

Master thesis

“Practice-based innovation as an ambidextrous process of exploitation and exploration of diverse knowledge sources in a Dutch food service organization”

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Introduction

In the face of increasing competition and shifting technologies, service organizations must innovate to remain viable, just like manufacturing organizations (Dougherty, 2004). Service innovations can be understood as a set of improvements concerning new technology, business models and social-organizational processes which represent a significant factor in maintaining a firm's competitive advantage (Chen, Wang, Huang, & Shen, 2016). To this day, innovation in food service is accelerating in both radical and incremental ways regarding new technology, product development and process design (Baregheh, Rowley, Sambrook, & Davies, 2012; Rodgers, 2011). However, organizational innovations (derived from non-technical process design) that stand behind the development of new food services, have lacked recognition along the literature (Rodgers, 2007, 2011). It is relevant to understand the social processes behind the sustained development of new services since these serve as guidelines for proper delegation of resources and tasks to attain to the goals of the organization. In this line, current studies have focused on organizing and framing daily activities to foster innovation due to the fact practice-based innovation has proved to be an efficient process that builds innovation from daily activities. Specifically, studies within the realm have targeted several service organizations to prove this purpose, excluding food service (Dougherty, 2004; Ellström, 2010; Melkas & Harmaakorpi, 2012; Skålén, Gummerus, von Koskull, & Magnusson, 2014).

In general terms, organizational innovations can be understood as processes that need to be developed and enacted within the organization. Such processes comprise a dualistic pattern of interdependent actions to handle a certain task and thus, achieve a certain result (Feldman & Pentland, 2003). On the one hand, processes can be formal and, to some extent, prescribed concerning what should be achieved (goals) and how (methods) (Brown & Duguid, 1991). Due to their systematic scheme of action, *explicit* processes provide a sense of order and clarity about the “best way” to act (Skålén et al., 2014). On the other hand, processes can also be emergent and immersed in the daily performance of previously prescribed actions (Ellström, 2010; Reckwitz, 2002). These *implicit* processes are expressed in the form of improvisations to find solutions to unexpected problems that may arise along the course of explicit actions (Brown & Duguid, 1991; Feldman & Pentland, 2003). Consequently, when prescribed actions derive in unforeseen situations, the organization should find sustained ways to efficiently address them.

In this sense, several authors have recognized the need to deploy the organization's resources in an exercise that seeks to “unadapt” the prescribed processes that have proven, along their enactment, to be subject of improvement (Darsø & Høyrup, 2012; Dougherty, 2004; Nilsen & Ellström, 2012). One of the most important resources that an organization possess is the diversity of knowledge carried by its human capital (Leonard, 2000). Along with skills and expertise, the accumulation of knowledge stemming from different sources and disciplines is aimed to be collectively shared and articulated to confront new situations in transformed ways (Forsman, 2011; Skålén et al., 2014). It is through habits of exploitation and exploration that, both the knowledge

acquired through experiences in everyday work, professional background (practice-based) and the one that is kept up to date with research advances (research-based), can be in constant capture, diffusion and use towards addressing implicit situations (Ellström, 2010; Harnaakorpi & Melkas, 2012; Marabelli, Frigerio, & Rajola, 2012; Nilsen & Ellström, 2012). Past studies have clearly acknowledged the relevance that both types of knowledge entail for the development of practice-based innovations (Dougherty, 2004; Nilsen & Ellström, 2012). Nevertheless, there is a lack of understanding about the synergism between such types of knowledge and the processes that allow such synergism to happen and grow into more efficient improvements. With that being said, the *primary objective* of this study is to deepen the understanding about how to deploy both types of knowledge through habits of exploitation and exploration and frame them accordingly in order to foster continuous improvement of explicit work processes (Dougherty, 2004; Ellström, 2010; Nilsen & Ellström, 2012).

According to Ellström (2010), there is a cyclic logic and structure to the interplay between explicit and implicit processes that should be followed. Along with the implementation and reproduction of a certain procedure derived from the exploitation of knowledge, variation aims to be reduced with and between individuals. Then, it continues with a routinized performance acquired from adaptive learning until, at some point, unforeseen situations arise in practice that trigger the exploration of knowledge to question, unlearn and eventually modify creatively the ways of understanding and handling things (Darsø & Høyrup, 2012; Ellström, 2010; Nilsen & Ellström, 2012; Svensson, Ellström, & Åberg, 2004). Although this view seems useful to act systematically, it does not allow the organization to promote sustained interaction and balance in between different types and sources of knowledge. Since the underlying synergism between different types of knowledge represents a continuous driving force for change, promotion and exploring variation and diversity in thought and action (Darsø & Høyrup, 2012), the *second objective* would be to complement the cyclic structure of practice-based innovation with a “holistic” view that will allow the organization to test alternative ways of acting through a framework that exploits and explores both types of knowledge (Ellström, 2010; Nilsen & Ellström, 2012). In this line, Dougherty's (2004) framework is of relevance to support the second objective owing to the fact habits of exploitation and exploration can be further guided by the enactment of certain activities that will foster a continuous deployment of knowledge.

In retrospective, this study examines how can service organizations, within the context of food service, deploy different sources of knowledge through ambidextrous habits of exploitation and exploration in an aim to pursue continuous and sustained practice-based innovation. Theory building is necessary in two senses; *first*, about how to deploy the synergism in between practice-based and research based knowledge through habits of exploitation and exploration along the practice of both explicit and implicit processes and *second*, to complement the cyclic structure of practice-based innovation with a holistic view aiming to develop a framework that exploits and explores the synergism of both types of knowledge. Such framework will allow the food service organization under study to visualize and extend their horizontal flow of exploitation and

exploration of both research-based and practice-based knowledge, further contributing by building on existing practice-based innovation theory which entails major potential to be extrapolated to other related organizations.

