzy command from Stata (Longest and Vaisey, 2008).

As our sample is quite small (119 observations), we apply a frequency threshold (the minimum

⁷ For franchising rate and the turnkeys set, another relevant choice could have been made based on substantive knowledge for the franchising rate. For this variable, the crossover point between systems with high franchising rates and low franchising rates amounts to 80% based on the median. This is consistent with the definition of turnkey systems but could also be questionable. However, changing the calibration and using the direct method with anchors at 30% (minimum threshold), 70% (crossover point), and 90% (maximum threshold) does not alter our results.

number of cases in the sample required for the assessment of the relationship) of 1. This threshold allows us to keep 86% of cases in the analysis, more than the minimum 80% rate generally recommended, whereas a threshold of 2 implies that only 58% of cases are retained in the analysis. To evaluate our results, we use consistency and coverage measures that can range from 0 (low) to 1 (high). Regarding sufficient conditions, consistency indicates the extent to which the solution is in line with the statement of sufficiency. The consistency indexes can be calculated for single truth table rows (raw consistency), for a configuration of the solution term, or for the whole set of configurations in the solution. The second fit index to consider for a sufficient condition is coverage. Coverage sufficiency refers to how well the outcome is explained by a solution. The different solutions or configurations of the solution term can partially overlap, so we can distinguish raw and unique coverage. Raw coverage shows how much of the outcome is explained by a single configuration of the solution term, and unique coverage indicates how much of that explanation can be uniquely attributed to that particular configuration and to no other. Regarding necessary conditions, coverage expresses their relevance. Hence, if the outcome set includes and is much larger than the condition set, this condition set can be considered an irrelevant necessary condition. In Table 3, we also refer to the relevance of necessity (RoN), which shows that the necessary conditions are not trivial (Schneider and Wagemann, 2012, p. 235–239).

Finally, to assess the robustness of the results, we checked that small variations in the parameters of the method do not substantially alter the results (Schneider and Wagemann, 2012). We slightly relaxed the significance thresholds imposed for a configuration to enter the minimization process from 10% to 20%. That is, we imposed that a configuration must exhibit a consistency score significantly superior to 0.85 and a consistency score in relation to performance significantly higher than that corresponding to low performance at the 20% significance level. The (parsimonious) solution still showed four configurations: two were similar to the presented solution, while two others varied; however, this did not substantially alter the results. We also changed the consistency threshold. Over the [0.81, 0.89] range, slight differences appeared in the configurations of the parsimonious solution but did not substantially alter our results and did not alter our conclusion regarding our hypotheses. Finally, slight changes in the calibration of the variable, as exemplified by the recalibration of the turnkey variable, did not alter the results.

5. RESULTS

We present the first results on the analysis of necessity and then the analysis of sufficiency. The first is straightforward, but the second is not. Indeed, depending on the assumption made about the logical remainder or unobserved configurations, three kinds of solutions can be presented. The parsimonious solution considers that all unobserved configurations that could lead to performance are to be considered in the minimization process. Conversely, the complex solution considers that the unobserved configurations have to be excluded from the minimization process. The intermediate solution lies between the two and necessitates distinguishing between “good” and “not good” unobserved configurations. Following our theoretical framework, it is very difficult to determine the configurations of OCs and DCs that are likely or not to lead to high performance. This is difficult because, as already noted, some DCs may interact with OCs other than the three types of know-how that we have selected or because other conditions intervene that

influence the many capabilities that lead to high performance. In this context, the simplest way is to consider that all unobserved configurations could lead to high performance. This is the assumption made in the parsimonious solution. We choose to present our results on the basis of this solution, which considers that all high-performing configurations (regardless of whether or not they are in our data) must be included in the minimization process. The complex solution leads to a higher number (8) of configurations. This complicates the interpretation compared to the parsimonious solution; however, it is easy to identify proximities and similarities between the configurations of these two solutions. The intermediate solution is very close to the parsimonious solution in our case because many of the (16) counterfactuals are good counterfactuals. As these solutions contribute little to the analysis, we prefer to present only the parsimonious solution⁸. We nevertheless thoroughly analyzed the parsimonious solution by crossing the hypothesized and empirical results.

5.1 Know-how as a necessary condition for high performance

Hypothesis 1 predicted that the set of the three examined types of know-how (cohesion and control know-how at the organizational level and business know-how) constitute a necessary condition for high performance.

In fsQCA terms: (Business know-how of value + Mastery of control know-how + Mastery of cohesion know-how) ← High performance⁹

A consistency level of 0.9 is attained for the set of the three types of know-how (Table 3). The coverage ratio (0.668) is not too low, and neither the relevance of necessity (with a value of 1, its maximum) nor the graphs (see Appendix B) show skewness in their distributions, confirming that this condition of necessity is relevant. Thus, Hypothesis 1 is supported.

⁸ An appendix dedicated to complex and intermediate solutions, as well as to the related issue of limited diversity, is available on request.

⁹ The sign “+” represents an inclusive “or”. In terms of set theory, it refers to a union. The backward arrow means “is necessary for”. We could rephrase H1: the set of high-performing systems is included in *the union of the sets* of highly valued business know-how and good mastery of control and cohesion organizational know-how.

INSERT TABLE 3 ABOUT HERE

Furthermore, the results show that the set has to include these three types of know-how to reach the consistency threshold. Together, the three types of know-how constitute a minimum set that assesses the statement of necessity in relation to the performance in franchise systems.

5.2 Capabilities as sufficient conditions for high performance

Hypothesis 2 anticipates that good mastery of control know-how is a sufficient condition in the presence of a high franchising rate (or within “turnkey systems”).

In fsQCA terms: (High franchising rate * good mastery of control capabilities)→High performance¹⁰

In other words, some high-performing configurations should exhibit both good mastery of control know-how and a high franchising rate. The parsimonious solution shows only four configurations that lead to high performance (Table 4). Overall, this solution shows a high level of consistency and covers more than 61.2% of the high-performing configurations. Only configuration 1 includes a high franchising rate as one of its conditions. All of the other high-performing configurations include “Not having a high franchising rate” as an INUS condition for performance. The high-performing configuration with a high franchising rate also includes good mastery of control. This result supports Hypothesis 2: control is a sufficient (INUS) condition for high performance when the franchising rate is high. To achieve a high level of performance with a high franchising rate, a franchisor must have not only good mastery of control but also good mastery of other know-how (cohesion and business) and some dynamic (adaptive) capabilities. The conditions under which a system with a high franchising rate can be efficient are therefore very specific. Nevertheless, this configuration shows a significant level of unique coverage (0.106, the highest among the high-performing configurations) and a moderate level of raw coverage (0.356). Thus, we can conclude that achieving high performance under a high franchising rate necessitates more than just mastering control in a franchise system. However, these demanding conditions are met by a significant number of high-performing franchisors.

INSERT TABLE 4 ABOUT HERE

¹⁰ The sign “*” represents “and”. In terms of set theory, it refers to an intersection. The arrow means “is sufficient for”.

Hypothesis 3 states that sensing or adaptive DCs are, in conjunction with know-how, INUS conditions for high performance.

In fsQCA terms: (Sensing + Adaptive)*(Business know-how of value + Mastery of control know-how + Mastery of cohesion know-how)→High performance¹¹

We find mixed support for H3. We should observe combinations of adaptive or sensing DCs and at least one type of know-how in high-performing systems. However, only configuration 1 offers clear support for H3. In this configuration, the franchisor must not only master the main type of know-how but also possess dynamic adaptive capabilities. In the other high-performing configurations—all including a “low” franchising rate—the mastery of a type of know-how (configurations 2 and 3: business know-how) is not necessarily associated with having DCs. In configuration 2, an INUS condition for high performance is, in contrast, to refrain from developing adaptive capabilities. In configuration 3, the development of DCs is irrelevant. Configuration 4 includes adaptive capabilities as an INUS condition for performance, but this is not associated with a condition regarding the mastery of know-how. In this configuration, either the mastery of know-how is irrelevant (business or control know-how) or the system must NOT invest in mastering a specific type of know-how (cohesion).

These first results suggest little support for Hypothesis 3. However, this hypothesis, which links DCs, OCs, and performance, is at the heart of our model. Actually, the parsimonious solution presented could encompass many possible configurations that disappear during the minimization process¹². To better evaluate the support for Hypothesis 3 and to analyze these results in greater depth, it is appropriate to cross the sets of hypothesized and nonhypothesized configurations with the sets of detected (also in Table 4) and undetected solutions (all of the other configurations) (see Table 5).

Hypothesis 3 is stated as (CONT + COHE + BUSI) * (ADAP + SENS) → PERF. Table 5 shows how the results may be related to H3. The upper-left quadrant shows the configurations that are both hypothesized and observed to be high performing (with a set-membership > 0.5). The lower-

¹¹ H3 anticipates that high-performing configurations must include both DCs and know-how. We expect that most high-performing configurations in our framework include these conditions. In our model, business know-how, control capabilities, and cohesion capabilities are the focal and most important types of know-how in relation to performance. Nevertheless, other types of organizational know-how that are not accounted for in our model exist and could also be relevant for high performance in some contexts. Furthermore, we may observe some high-performing configurations that exhibit only OCs and no DCs. These cases involve configurations where performance is more tenuous and less sustainable in the long term.

¹² The complex solution available on request shows that five out of eight configurations include jointly at least one dynamic capability and one know-how.

left quadrant displays the configurations that are unexpected but observed empirically, which reveal additional explanations for high performance. The upper-right quadrant shows the configurations that are expected but not observed in the solution. The lower-right quadrant displays the configurations that are neither hypothesized nor covered by the solution.

The upper left quadrant crosses our hypothesized results with the detected solution. This indicates that adaptive DCs can, in conjunction with know-how, be INUS conditions for performance. Adaptive DCs can lead to performance when the franchising rate is high and the three types of know-how are well mastered (solution: $ADAP * (F * CONT * COHE * BUSI)$). We recognize configuration 1 here. Additionally, adaptive DCs can be present in high-performing configurations with low franchising rates, although this is less obvious because it does not appear as such in the detected (parsimonious) solutions but is still consistent with the solutions. In such a case, adaptive DCs must be associated with good mastery of control and business know-how but not a high level of cohesion know-how (solution: $ADAP * \sim F * \sim COHE * (CONT + BUSI)$). Finally, sensing capabilities can also be incorporated in a high-performance configuration but only in contexts with low franchising rates, strong business know-how, and no mastery of adaptive DCs and cohesion know-how (solution $SENS * (BUSI * \sim F * (\sim ADAP + \sim COHE))$). These results emphasize the importance of business know-how in these high-performance configurations. In each quadrant, we indicated the consistency and coverage scores of the solutions as sufficient conditions for performance (PERF) and nonperformance (\sim PERF), respectively. As shown in the upper-left quadrant, the solutions are still highly consistent with the statement of sufficiency (consistency of 0.885) regarding performance and, furthermore, show a coverage level (0.567) close to that of all of the parsimonious solutions (0.612). A total of 56.7% of the high-performance configurations are predicted by theory (H3) and covered by empirics. These results offer some support for Hypothesis 3; thus, we conclude that DCs are INUS conditions for performance only in relationship to other (also INUS) conditions. In other words, DCs and know-how interact to deliver performance (H3) in only some specific contexts.

INSERT TABLE 5 ABOUT HERE

The upper-right quadrant shows configurations that are hypothesized but not detected in the solutions. Six of these configurations include sensing capabilities. Sensing capabilities are less represented than expected in recipes for success. Two of the configurations in this quadrant also include adaptive capabilities associated with cohesion know-how.

The lower-left quadrant is where the empirical findings overlap with the cases that are not theoretically expected. As noted by Schneider and Wagemann (2012, p. 302), these configurations represent cases that suggest the direction in which theoretical expectations should be extended. However, this holds only for cases that also lead to high performance. In this respect, we notice that the coverage of these solutions in relation to high performance is quite weak (0.363). These cases cover few of the high-performing systems and, as such, can be considered rare. They refer (at least partially) to configurations 2 and 4 in Table 4. Hence, some configurations deliver high performance based only on business know-how. Our theoretical framework depicts this kind of configuration as not sustainable. Other configurations are based on adaptive DCs without any interaction with OCs. This may indicate that, in some cases, adaptive capabilities may combine with know-how other than control, cohesion or business know-how to deliver performance. We have already mentioned that—consistent with our

framework—DCs might apply to other types of know-how that are not included in our study.

Finally, the lower-right quadrant shows the cases neither expected by theory nor detected in the empirics. This quadrant refers to overlooked cases related to H3. These configurations exhibit no DCs at all or may include sensing DCs but no know-how mastery. The fact that the configurations in this quadrant that lead to high performance exhibit quite high levels of coverage (0.591) and consistency (1) simply indicates that Hypothesis 3 and the solutions detected in Table 4 do not cover all of the high-performing systems.