Literature Review

Practice-based innovation in food service and the organizational processes behind them

Along the years, innovation has become a tool that offers sustained differentiation and represents a source of competitive advantage for organizations (Rodgers, 2007). In the face of increasing competition and shifting technologies, service organizations must innovate to remain viable, just like manufacturing organizations (Dougherty, 2004). Innovations in service can be understood as a set of radical or incremental improvements concerning new technology, business models and social-organizational practices that meet both market and organizational needs (Chen et al., 2016). A radical innovation results in something new, whereas an incremental innovation results in something improved (Baregheh et al., 2012; Bessant & Francis, 1999). Within the context of food, service organizations have intensified both radical and incremental innovations regarding new technology, product development and process design (Baregheh et al., 2012; Rodgers, 2011). Even though from the technological side the literature provides with a broad spectrum of up-to-date technological innovations and scientific knowledge from which to choose and potentially implement, the organizational innovations behind the development of new food services have lacked recognition along the literature (Rodgers, 2007, 2011).

It is relevant to understand that social-organizational processes allow the organization to combine a wide variety of resources, knowledge and skills which, at the end, derive in innovative outcomes (Den Hertog, Van Der Aa, & De Jong, 2010). Hence, it is also important to understand that daily performance of such processes entail major potential for deployment and development of new services as well (Dougherty, 2004; Ellström, 2010). In this light, service innovations are derived from the interplay in between explicit and implicit processes, namely, between prescribed practice of doing something versus how the work is actually performed (Brown & Duguid, 1991). On the one hand, explicit processes are based on well-known systematic and sequential models which are part of the formal structure of the organization. Such prescribed procedures concern how work is formally codified and organized, for example, through written instructions. On the other hand, implicit processes refer to how prescribed procedures are perceived and performed. Such processes are expressed in the form of improvisations to find solutions to unexpected problems that may arise along the course of explicit actions (Brown & Duguid, 1991; Feldman & Pentland, 2003).

Unforeseen situations that emerge from constant practice challenge the maintenance of established working processes (routines) as people start to question and become ready to change established patterns of thought and action (Dougherty, 2004; Reckwitz, 2002; Skålén et al., 2014).

Nevertheless, such turning point holds either a big or small change that, depending on the situation, might be considered either as practice-based innovation potential or as threatening thus, leading to avoidance or falling back to habitual routines (Feldman & Pentland, 2003; Nilsen & Ellström, 2012). As previously mentioned, various types of support and resources are required to debate, negotiate and reach a consensus (Ellström, 2010; Feldman & Pentland, 2003; Fuglsang & Sorensen, 2011; Gallouj, 2002; Svensson, Ellstrom, & Aberg, 2006) according to what is best for the organization to attain, if the aim is to continuously improve ways of doing things (Darsø & Høyrup, 2012; Dougherty, 2004; Nilsen & Ellström, 2012). In the context of this research, knowledge will be the resource of focus as well as the activities needed to engage participation towards knowledge deployment.

Practice-based and research-based knowledge as a source that can be synergistically deployed for practice-based innovation

The knowledge carried by the human capital of an organization represents an extremely useful resource which can be internalized and exploited in sustained ways to tackle certain situations (Ellström, 2010). It is now widely recognized that practice-based innovations stem from intra-organizational learning processes in which knowledge from expertise, ongoing practice and cross-boundary interactions come together in an attempt to renew own processes (Darsø & Høyrup, 2012; Itami & Roehl, 1991). Making sense of the many different types and sources of knowledge is useful since its demarcation provides a clear insight about its differences and interconnections (Melkas & Harmaakorpi, 2012). Along the practice-based innovation literature, more attention has been paid to the practice-based knowledge derived and accumulated from the enactment of explicit and implicit work processes. Thus, considering only practice-based knowledge limits the scope and quality of such resource that a service organization can exploit and explore in its aim for practice-based innovation (Dougherty, 2004; Harmaakorpi & Melkas, 2012; Melkas & Harmaakorpi, 2012; Nilsen & Ellström, 2012).

In this sense, both research-based and practice-based knowledge are required to achieve a high level of competence, which is an ability to act knowledgeably, effectively, deliberately, strategically, and reflectively in individual and collective situations (Svensson et al., 2004). Relevant and simplified characteristics of both types of knowledge are summarized in Table 1. Referring to research based knowledge, it is scientifically grounded and derived from empirical research where concepts, theories, models and frameworks prove to be useful for understanding, explaining, making predictions and showing a broad view of opportunities for action (Nilsen & Ellström, 2012). It is easily accessible and available, it improves people's understanding due to its objectivity and facilitates knowledge exchange (Svensson et al., 2004). In contrast, practice-based knowledge is gradually built up from daily activities and specific contexts, as it serves to solve everyday problems that occur in the flow of events (Dougherty, 2004). It is expressed through collective action rather than words and somehow it could be difficult to access and communicate to others (Cook & Brown, 1999; Nilsen & Ellström, 2012).

Characteristics	Research-based knowledge	Practice-based knowledge
Attributes	Generalizability and objectivity	Hands-on applicability in specific daily situations
Rationale for knowledge development	Improved understanding or explanation of problems	Finding solutions to problems
Generalizability	Unlimited generalizability	Limited generalizability
Articulation and availability	Codified and explicit, expressed through public channels e.g. journals, conferences, etc.	Tacit and implicit, expressed through daily action
Sharing knowledge	Easy to share	Difficult to share

Table 1. Relevant characteristics of research-based and practice-based knowledge.

From the cyclic nature of practice-based innovation (Ellström, 2010), there is a lack of understanding about the synergism between the previously mentioned types of knowledge and the underlying processes that allow continuous and efficient synergism to happen. Therefore, theory building is necessary to deepen such understanding and develop a mechanism for its sustained deployment to improve both explicit and implicit work processes.