6. DISCUSSION AND CONCLUSION

In this study, we proposed a model that consistently articulates OCs and DCs and provides results relevant for the franchising field at a general level. By doing so, we contribute to filling a gap identified by Scheuer and Thaler (2022), who called for research on multiple DC and OC operating simultaneously. We characterized two types of franchisor organizational know-how—namely, that pertaining to control and cohesion—and local know-how as a set of conditions necessary for high performance in franchise systems. This result states that a study that takes into account only one of these types of know-how to explain performance, contingently or not, explains the performance of only one part of franchise systems. However, this result is not exclusive to other approaches or outcomes; in particular, it does not rule out the possibility that other conditions, including sets of other types of know-how, may also form sets of conditions necessary for high performance. Above all, our analysis leads us to distinguish between necessary and sufficient conditions for high performance in franchise systems. While the types of know-how taken into account in this study constitute jointly necessary conditions, they constitute sufficient conditions only in association with other conditions.

Against this background, we predicted that, in combination with a high franchising rate, control know-how should be a sufficient condition of high performance. Our results support this prediction. Simultaneously, they show that additional conditions are required and that the configurations concerned represent at best slightly more than 35% of the configurations that lead to high performance. We also predicted that know-how leads to high performance in association with DCs. Our results show that this is the case for a significant proportion of the high-performance configurations.

At a more granular level of analysis, our results are also enlightening not only to the nature but also the diversity and complexity of the management capabilities that lead to high performance in franchise systems. The articulation between OCs and DCs requires management capabilities. These capabilities are undeniably needed to align OCs and DCs and provide a strategic vision in a coherent manner if they are to lead to high performance. Studying the configurations or different alignments between the capabilities that lead to high performance provides insights into the components of key management capabilities for franchise system performance. Our results complement and diverge from those of Gillis et al. (2020). They show that the combinations of DCs and OCs that lead to high performance differ based on the franchise ownership strategy implemented (plural form vs. turnkeys). First, business know-how is a cornerstone of high performance in all types of systems but not systematically and independently of other conditions. For turnkeys, the franchise management capabilities that lead to high performance consist of control and cohesion know-how and adaptive DCs. Thus, the franchise management capabilities

that lead to success in turnkeys are not only based on the control of the franchisees. It is also necessary to encourage their adhesion and to develop adaptive capabilities. The absence of sensing capabilities indicates that turnkeys do not have to recognize and evaluate value information from many stakeholders but must focus on franchisees. Through adaptive capabilities, turnkeys must nevertheless be able to adapt or change their control and adhesion capabilities.

Our results regarding plural form systems contrast sharply with those regarding turnkeys and highlight a wider variety of configurations of the different components of management capabilities that lead to performance. Crossing the hypothesized results with empirics provides further insights into franchise management capabilities in plural form systems. The management capabilities that pave the way to franchise system performance can articulate different (adaptive or sensing) DCs with control know-how or a business know-how of value. In such systems, the ability to capture and evaluate valuable information from multiple sources can be a performance factor. Franchisors should not focus exclusively on franchisees. Interestingly, franchisors must generally not develop a mastery of cohesion know-how to achieve performance. Thus, in plural form systems—in contrast to turnkeys—developing cohesion management capabilities is not useful and may even be counterproductive. In summary, in plural form systems, franchise management capabilities can mobilize a wider range of DCs. Both adaptive and sensing capabilities can be leveraged for high performance. Conversely, in plural form systems, the control dimension of management capabilities must be limited to monitoring and discipline and should not be extended to devices that promote internal cohesion and relational governance. Regarding this result, the contrast between plural form and turnkey systems can be explained by considerations related to the influence of relational governance on knowledge transfer between franchisors and franchisees (Gorovaia & Windsperger, 2013). Therefore, the configuration approach allows us to define a set of precise conditions that lead to high performance. The lack of a link between franchise management capabilities and performance observed by Gillis et al. (2020) in the context of turnkeys may be due to the linear and universal approach of these authors and their measurements, both aggregated and separate, of the different components of franchise management capabilities, which do not allow for these conditions to be highlighted.

Finally, some findings call for further study. We proposed a model that consistently articulated some know-how and some DCs identified in the literature as critical to performance in the franchise context. This model proves to be relevant but is necessarily simplifying. As a consequence, some empirics point to nonhypothesized results, and the model could be enriched by including other know-how or capabilities, as our specific view on franchise capabilities that was derived from the literature on franchising may be too narrow. Other conceptualizations of DCs, for instance, based on the competence to build new competences (Danneels, 2008), could be used to advance more comprehensive knowledge of the configurations that drive the performance of franchise systems. In addition, the operationalization of DCs could include other subthemes, as our specific operationalization of sensing capability is thorough but limited to the acquisition of new knowledge, which might explain why this DC rarely appears in configurations supporting H3. Nevertheless, for franchise managers, this research offers a first step toward identifying the capabilities that franchisors should develop in partnership with their franchisees. Understanding how different capabilities operate and interact under alternative franchise ownership strategies—that is, turnkey or plural form – can help franchisors make better resource

allocation choices and increase system performance.

This study's results involve three limitations that should guide future research. First, the cross-sectional design of this study allowed us to address the issue of the complex interdependencies among DCs, know-how, and franchise ownership conditions but did not allow us to examine these complex interdependencies over time. Instead, we measured the constructs at one point in time. However, the consideration of time is important if not crucial in the study of DCs (Ambrosini & Bowman, 2009). Rich and diverse research methods (both cross-sectional and longitudinal) are required to increase our understanding of DCs within franchise systems and provide more insights into their practice. In particular, longitudinal studies should be undertaken to explore the long-term effects of DCs and reveal the dynamics of change in the context of DCs. Second, we limited our analysis to the franchisor's perspective, but the performance of franchise systems depends highly on franchisees' know-how and capabilities. Our configurational analysis could greatly benefit from a dual approach involving both franchisor and franchisee perspectives. This approach, compared to a one-sided franchisor approach, offers a more accurate understanding of performance outcomes related to the franchisees' know-how and capabilities. At a more general level, it would answer a call from Scheuer and Thaler (2022). Noticing that cooperation beyond organizational borders represents a new normal for business conduct, they proposed to extend the analysis from the internal resource and capabilities basis to the reconfiguration of external resources and capabilities as means to reach organizational goals. Third, we used self-reported data. Although efforts were made to ensure data quality, the possibility of survey biases cannot be excluded, and the respondents' perceptions might not coincide with objective reality.