Cyclic nature of ambidextrous habits of exploitation and exploration and the potential of hand in hand ambidexterity

According to Ellström (2010), there is a cyclic logic and structure to the interplay between explicit and implicit processes that should be followed (Fig. 1). In parallel to the enactment of these processes, habits of exploitation and exploration of knowledge take place. In this sense, it is through habits of exploration such as search, risk taking, experimentation, improvisation, flexibility, discovery and innovation that several ideas, theories and models assist the organization in its aim to standardize its ways of action (Leonard-Barton, 1995). Then, through habits of exploitation such as debate, choice, selection, consensus, refinement, production and efficiency; research-based knowledge can become translated into procedures that are to be enacted in a collective and common way across the organization (Ellström, 2010). It is understood in the literature that research-based knowledge is the resource to be exploited towards developing formal procedures which then allow to generate and build on practice-based knowledge.

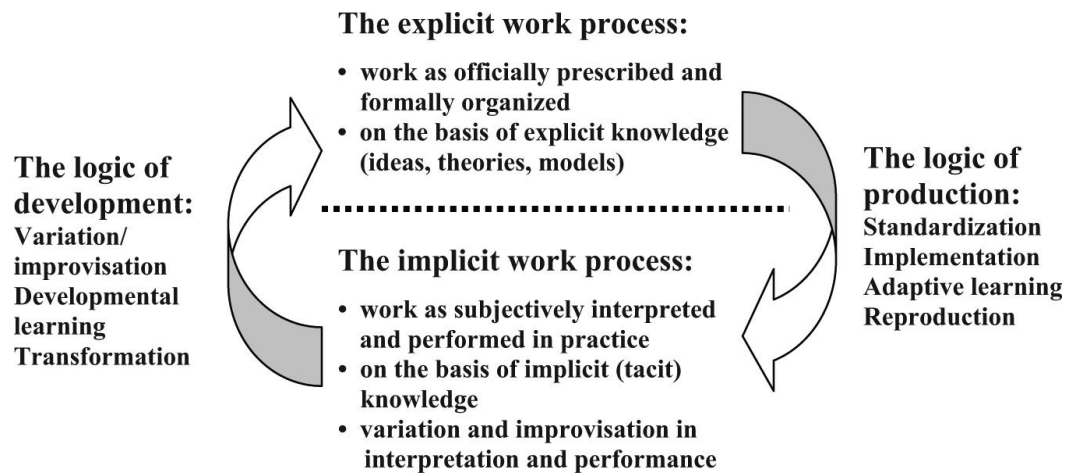


Fig 1. Ellström (2010) model of explicit and implicit and the logic of production (exploitation) and logic of development (exploration) involved.

It is of relevance for the organization to emphasize on the development and implementation of such procedures to foster stability in ways of action (Marabelli et al., 2012). The purpose of the procedures is to turn abstract ideas into practical action, thus enabling routinized action by the formalization of working methods so variation in performance can be reduced within and between individuals. Later, the routinized reproduction of explicit processes becomes a source of new thinking and knowledge development that fosters the renewal in ways of carrying out an activity (Ellström, 2010). Within daily work routine, the intrinsic variation that surfaces along the performance of prescribed methods or processes enhance the gradual development of practice-based knowledge which then, becomes the source to be explored. Employees today need to go beyond formal training to learn a range of skills and competences that were not part of previous job demands (Boud, Cressey, & Docherty, 2006). In this sense, at a routinized level of action, an unfamiliar situation must drive both self and collective creative learning in a preparedness to engage, question, reflect and transform established practices (Dewey, 1997; Gersick & Hackman, 1990; Sternberg, 2004).

To sum up, once established, explicit work processes become very difficult to “unadapt” and this is one of the reasons why service organizations must grow on their capabilities to be able to unlearn or change routines and habits if they become no longer effective (Leonard, 2000; Melkas & Harmaakorpi, 2012). In this line, ambidextrous habits of exploitation and exploration of different types of knowledge become the driving forces that on one hand, assist in the development of prescribed ways of action and on the other hand, challenge them continuously fostering a transformation towards more efficient work practices, also known as practice-based innovations. Strictly speaking, the practice-based innovation process follows a cyclic sequence regarding explicit and implicit ways of action (Ellström, 2010). However, considering this process as merely cyclic limits the view and potential that both ambidextrous habits of exploitation and exploration have for knowledge deployment. Even though several authors have addressed the fact that

exploitation and exploration processes are complement to each other for the development of practice-based innovations, there is a lack of clarity and further information concerning the way such processes or habits could work hand in hand in a service organization (Ellström, 2010; Marabelli et al., 2012; March & Olsen, 1989).

Therefore, in order for both habits to be performed in a complementary way, Dougherty (2004) built a framework that involves the enactment of three different activities which provides service organizations with a tool to capture, diffuse and use practice-based knowledge in similar and effective ways. The first activity called “*interweaving designing and using*” refers to the interconnection between theory and ongoing operation where different types of knowledge hold an opportunity to be continually surfaced, combined with old and new understandings and incorporated with new elements in the complex set of interactions. The second activity called “*participating*” suggests an active and engaged collaboration during the flow of practice (Lave, 1991; Wenger, 1998). Along with engaged participation, the third activity called “*reflection in action*”, surfaces continuous learning that derives from habits of reflection about the collective efforts made to shape a certain situation (Schon & DeSanctis, 2011).

Consequently, a practice-based innovation orientation can be achieved by the constant set of problem setting-problem solving that enhances a complementary enactment of engaged and collective habits of exploitation and exploration of both types of knowledge (Baregheh et al., 2012; Dougherty, 2004). To achieve this, focused and engaged effort towards the exchange, discussion and debate inside the organization to ensure a proper inclusion and usage of the knowledge generated, is needed. Then, by following the previously described activities, the aim is to connect both old and new insights in order to pursue a transformation, reconstruction or reorganization not only of the way activities are performed but also about the way knowledge is assertively put in good use according to a common framework of meaning within the organization (Dewey, 1997; Fiol, 1994; Mezirow, 1991). It is of high relevance that organizations embed the already described activities within their schemes of action when it comes to practice-based innovation since, bringing up the experience and knowledge acquired along the practice enhance constant growth, widening of competences and improvement within the organization (Boud et al., 2006; Edmondson & Harvey, 2016; van Knippenberg & Schippers, 2007). In this sense, formally including these activities of practice within the cyclic process of practice-based innovation can build on the already existing framework by fostering sustained and efficient enactment of habits of exploitation and exploration. Thus, such habits become ambidextrous or complementary, providing common and collective ground for knowledge development, and continuous learning to attain to practice-based innovation.

Theoretical framework

Supporting theories and research gaps

In general terms, practice-based innovations are derived from the continuous enactment of explicit and implicit work processes. On the one hand, processes can be formal and, to some extent, prescribed concerning what should be achieved (goals) and how (methods) (Brown & Duguid, 1991). Due to their systematic scheme of action, *explicit* processes provide a sense of order and clarity about the “best way” to act (Skålén et al., 2014). On the other hand, processes can also be emergent and immersed in the daily performance of previously prescribed actions (Ellström, 2010; Reckwitz, 2002). These *implicit* processes are mostly expressed in the form of improvisations to find solutions to unexpected problems that may arise along the course of explicit actions (Brown & Duguid, 1991; Feldman & Pentland, 2003).

According to Ellström (2010), there is a cyclic logic and structure to the interplay between explicit and implicit processes that is inherently followed. In this light, such structure and logic stems from exploitation and exploration activities in which predetermined explicit work processes derive in implicit work processes whose variation holds major potential. To begin with, exploitation activities such as refinement, alignment, control, standardization, implementation and reproduction seek to reduce variation and attain to efficient ways of action across the organization (Andriopoulos & Lewis, 2009; Marabelli et al., 2012; March & Olsen, 1989). In contrast, the underlying exploration activities such as improvisation, experimentation and transformation seek to challenge the maintenance of established working processes (routines) as people start to question and become ready to change established patterns of thought and action (Dougherty, 2004; Reckwitz, 2002; Skålén et al., 2014). Even though both activities withhold a different purpose, when their enactment is in a complementary, balanced and coordinated manner across the organization, a harmonious cycle between explicit and implicit work processes is achieved.

Consequently, exploitation and exploration activities can only be achieved through a successful utilization of resources and new technologies (Lam, 2004). In this line, knowledge is not a new concept in the innovation field (Melkas & Harmaakorpi, 2012), it is well known that the knowledge carried by the human capital of an organization is an extremely valuable resource that creates competitive advantage based on the way it can be internalized and exploited (Alavi & Leidner, 2016; Ellström, 2010; Tuomi, 1999). Within the practice-based innovation realm (for service organizations), several authors have focused more attention on the knowledge that is continuously developed and surfaced along the enactment of work activities (Dougherty, 2004) disregarding other knowledge types from which work activities are also emanated from. Following Polanyi (1967) Nonaka and Takeuchi (1985) work about knowledge creation, there is a dynamic interaction between two types of knowledge. To begin with, *tacit knowledge* is personal, context-specific and therefore difficult to communicate and formalize, whereas, *explicit knowledge* refers to knowledge that has been formalized and is shared through systemic language. Despite their

differences, both types cannot be taken as separate “stocks” of knowledge; they are mutually dependent and reinforce each other: tacit knowledge forms the necessary background for assigning structure to develop and interpret explicit knowledge (Polanyi, 1967). In addition to this, Melkas and Harmaakorpi (2012) acknowledge and express the need to deploy both research-based (a form of explicit) and practice-based (tacit) knowledge to attain to practice-based innovation. While practice-based knowledge is accumulated through daily-work routine and is constrained to a specific context (Nicolini, Gherardi, & Yanow, 2003), research based knowledge’s scientific nature shows that concepts, theories, models and frameworks are useful to understand, plan, explain and make predictions that facilitate an extrapolation to other contexts (Nilsen & Ellström, 2012). Both knowledge sources enable the organization to achieve a high level of competence, which is an ability to act knowledgeably, effectively, deliberately, strategically, and reflectively in individual and collective situations (Svensson et al., 2004). Bearing in mind the functional characteristics of both types of knowledge, their inclusion in the theoretical framework (Fig 2.) aims to extend the practice-based innovation theory by conveying them equal importance in a holistic manner. This, since their underlying synergism has just been described as useful across the literature hence, no clarity has been given yet to the way about how to achieve such synergism towards the continuous improvement of work processes.