REFERENCES

- Alon, I., Apriliyanti, I. D., & Parodi, M. C. H. (2020). A systematic review of international franchising. *Multinational Business Review*, 29(1), 43-69.
- Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews*, 11(1), 29-49.
- Arend, R. J. (2013). Ethics-focused dynamic capabilities: A small business perspective. *Small Business Economics*, 41, 1-24.
- Armstrong, J. S. & Overton, T. S. (1977). Estimating nonresponse bias in mail surveys. *Journal of Marketing Research* 14 (3), 396-402.
- Baden-Fuller, C. & Teece D. J. (2020). Market sensing, dynamic capability, and competitive dynamics. *Industrial Marketing Management*, 89, 105-106.
- Baía, E., & Ferreira, J. (2019). Dynamic capabilities and performance: How has the relationship been assessed? *Journal of Management & Organization*, 1-30.
- Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- Barney, J. B. (2002). *Gaining and sustaining competitive advantage*. 2nd edition, Prentice Hall.
- Barthélemy, J. (2008). Opportunism, knowledge, and the performance of franchise chains. *Strategic Management Journal*, 29(13), 1451-1463.
- Baumgartner, M., & Thiem, A. (2017). Often Trusted but Never (Properly) Tested: Evaluating Qualitative Comparative Analysis. *Sociological Methods & Research*, 49(2), 279-311.
- Bitencourt, C. C., de Oliveira Santini, F., Ladeira, W. J., Santos, A. C., & Teixeira, E. K. (2020). The extended dynamic capabilities model: A meta-analysis. *European Management Journal*, 38(1), 108-120.
- Boulay, J., Caemmerer, B., Chanut, O., Magali, C. & Fadairo, M. (2023). It takes two to tango: A taxonomy of franchise success determinants. *International Journal of Retail & Distribution Management*, 51(6), 807-825.
- Bradach, J. (1998). *Franchise Organizations*. Harvard Business School Press, Boston, MA, Clearing House Inc.
- Cepeda, G., & Vera, D. (2007). Dynamic capabilities and operational capabilities: A knowledge management perspective. *Journal of Business Research*, 60(5), 426-437.
- Chandler, G. N., & Hanks S. H. (1993). Measuring the performance of emerging businesses: A validation study. *Journal of Business Venturing*, 8(5), 391-408.
- Chien, S. Y. (2022). Entrepreneurial Orientation, Dynamic Capability, and Franchisee Performance: The Role of Market Responsiveness. *Entrepreneurship Research Journal*. <https://doi.org/10.1515/erj-2021-0194>
- Cochet, O., Dormann, J., & Ehrmann, T. (2008). Capitalizing on Franchisee Autonomy: Relational Forms of Governance as Controls in Idiosyncratic Franchise Dyads. *Journal of*

Small Business Management, 46, 50-72.

- Combs, J. G., & Ketchen, D. J. (2003). Why do firms use franchising as an entrepreneurial strategy?: A meta-analysis. *Journal of Management*, 29, 443–465.
- Combs, J. G., Ketchen, D. J., Shook, C. L., & Short J. C. (2011). Antecedents and consequences of franchising: past accomplishments and future challenges. *Journal of Management*, 37 (1), 99-126.
- Combs, J. G., Michael, S. C., & Castrogiovanni, G. J. (2004). Franchising: A review and avenues to greater theoretical diversity. *Journal of Management*, 30(6), 907-931.
- Dada, O. L., & Watson, A. (2013). The effect of entrepreneurial orientation on the franchise relationship. *International Small Business Journal*, 31(8), 955-977.
- Danneels, E. (2008). Organizational antecedents of second-order competences. *Strategic Management Journal*, 29 (5), 519-543.
- Drnevich, P.L. & Kriauciunas, A.P. (2011), Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. *Strategic Management Journal*, 32: 254-279.
- Eisenhardt, K. M. & Martin, J. A. (2000). Dynamic capabilities: what are they?. *Strategic Management Journal*, 21(10–11), 1105-1121.
- El Akremi, A., Herrbach, O., Mignonac, K., & Perrigot, R. (2009). *Quels sont les savoir-faire sources de l'avantage concurrentiel en franchise?*. Report for the French Franchise Federation. <https://www.franchise-fff.com/base-documentaire/category/245-rapports-de-recherche>
- El Akremi, A., Perrigot, R., & Piot-Lepetit, I. (2015). Examining the drivers for franchised chains performance through the lens of the dynamic capability approach. *Journal of Small Business Management*, 53(1), 145-165.
- Ellonen, H.-K., Wikström, P. & Jantunen, A. (2009). Linking dynamic-capability portfolios and innovation outcomes. *Technovation*, 29(11), 753-762.
- Fainshmidt, S., Pezeshkan, A., Lance Frazier, M., Nair, A., & Markowski, E. (2016). Dynamic capabilities and organizational performance: A meta-analytic evaluation and extension. *Journal of Management Studies*, 53(8), 1348-1380.
- Fainshmidt, S., Wenger, L., Pezeshkan, A., & Mallon, M. R. (2019). When do dynamic capabilities lead to competitive advantage? The importance of strategic fit. *Journal of Management Studies*, 56(4), 758-787.
- Ferreira, J., Coelho, A., & Moutinho, L. (2020). Dynamic capabilities, creativity and innovation capability and their impact on competitive advantage and firm performance: The moderating role of entrepreneurial orientation. *Technovation*, 92, 102061.
- Floyd, C., & Fenwick, G. (1999). Towards a model of franchise system development. *International Small Business Journal*, 17(4), 32-48.
- Furnari, S., Crilly, D., Misangyi, V.F., Greckhamer, T., Fiss, P.C. & Aguilera, R.V. (2021). Capturing Causal Complexity: Heuristics for Configurational Theorizing. *Academy of*

Management Review, 46(4), 778–799.

- Ganter, A. and Hecker, A. (2014). Configurational paths to organizational innovation: qualitative comparative analyses of antecedents and contingencies. *Journal of Business Research*, 67(6), 1285–1292.
- Ghantous, N., Chameroy, F., Léo, P-Y., & Philippe, J. (2013). *The internationalization of franchise networks. Process and success factors*. Report for the French Franchise Federation. <https://www.franchise-fff.com/base-documentaire/category/245-rapports-de-recherche>
- Ghantous, N., & Das, S. S. (2018). International franchising and performance: a resource-based perspective. *International Journal of Retail & Distribution Management*, 46(8), 744-763.
- Gelhard, C., von Delft, S. & Gudergan, S. P. (2016). Heterogeneity in dynamic capability configurations: equifinality and strategic performance. *Journal of Business Research*, 69(11), 5272-5279.
- Gillis, W. E., & Combs, J. G. (2009). Franchisor strategy and firm performance: Making the most of strategic resource investments. *Business Horizons*, 52(6), 553–561.
- Gillis, W. E., Combs, J. G., & Ketchen D. J. (2014). Using resource-based theory to help explain plural form franchising. *Entrepreneurship: Theory and Practice*, 38, 449-472.
- Gillis, W. E., Combs, J. G., & Yin, X. (2020). Franchise management capabilities and franchisor performance under alternative franchise ownership strategies. *Journal of Business Venturing*, 35(1).
- Gorovaia, N. & Windsperger, J. (2013). Determinants of knowledge transfer strategy in franchising: integrating knowledge-based and relational governance perspectives. *The Service Industries Journal*, 33(12).
- Greckhamer, T., Furnari, S., Fiss, P. C., & Aguilera, R. V. (2018). Studying configurations with qualitative comparative analysis: Best practices in strategy and organization research. *Strategic Organization*, 16(4), 482-495.
- Greckhamer, T. & Gur, F.A. (2021). Disentangling combinations and contingencies of generic strategies: A set-theoretic configurational approach. *Long Range Planning*, 54(2), p. 101951.
- Gruchmann, T., Seuring, S., & Petljak, K. (2019). Assessing the role of dynamic capabilities in local food distribution: a theory-elaboration study. *Supply Chain Management: An International Journal*, 24(6), 767-783.
- Gupta, S., Drave, V. A., Dwivedi, Y. K., Baabdullah, A. M., & Ismagilova, E. (2020). Achieving superior organizational performance via big data predictive analytics: A dynamic capability view. *Industrial Marketing Management*, 90, 581-592.
- Harreld, J. B., O'Reilly III, C. A., & Tushman, M. L. (2007). Dynamic capabilities at IBM: Driving strategy into action. *California Management Review*, 49(4), 21-43.
- Helfat, C. E. & Winter, S. G. (2011). Untangling dynamic and operational capabilities: strategy for the (n)ever changing-world. *Strategic Management Journal*, 32, 1243-1250.