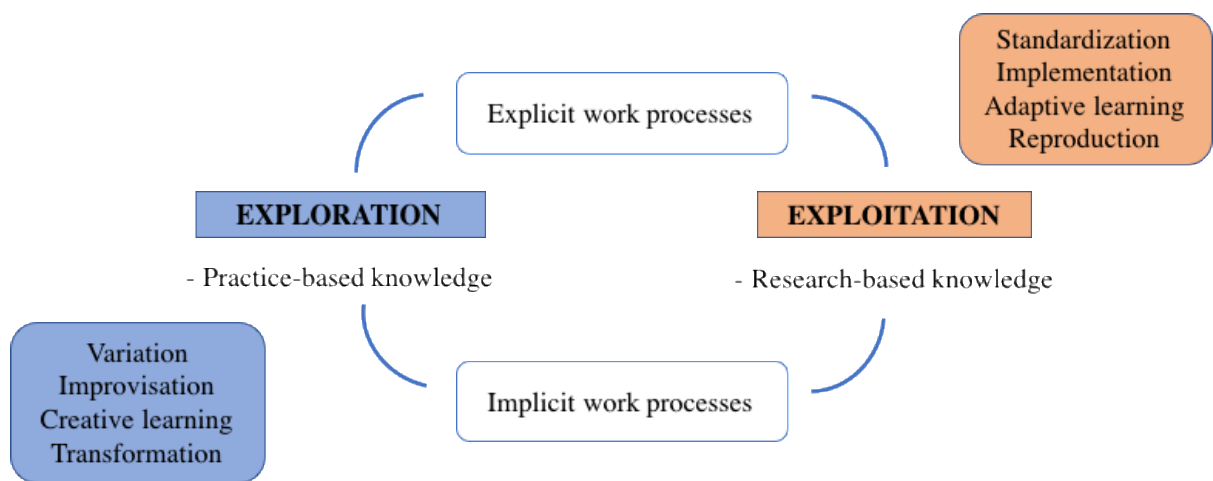


Figure 2. Cyclic process that allows to attain to practice-based innovation.

Following the cyclic framework in Fig 2., explicit work processes are derived from the continuous enactment of exploitation and exploration activities where several resources, including knowledge in the form of several ideas, theories, models and “rules of thumb” are deployed to assist the organization in standardizing, to a certain extent, ways of action (Leonard-Barton, 1995). When explicit processes are implemented, the underlying variation along their routinized performance becomes a source of new thinking that fosters knowledge deployment towards the renewal in ways of carrying out an activity (Ellström, 2010). Therefore, when an emergent situation arise, people must act individually and collectively in a preparedness to engage, question, reflect and transform what was previously standardized or established (Dewey, 1997; Gersick & Hackman, 1990;

Sternberg, 2004). With all of this being said, it is clear that exploration and exploitation of knowledge assists to continuously adapt and unadapt work processes accordingly once they become no longer effective (Dougherty, 2004; Ellström, 2010). Thus, having a balance in between exploration and exploitation activities within the organization serves to conciliate the paradox of flexibility and efficiency that innately derives in continuous improvement of services (Marabelli et al., 2012; Thompson, 2003). Such balance is referred along the literature as ambidexterity and it represents the capacity of an organization to intertwine mechanic and organic features across boundaries to obtain a “best-fit” configuration that allows to constantly improve work processes (Lawrence & Lorsch, 1986). In this way, several authors point out that contextual factors have an impact in the way individuals interact and collaborate to reach ambidexterity of exploration and exploitation (Gibson & Birkinshaw, 2004; Gupta, Smith, & Shalley, 2006). Therefore, building on the interactive abilities that the organization have to adequately align, engage people and balance: exploiting existing knowledge and technologies while exploring new knowledge, fostering a transformation, proves to enhance sustained practice-based innovations (Bosch-Sijtsema & Henriksson, 2014; Ellström, 2010; Eriksson, 2013).

Even though the exploration, exploitation activities and the ways to reach a potential ambidexterity in between them are well known along the literature (Ellström, 2010; Marabelli et al., 2012; March & Olsen, 1989; Salminen & Harmaakorpi, 2012), theory building is needed to make a link towards such ambidexterity and the deployment of different sources of knowledge; emphasizing on the synergism in between tacit and the variant of explicit knowledge (research-based knowledge). In addition, it will also be relevant to determine the interactive, collective and engaged ways that allow a balance in between exploration and exploitation of knowledge to happen.

Within a practice-based perspective, Dougherty (2004) identifies three activities that collectively capture practice-based or tacit knowledge aiming for innovation in services. These activities are: *interweaving designing and using*, *participation in action* and *reflection in action*.

The first activity, *interweaving designing and using*, refers to the way the principles of a certain activity are interwoven with a particular setting and its ongoing operation. Since people cannot know much by simply examining the principles behind a certain activity, there is a need to fully engage in the physical and social contexts where the enactment of an activity take place to understand, purposefully act in practice (Lave, 1991) and continuously innovate services (Harmaakorpi & Melkas, 2012; Salminen & Harmaakorpi, 2012). In this line, community of practice literature serves to recognize that knowledge is situated in specific contexts and developed by a community of individuals who have a shared activity, practice or challenging situation and share the consequences (Brown & Duguid, 1991; Cook & Brown, 1999). In consequence, community of practice literature is linked to Dougherty’s second activity “*participation in action*” since, as previously described, engaged participation in between individuals through interaction and collaboration along the course of certain activities, allows them to share knowledge and a common way of enactment (Brown & Duguid, 1991). Since no person can know all the heuristics or principles involved in daily activities, collective action is needed to interact, negotiate and

participate within the organization (Cook & Brown, 1999; Wenger, 1998). In this way, Orlikowski's (2002) organizational theory about human action by means of certain capabilities such as effective communication and alignment, provide the means through which people can achieve a collective engagement in practices so as to continuously surface, share and reconstitute knowledge in similar ways across the organization. Complementing the organizational capabilities needed to effectively participate in action, Ryle (1949), Obsfeld (2003) and Polyani (1958) address the relevance that articulation has to communicate and share knowledge. As such, articulation allows to lift knowledge out of the tacit and invites individuals to collectively embrace, think and reflect in order to make knowledge simpler, available and explicit. In this way, Dougherty's third activity "*reflection in action*" takes place when articulated knowledge is combined with old and new insights to derive in continuous learning and improvement. Consequently, the resulting learning challenges the way activities are enacted and seeks to adapt or unadapt them accordingly (Dougherty, 2004; Ellström, 2010; Leonard, 2000). According to Schön (2011) and Dewey (1997), reflection in action acknowledges the interaction between thinking and doing by continuously framing and refining a specific situation. Such synergism considers the approach of every individual involved in the practice of an activity revealing the most adequate collective meaning so that individuals can learn and purposefully act.

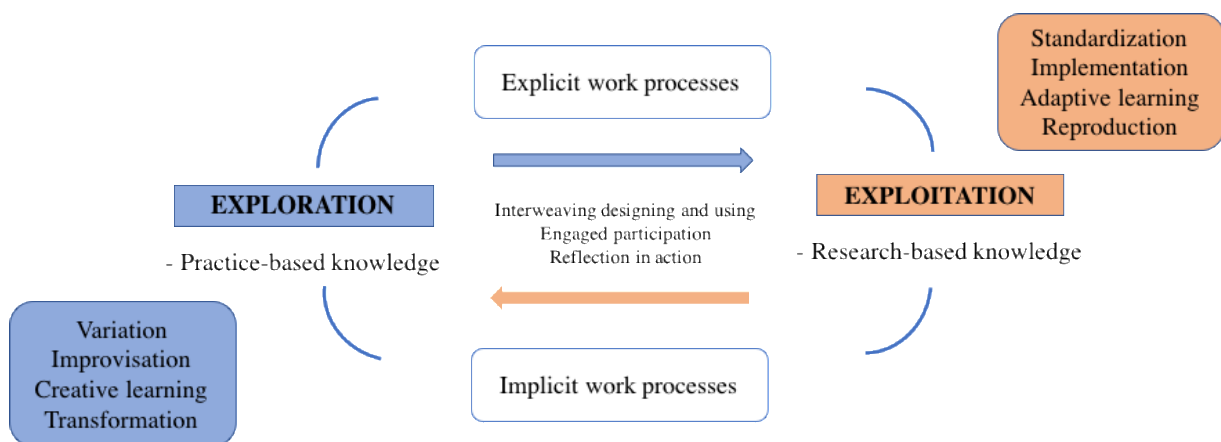


Figure 3. Cyclic process with the activities that are portrayed as useful to collectively exploit and explore different sources of knowledge.

As it can be seen in Fig 3., the three activities that Dougherty (2004) recognize as valuable towards capturing practice-based knowledge are included in the framework regardless the non-stated linkage with research-based knowledge. Since practice-based innovation theory already supports the dynamic nature of tacit and explicit knowledge, the three previously described activities will serve as a good and solid starting point to explain the collective ways through which different sources of knowledge can be exploited and explored in a synergic and ambidextrous way to improve services (work processes). Furthermore, it is necessary to specifically match them towards the capture and deployment of both sources of knowledge and not just tacit knowledge.

Research design

This study aims to build on practice-based innovation theory by developing a holistic framework that elaborates on how can a food service organization deploy different sources of knowledge through ambidextrous habits of exploitation and exploration. To achieve this, the qualitative study uses an abductive approach starting with the development of a framework to enter the field which later will be completed and complemented based on a combination in between both the findings and back-and-forth literature reflection (Fig 4). An abductive approach results in the combination of both deductive and inductive approaches; thus, deductive aims to test a theory while inductive is concerned with the generation of new theory emerging from the data. In this sense, a qualitative study will be held with an abductive approach since it stimulates the researcher's reflexivity in the striving to make sense of empirical observations (Alvesson & Kärreman, 2007).