- Helfat, C., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D. & Winter, S. (2007). *Dynamic Capabilities: Understanding Strategic Change in Organizations*. Malden, MA: Blackwell.
- Hernández-Linares, R., Kellermanns, F. W., & López-Fernández, M. C. (2021). Dynamic capabilities and SME performance: The moderating effect of market orientation. *Journal of Small Business Management*, 59(1), 162-195.
- Hoang, H., & Rothaermel, F. T. (2010). Leveraging internal and external experience: exploration, exploitation, and R&D project performance. *Strategic Management Journal*, 31(7), 734–758.
- Hoover, V. L., Ketchen, D. J., & Combs, J. G. (2003). Why restaurant firms franchise: An analysis of two possible explanations. *The Cornell Hotel and Restaurant Administration Quarterly*, 44(1), 9-16.
- Iddy, J. J. & Alon, I. (2019). Knowledge management in franchising: a research agenda. *Journal of Knowledge Management*, 23(4), 763-785.
- Jell-Ojobor, M., Hajdini, I., & Windsperger, J. (2022). Governance of international franchise networks: Combining value creation and value appropriation perspectives. *Journal of Business Research*, 139, 267-279.
- Jeon, H. J., Dant, R. P., & Baker, B. L. (2016). A knowledge-based explanation of franchise system resources and performance. *Journal of Marketing Channels*, 23(3), 97-113.
- Kan, A. K. S., Adegbite, E., El Omari, S., & Abdellatif, M. (2016). On the use of qualitative comparative analysis in management. *Journal of Business Research*, 69(4), 1458-1463.
- Karna, A., Richter, A. & Riesenkauff, E. (2016). Revisiting the role of the environment in the capabilities–financial performance relationship: A meta-analysis. *Strategic Management Journal*, 37, 1154-1173.
- Kaufmann, P. J., & Dant, R. P. (1996). Multi-unit franchising: growth and management issues. *Journal of Business Venturing*, 11(5), 343–358.
- Knott, A. M. (2003). The organizational routines factor market paradox. *Strategic Management Journal*, 24(10), 929–943.
- Laaksonen, O. & Peltoniemi, M. (2018). The essence of dynamic capabilities and their measurement. *International Journal of Management Reviews*, 20, 184-205.
- Lafontaine F. (1992). Agency theory and franchising: some empirical results. *The Rand Journal of Economics*, 23(2), 263-283.
- Longest, K. C., & Vaisey, S. (2008). Fuzzy: A program for performing qualitative comparative analyses (QCA) in Stata. *The Stata Journal*, 8(1), 79–104.
- Maalouf, J.T., Combs, J., Gillis, W.E. & Perryman, A. (2020). Replicate or adapt? Franchising and organizational routines. *Journal of Knowledge Management*, 24(4), 775-798.
- Mackey, T. B., Barney, J. B. & Dotson, J. P. (2017). Corporate diversification and the value of

- individual firms: a Bayesian approach. *Strategic Management Journal*, 38, 322-341.
- Michael, S. C. (2003). First mover advantage through franchising. *Journal of Business Venturing*, 18(1), 61-80.
- Miller, D. (1996). Configurations revisited. *Strategic management journal*, 17(7), 505-512.
- Murphy, G. B., Trailer, J. W., & Hill, R. C. (1996). Measuring performance in entrepreneurship research. *Journal of Business Research*, 36(1), 15-23.
- Pandza, K., & Holt, R. (2007). Absorptive and transformative capacities in nanotechnology innovation systems. *Journal of Engineering and Technology Management*, 24(4), 347-365.
- Pappas, I. & Woodside, A. G. (2021). Fuzzy-set Qualitative Comparative Analysis (fsQCA): Guidelines for research practice in Information Systems and marketing. *International Journal of Information Management*, 58.
- Park, H. Y., Misra, K., Reddy, S., & Jaber, K. (2019). Family firms' innovation drivers and performance: a dynamic capabilities approach. *Journal of Family Business Management*, 9(1), 4-23.
- Paswan, A.K. & Wittmann, C.M. (2009). Knowledge management and franchise systems. *Industrial Marketing Management*, 38 (2), 173-180.
- Perrigot, R., López-Fernández, B., Basset, G., & Herrbach, O. (2020). Resale pricing as part of franchisor know-how. *Journal of Business & Industrial Marketing*, 35(4), 685-698.
- Perrigot, R., López-Fernández, B. & Basset, G. (2021). Conflict management capabilities in franchising. *Journal of Retailing and Consumer Services*, 63, 102694.
- Protogerou, A., Caloghirou, Y., & Lioukas, S. (2012). Dynamic capabilities and their indirect impact on firm performance. *Industrial and Corporate Change*, 21(3), 615-647.
- Ragin, C.C. (2000). *Fuzzy set social science*. Chicago, Chicago University Press.
- Ragin, C.C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago, Chicago University Press.
- Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice*, 33(3), 761-787.
- Ruiz-Ortega, M. J., Rodrigo-Alarcón, J., & Parra-Requena, G. (2023). New directions to create dynamic capabilities: The role of pioneering orientation and interorganizational relationships. *European Management Journal*.
- Scheuer, L. J. & Thaler, J. (2022). HOW do dynamic capabilities affect performance? A systematic review of mediators. *European Management Journal* (in press).
- Schneider, C. Q., & Wagemann, C. (2012). *Set-theoretic Methods for the Social Sciences*. Cambridge: Cambridge University Press.
- Schweiger, B., Albers, S., Vanderstraeten, J., & Gibb, J. (2020). A capabilities perspective on membership management in franchise networks. *Industrial Marketing Management*, 90, 60-78.