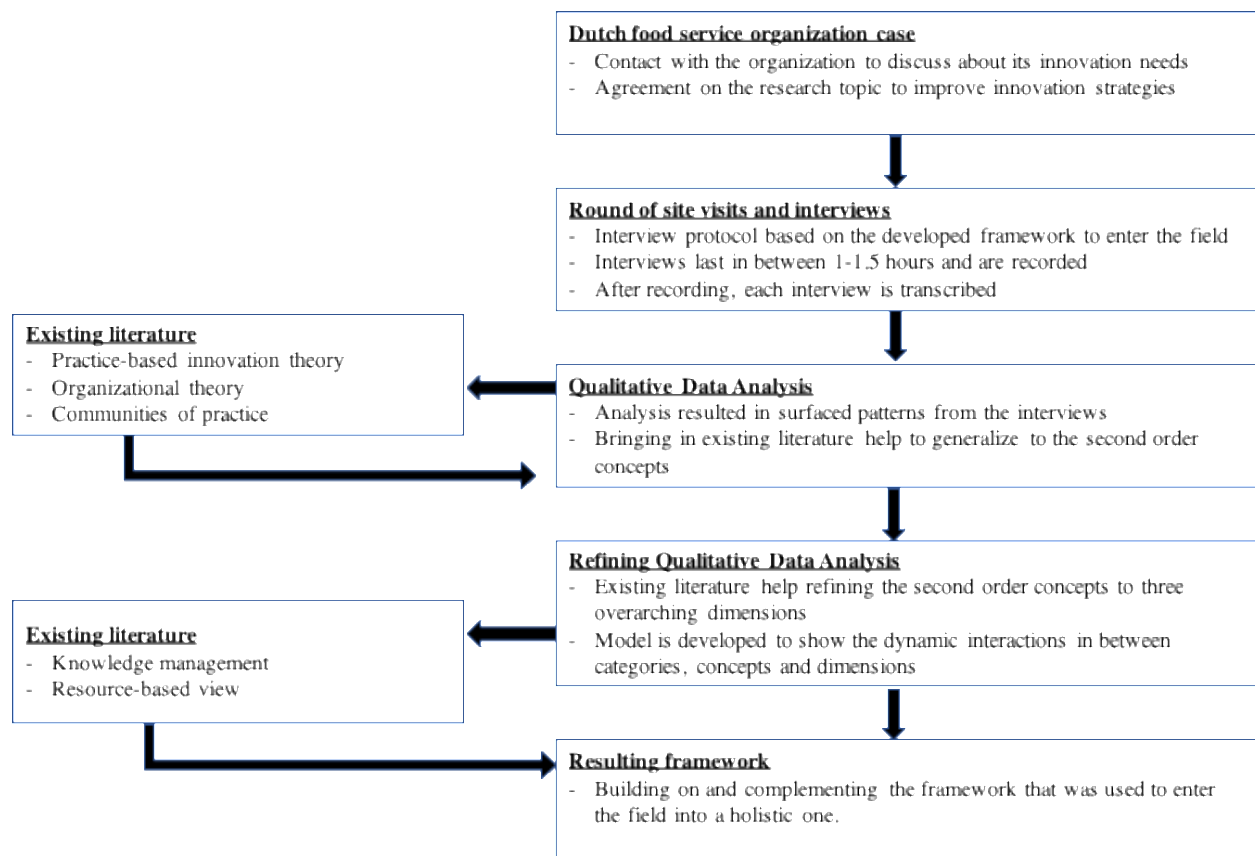


Fig 4. Summarized steps of the qualitative study with an inductive approach.

As it is shown in Fig 4. a Dutch Food service organization approached Wageningen University to support them in doing a research that could help them to improve their services, in the light of innovation. Therefore, by exploring the literature, practice-based innovation seemed to be an interesting path to follow for the study due to the dynamics involved which resemble what happens in the realm of service to pursue innovation from daily activities. In this line, a research gap was identified regarding the usage of two knowledge sources: research-based and practice-based knowledge. As it has been mentioned, more attention has been given in the literature to practice-based knowledge disregarding the complementing importance that research-based knowledge has to achieve an efficient and sustainable practice-based innovation process. Therefore, the theoretical framework (Fig 3.) was developed to surface, via interviews, relevant information about the interactions and ways of knowledge deployment within the organization. From the interviews, behaviors and perceptions as well as barriers are surfaced which help to understand the current situation of the organization as well as to identify the starting points which are to be complemented by a back-and-forth literature check.

Overall, qualitative methods are important since they help to build on existing theory (Timmermans & Tavory, 2012) and together with the abductive approach the “best explanation possible” is aimed to be developed according to the findings and literature. At the end, the contribution from the study aims to provide both the food service organization and the scientific community with a more holistic view concerning the sustained deployment of knowledge for practice-based innovation.

Research setting

A Dutch Food Service Organization case

In this section, the current organizational environment will be described and detailed to get a better scope and vision about how it influences the values, goals and activities of the company that is subject of this research.

The setting of this research is a medium-large Dutch Food Service Organization (LFSO) mainly dedicated to catering tailored to educational institutions (also: parties, events or theme weeks within the institution) as well as maintaining vending machines in each location. The organization started its operations as a traditional family business and has been leader in the market for 25 years making health, sustainability and social involvement core part of their activities. Along the years, the organization has been able to balance both the students’ needs and the ones coming from the educational institution to deliver good quality services. Furthermore; flexibility, customization and entrepreneurship have lead the organization’s performance and therefore explain the strong foundation that has kept the LFSO with major recognition in its field for such a long time. So far, its services reach approximately 160 locations and counts with more than 400 employees across the country.

A few years ago, a small Dutch Catering Organization (SDCO) started getting recognition and position in relevant commercial regions in the Netherlands within the events, catering and festivals field and consequently, for strategic means, the LFSO acquired it to reach a broader market. Even though SDCO was acquired to expand and extend the organization's impact across the country, their activities to this day are detached from one another. SDCO is a very stand-alone company that has its own resources, management, dynamics, activities, mission and vision however, like LFSO, it also operates with a lot of flexibility and customization. To this day, the only interaction in between both companies relies on minimal collaboration towards certain educational catering activities and events. Economically speaking, this means that the latter involvement represents about 20% of the profit earned by the SDCO coming from its "mother company".

In early 2017, a large Italian Catering Organization (ICO) with operations in several European countries, decided to acquire the LFSO with the aim to access the Dutch market and expand its business portfolio. ICO started its operations in 1992 in the restaurant and food service field, offering its services to corporate businesses, educational institutions, hospitals, healthcare centers, communities, etc. The organization relies with confidence on its structure, capabilities and expertise to deliver a high-quality holistic service covering the variations of each contract and needs of each client. To be more explicit, such "holistic service" focuses on the deployment of its organizational resources towards building the kitchen, carefully selecting the food to be produced and where should the ingredients be sourced from, finalizing with the design and construction of the spot where people will spend their time for the consumption of goods.

ICO's strategic move for the acquisition of LFSO holds a challenging road ahead that has several starting points. It is not only about acknowledging the internal dynamics of the organization to visualize areas of opportunity where ICO can positively impact, but also, to find a way to balance and align the resources from the three organizations. So far, ICO is dealing with the establishment of a new structure in the form of diverse "*departments*" where both resources and tasks are being delegated more efficiently according to the organizational goals and needs. Traditional and mechanistic ways of working do not serve to keep pace with the rapidly changing food service industry (March & Olsen, 1989) and therefore, the "family-business" organizational structure of LFSO is being continuously adapted and aligned towards ICO. Owing to the current situation, there is a lot of emotion and uncertainty among the LFSO since the traditional mindset and dynamics are being shifted towards a more structured, better organized and innovative corporation. In this line, several employees have either left the organization or been changed to a different hierarchical position as this new umbrella stands for improvement and demands more from the people at the organization.

In the face of a fast-paced environment of dynamic markets, ICO's commitment relies on the provision of tools that will allow the newly acquired LFSO to act efficiently towards continuous improvement of their services. Such tools mainly come in the form of a new organizational

structure, employee development, resource deployment and efficient partnerships; however, it will take a couple of years to both align and adapt to these before fruitful outcomes can be perceived. To sum up, ICO's major aims are:

- To promote clear lines of action and certain standards within the organization to reduce variation of their services in between locations,
- To build an efficient partnership with SDCO so a synergism with LFSO (under the ICO's umbrella) enhances the collaboration and complement of each other's activities towards a sustainable growth that goes beyond educational institutions,
- To make a more efficient use of its resources (workforce management and knowledge deployment) to learn, adapt and continuously unadapt activities along their continuous enactment depending on its performance.