- Sandberg, E., Kindström, D., & Haag, L. (2021). Delineating interorganizational dynamic capabilities: A literature review and a conceptual framework. *Journal of Inter-Organizational Relationships*, 27(3-4), 98-113.
- Shane, S. (1996). Hybrid organizational arrangements and their implications for firm growth and survival: A study of new franchisors. *Academy of Management Journal*, 39(1), 216–234.
- Scheuer, L. J. & Thaler, J. (2022). How do dynamic capabilities affect performance? A systematic review of mediators. *European Management Journal* (in press).
- Sié, L., Pett, T., & Hipkin, I. (2015). Exploring franchise system development in France. *Journal of Business Venturing Insights*, 4, 14-19.
- Spinelli, S., & Birley, S. (1996). Toward a theory of conflict in the franchise system. *Journal of Business Venturing*, 11(5), 329-342.
- Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. *Strategic Management Journal*, 28(13), 1319-1350.
- Teece, D. J. (2012). Routines versus entrepreneurial action. *Journal of Management Studies*, 49, 1395-1401.
- Teece, D. J. (2014). A dynamic capabilities-based entrepreneurial theory of the multinational enterprise. *Journal of International Business Studies*, 45, 8-37.
- Teece, D. J. (2018). Business models and dynamic capabilities. *Long Range Planning*, 51(1), 40-49.
- Teece, D. J., G. Pisano and A. Shuen (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509–533.
- Thiem, A. (2014). Navigating the complexities of qualitative comparative analysis case numbers, necessity relations, and model ambiguities. *Evaluation Review*, 38, 487-513.
- Thiem, A. (2019). Beyond the Facts: Limited Empirical Diversity and Causal Inference in Qualitative Comparative Analysis. *Sociological Methods & Research*, November.
- Thomann, E., van Engen, N., & Tummers, L. (2018). The Necessity of Discretion: A Behavioral Evaluation of Bottom-Up Implementation Theory. *Journal of Public Administration Research and Theory*, 28(4), 583–601.
- Wang, C. L., Senaratne, C., & Rafiq, M. (2015). Success traps, dynamic capabilities and firm performance. *British Journal of Management*, 26, 26-44.
- Watson, A., Dada, O. L., Grünhagen, M., & Wollan, M. L. (2016). When do franchisors select entrepreneurial franchisees? An organizational identity perspective. *Journal of Business Research*, 69(12), 5934-5945.
- Watson, A., & Stanworth, J. (2006). Franchising and intellectual capital: A franchisee's perspective. *International Entrepreneurship and Management Journal*, 2(3), 337– 349.
- Wilden, R., Devinney, T. M., & Dowling, G. R. (2016). The architecture of dynamic capability research identifying the building blocks of a configurational approach. *Academy of Management Annals*, 10(1), 997-1076.

- Wilden, R., Gudergan, S., Akaka, M. A., Averdung, A., & Teichert, T. (2019). The role of cocreation and dynamic capabilities in service provision and performance: A configurational study. *Industrial Marketing Management*, 78, 43-57.
- Wilden, R., Gudergan, S. P., Nielsen, B. B., & Lings, I. (2013). Dynamic capabilities and performance: strategy, structure and environment. *Long Range Planning*, 46(1-2), 72-96.
- Winter, S. G. (2003). Understanding dynamic capabilities. *Strategic Management Journal*, 24(10), 991-995.
- Woodside (2013). Moving Beyond Multiple Regression Analysis to Algorithms: Calling for Adoption of a Paradigm Shift from Symmetric to Asymmetric Thinking in Data Analysis and Crafting Theory. *Journal of Business Research*, 66, 4, 463-472.
- Wu, C. W. (2015). Antecedents of franchise strategy and performance. *Journal of Business Research*, 68(7), 1581-1588.
- Wu, L. Y. (2007). Entrepreneurial resources, dynamic capabilities and start-up performance of Taiwan's high-tech firms. *Journal of Business research*, 60(5), 549-555.
- Wu, L. Y. (2010). Applicability of the resource-based and dynamic-capability views under environmental volatility. *Journal of Business Research*, 63(1), 27-31.
- Yakimova, R., Owens, M., & Sydow, J. (2019). Formal control influence on franchisee trust and brand-supportive behavior within franchise networks. *Industrial Marketing Management*, 76, 123-135.
- Zachary, M. A., McKenny, A. F., Short, J. C., Davis, K. M., & Wu, D. (2011). Franchise branding: An organizational identity perspective. *Journal of the Academy of Marketing Science*, 39, 629-645.
- Zimuto, J., & Maritz, R. (2019). Modelling effect of valuable resources on franchise outlet performance: Dynamic sensing capability as mediator. *South African Journal of Economic and Management Sciences*, 22(1), 1-9.

Table 1. Sample characteristics

Franchise systems' characteristics	Frequency
<i>Age</i>	
Less than 5 years	24%
6-10 years	24%
11-20 years	23%
More than 20 years	29%
Total	100%
<i>Size</i>	
1-50 units	45%
51-100 units	18%
100-150 units	9%
More than 150 units	28%
Total	100%
<i>Industry sector</i>	
Construction and estate agents	8%
Miscellaneous retail	8%
Food retail	10%
Domestic goods retail	11%
Personal goods retail	8%
Hotels and restaurants	15%
Hairdressing and beauty	3%
Services for individuals	18%
Automobile services	7%
Business services	12%
Total	100%

Table 2 Correlation matrix and Average Variance Extracted (AVE)

Constructs	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) Performance	<i>0.873</i>						
(2) Control	0.221*	<i>0.816</i>					
(3) Cohesion	0.245**	0.583**	<i>0.877</i>				
(4) Business KH	0.258**	0.160	0.244**	<i>0.846</i>			
(5) Adaptive DC	0.266**	0.375**	0.471**	0.327**	<i>0.782</i>		
(6) Sensing DC	-0.057	0.156	0.078	-0.111	0.304**	<i>0.752</i>	
(7) Franchising rate	-0.003	-0.040	0.164	0.094	0.208*	-0.175	=

*significant at p<5%; ** significant at p<1%. The data of the diagonal (in italics) are the square root of AVE of the construct

Table 3. Analyses of necessity

Conditions	Consistency	Coverage	Relevance of Necessity
Good mastery of (cohesion or control or business) know-how: (COHE + CONT + BUSI)	0.901	0.668	1
Good mastery of (control or business) know-how: (CONT + BUSI)	0.854	0.685	1
Good mastery of (cohesion or business) know-how (COHE + BUSI)	0.868	0.695	1
Good mastery of (control or cohesion) know-how (CONT + COHE)	0.823	0.685	1

Legend: Consistency indicates the extent to which the results conform to expected relationships between sets. A high level of consistency (0.9; see Thomann et al., 2018) is necessary to assess the statement of necessity.

Coverage expresses the relevance of necessary conditions based on the extent to which the condition set is not much larger than the outcome set. If a set of systems with a high level of know-how is much larger than the set of performing systems (which corresponds to low coverage), then it would be very likely that know-how is a necessary condition for performance, and the relevance of this condition would be weakened. Therefore, we must ensure that this coverage is not too low. Following Thomann et al. (2018), we use a minimum coverage threshold of 0.6.

The relevance of necessity (RoN) measures the relative size between the set of “high” know-how systems and the set of “low” know-how systems. If the set of systems with a high level of know-how is much larger than the set of systems with a low level of know-how, then it is very easy for the set of systems with a high level of know-how to be a superset of whatever the outcome set consists of (see Schneider and Wagemann, 2012).

Table 4. Parsimonious solution of the high-performance model

Configurations	1	2	3	4
Overall:				
Coverage	0.612			
Solution consistency	0.883			
Franchising rate (FRAN)	●	○	○	○
Control know-how (CONT)	●		○	
Cohesion know-how (COHE)	●		○	○
Business know-how (BUSI)	●	●	●	
Adaptive DC (ADAP)	●	○		●
Sensing DC (SENS)				
Coverage (uniq)	0.106	0.091	0.018	0.035
Coverage (raw)	0.356	0.429	0.318	0.303
Solution consistency	0.905	1.000	0.887	0.879

Legend: A black circle represents the presence of a condition, a white circle represents the absence of a condition, and an empty cell indicates an irrelevant condition.

Consistency and coverage measures are used to evaluate sufficiency. For sufficient conditions, consistency is indicated for each truth table row (raw consistency) for single configurations or for the whole solution term. There is no fixed anchor with which to set the raw consistency threshold; however, 0.75 is considered a minimum (Schneider & Wagemann, 2012; Thomann et al., 2018). We set our first threshold above this minimum at 0.85 and run our model with a threshold of 0.80.

Coverage sufficiency refers to how well the outcome is explained by a solution. The different configurations of the solution term can partially overlap, and raw coverage shows how much of the outcome is explained by a single configuration of the solution term, whereas unique coverage indicates how much of that explanation can be uniquely attributed to that particular configuration and no other. Low coverage indicates that the model weakly explains the outcome.

Table 5. Evaluation of Hypothesis 3

		Empirics	
		Detected in solution (E)	Not detected in solution (~E)
Theory	Hypothesized (T)	<p>T * E: Intersection between the theorized configurations and the detected solutions.</p> <p>ADAP * (F * CONT * COHE * BUSI + ~F * ~COHE * (CONT + BUSI)) + SENS * (BUSI * ~F * (~ADAP + ~COHE))</p> <p>T * E → PERF (support theory): coverage = 0.567 and consistency = 0.885. T * E → ~PERF (contradict theory and solution): coverage = 0.473 and consistency = 0.631.</p>	<p>T * ~E: Intersection between the theorized configurations and the undetected solutions.</p> <p>SENS * ~ADAP * (F * CONT + F * BUSI + BUSI * COHE) + SENS * COHE * (~F + ~ADAP + ~CONT) + ADAP * COHE * (~F + ~CONT)</p> <p>T * ~E → PERF (support theory): coverage = 0.625 and consistency = 0.833 T * ~E → ~PERF (delimit theory): coverage = 0.565 and consistency = 0.644</p>
	Not hypothesized (~T)	<p>~T * E: Overlap between the empirical findings and the cases NOT expected by theory.</p> <p>~CONT * ~BUSI * ~COHE * ADAP + ~ADAP * ~SENS * ~F * BUSI * ~COHE</p> <p>~T * E → PERF (extend theory): coverage = 0.363 and consistency = 0.887. ~T * E → ~PERF (empirical contradiction): coverage = 0.380 and consistency = 0.792.</p>	<p>~T * ~E: Not detected in the solutions and not hypothesized.</p> <p>~ADAP * [~SENS * (F + COHE) + (F * ~CONT * ~BUSI * ~COHE)]</p> <p>~T * ~E → PERF (overlooked explanation): coverage = 0.591 and consistency = 1.000 ~T * ~E → ~PERF (support theory): coverage = 0.390 and consistency = 0.564.</p>

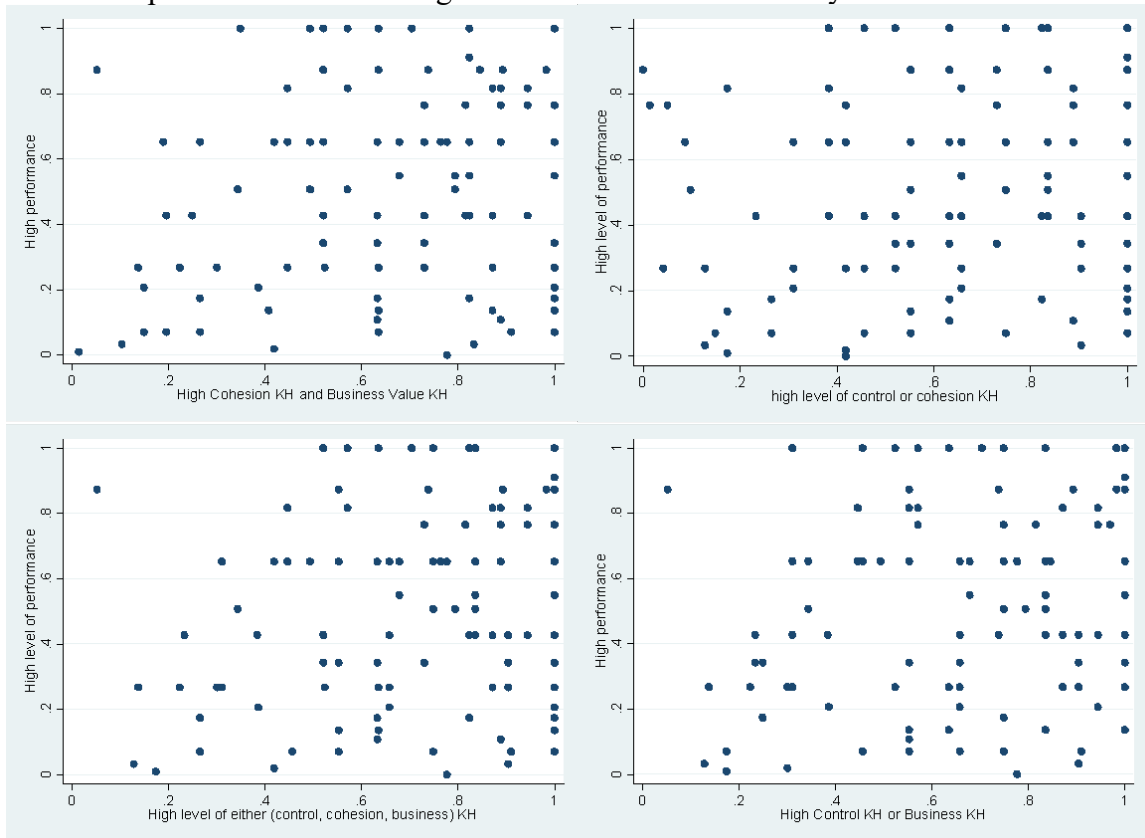
Legend: Based on Schneider and Wagemann (2012, p. 301) and Thomann et al. (2018, p. 596). The + sign designates the inclusive “or”; the * sign designates the “and”, the arrow means “is sufficient for” and finally the tilde indicates negation (NOT).

Appendix A. Constructs, items and measurements

Constructs	Number of dimensions	Alpha	KMO	CR	AVE
<p><u>OPERATIONAL CAPABILITIES:</u></p> <p>Q: Regarding the following organizational know-how, do you agree with the statement that your network masters it?</p> <p>Monitoring/control of units (4 items) / Calibrated variable <i>CONT</i> KnowHow_Cont1- Checking the conformity of franchisees' application of know-how KnowHow_Cont2- Controlling the uniformity of the application of know-how by all outlets within the systems KnowHow_Cont3- Auditing outlets KnowHow_Cont4- Following up with and supporting franchisees through field consultants</p>	Unidimensional (66.7% of variance extracted)	0.808	0.808	0.888	0.667
<p>Internal adherence/cohesion (4 items) / Calibrated variable <i>COHE</i> KnowHow_Coh1- Motivating franchisees in relation to system culture KnowHow_Coh2- Managing cohesion among the franchisees KnowHow_Coh3 - Encouraging franchisee participation in the life of the system KnowHow_Coh4 - Developing a system culture</p>	Unidimensional (76.9% of variance extracted)	0.899	0.839	0.930	0.769
<p>Value of business know-how (9 items) / Calibrated variable <i>BUSI</i></p> <p>Q: To what extent do you agree with the following propositions regarding local know-how, i.e, the know-how transferred to each franchisee?</p> <p>Items related to the scarcity of know-how KnowHow 1.1. Our system involves a truly unique concept KnowHow 1.2. Our system operates based on a concept that is very different from those of our competitors KnowHow 1.3. Our concept is not specific per se; other competitors have similar concepts even if they implement them differently KnowHow 1.4. Few competitors have a concept similar to ours KnowHow 1.5. Many constituting elements of our concept already exist in other systems</p> <p>Items related to the difficulty of imitating know-how KnowHow 2.1. Our competitors need substantial time to copy our concept KnowHow 2.2. Even if they wanted to, our competitors would have difficulty duplicating our concept KnowHow 2.3. Our competitors could easily develop a concept similar to ours. KnowHow 2.4. It would be difficult and costly for our competitors to imitate our concept</p>	3 dimensions: - The first one, contrasting scarcity and inimitability with triviality and imitability, relates to the concept of the value of business know-how. This first axis explains much (44.14%) of the total variance. - The second (14.46%) relates to the "specificity" of business know-how. - The third (13.01%) relates to the sustainability of the value of business know-how.	0.829	0.798	0.957	0.716

<p><u>DYNAMIC CAPABILITIES:</u> Adaptive DC (11 items) / Calibrated variable <i>ADAPT</i></p> <p>Q: To what extent do you agree with the following statements regarding adaptation and know-how adaptation in your network?</p> <p>CapDyn_Adap1-We systematically classify any new information for future needs CapDyn_Adap2-We rapidly analyze and interpret this new information to anticipate changes CapDyn_Adap3-Our franchise system is able to rapidly identify the utility of new information and combine it with existing information CapDyn_Adap4-Network members (company-owned and franchised outlets) share their practical experiences CapDyn_Adap5-We systematically evaluate how we can better apply new information to our activities CapDyn_Adap6- System members are encouraged to challenge outmoded practices CapDyn_Adap7-Our franchisees react rapidly in response to shifts that we initiate CapDyn_Adap8-Many new ideas come from our franchise system, making its function evolve CapDyn_Adap9-Our franchise system seeks out new ways of doing things CapDyn_Adap10-System members receive much support if they want to try new ways of doing things CapDyn_Adap11-Our franchise system introduces improvements and innovations to our business</p>	<p>2 dimensions: - The first dimension relates to proactivity (44.7% of the variance extracted) - The second relates to reaction speed (16.4% of the variance).</p>	0.876	0.857	0.945	0.611
<p>Sensing DC (8 items) / Calibrated variable <i>SENS</i></p> <p>Q: To what extent do you agree with the following statements regarding acquisition of new information?</p> <p>CapDyn_Sen1- New information used to analyze the environment mainly comes from franchisees. CapDyn_Sen2- ... customers CapDyn_Sen3- ... suppliers CapDyn_Sen4- ... bankers CapDyn_Sen5- ... consultants CapDyn_Sen6- ... accountants CapDyn_Cap7- ... personal contacts, firm executives and CEOs CapDyn_Cap8- ... public organizations and/or professional associations</p>	<p>2 dimensions. - information from networks' key actors (franchisees, customers, and suppliers; 42.2% of variance explained) - information from supporting actors (banks, consultants, and accountants; 14.4% of variance explained)</p>	0.795	0.800	0.911	0.565
<p><u>FRANCHISE SYSTEM PERFORMANCE (5 items) / Calibrated variable <i>PERF</i></u> Five items measured on a seven-point Likert scale ranging from decline to very strong growth over the last five years or since the franchise system was first established</p> <p>Perf1- Market share; Perf2- Sales; Perf3- Size (number of retail outlets); Perf4- Net profit; Perf5- Employees</p>	<p>Unidimensional (76.3% of variance extracted)</p>	0.920	0.804	0.941	0.763

Appendix B. Plots of membership in the outcome (“highly performing systems”) and membership in the different configurations of know-how mastery



Legend: These graphs show that there is no sharp skewness in the distribution of know-how toward high membership regardless of the level of membership in high-performing systems, which supports the relevance of the condition of necessity regarding this know-how.