As previously mentioned, there are several starting points and challenges ahead; nevertheless, tackling them towards the improvement of LFSO's internal activities and services will enable sustainable working conditions, clearer and efficient lines of action that will both enhance and further develop employee's capabilities and creative energy.

Methods of data collection

As it was previously explained, the method for data collection consists on the performance of 17 interviews with both executives and employees within the organization at diverse functional levels (table 2.).

Department	Interviewee	Main responsibilities	Time in LFSO/SDCO
Operations	Director of Operations	Supervision of district managers, monitor revenues and contracts.	2 years
	Operational Manager LFSO	Monitoring and approaching tenders.	4 months
	Operational Manager SDCO	Management and planning of events, organization of staff and material, monitor budget and revenues	3 years
	Head of Events and Banqueting SDCO	Responsible for operations and sales, festivals and event management	8 months

Facility	Back office services	Responsible of managing agendas, arranging deliveries to the locations.	4 years
	Head of Facility	Monitoring contracts and delivering what is stated in the contracts.	4 years
	Facility manager	Responsible to fix problems within the locations concerning equipment, vending machines, etc.	3 years
Formula	Undefined position	In charge of making the calculations of the products of the assortment and arranging cashpoints.	9 years (1 year in undefined position)
	Head of Formula	Monitoring and following up the activities of the department concerning new product/service development.	6 years (1 year in formula department)
	Formula manager	Little contribution to the activities of the department by keeping knowledge updated and involved in training and coaching newcomers.	6 years (2 months training/coaching)
Daily catering	Cluster manager 1	Administration of 4 locations, in charge of keeping the services within the location running smooth and attaining to expected figures.	6 years
	Cluster manager 2	Responsible of 6 locations, support and monitor location managers.	4 years (3 months as a cluster manager)
	Cluster manager 3	Responsible of some locations, monitoring numbers, staffing, purchasing, etc.	4 months

	Location manager 1	Responsible of 4 sites within a big University, supervising and helping site managers and develop activities for improvement.	5 years
	Location manager 2	Responsible to give support to the employees of the location, administration and monitor daily services seeking improvement	2 years
Service office	Integration Manager	Organize, coordinate and manage the LFSO.	1 year
	Sales Director	Currently involved in marketing and doing workshops in the organization, later to be dedicated to sales.	4 months

Table 2. Additional information of the employees that were interviewed

The selection of the employees to be interviewed was based on the departments which are understood to be involved in the daily delivery of services. In this way, interviews were done either face-to-face or via skype call/video depending on the availability of each employee. In addition, a semi-structured interview method was chosen due to its balance between allowing natural conversation flow and the need for a structured approach. As part of the semi-structured interviews an interview protocol was developed a-priori (Appendix 1). This protocol enhances to explore in depth about the ways that are held for knowledge deployment targeted for the continuous improvement of their services. Afterwards, such protocol is analyzed and commented upon by one researcher involved in the field of innovation and the comments that surfaced helped to focus the protocol within the boundaries of the research aim. The interview questions are presented as far as possible as open-ended questions as part of a natural free-flowing conversation. Thus, the interviews last in between 1 and 1.5 hours and are taped with permission of the interviewees to provide a complete record of the interviews. For analysis, each interview is transcribed to abstract the details and further, categorize them in a table to synthesize the obtained findings.

Direct observation or internal documentation are ruled out since they are not only too time consuming but also, accessing to such information requires very high-levels of trust from the firm towards the researcher.

Data analysis

The qualitative data analysis consisted in individual analysis of the transcribed interviews. Once the transcribed versions of the interviews were ready, the individual analysis was carried out with the assistance of a software program called “MAXQDA 2018”. To begin with, the data analysis started by open coding which allowed to surface as many observations, facts, quotes, problems and opportunities according to the interviewees. Consequently, each code was created based on

the information provided by the interviewees aiming to keep the original idea that was expressed. Then, through axial coding, the codes were related to each other (categories and concepts) via a combination in between inductive and deductive thinking. In this sense, patterns were identified and the first order indicators were developed.

Since some evidence was unexpected and interesting, further reiteration in between those findings and new literature review, allowed to develop the second order concepts which later, were classified in overarching dimensions. Afterwards, a model was developed to show the dynamics of the first order indicators, second order concepts and overarching dimensions so their meaning didn't remain static. At the end stage of the analysis, new literature review concerning knowledge management and resource-based view theory, allowed to give solid support to the findings in order to combine them in an improved version of the already existing theoretical framework. Thus, the improved version shows a framework that fosters sustained practice-based innovations and that will represent my contribution for both the organization and the scientific community (due to its underlying potential to be used as a starting point for other organizational contexts).

Findings

This section serves to elaborate on the way how the LFSO manages to deploy knowledge towards a daily enactment of work processes that derives in a continuous improvement of services. To begin with, the results that were extracted from the interviews are presented in a scheme that reflects the hierarchical distribution of first order indicators, the second order concepts and overarching dimensions emphasizing their underlying relationship. In this sense, the boxes at the left show the first order indicators which portray an adequate level of meaning of the interviewees; next, to the right, the second order concepts demonstrate an assembly of the overall meaning of first order into a generalizing concept; and the right boxes demonstrate the overarching dimensions which emerged from the analysis (coming from the findings of the interviews in combination with repeated literature review). Tables 3, 4, 5. in Appendix contains additional supporting evidence linked to the figure 5 showing the most relevant quotes from the first order indicators underlying the second order concepts.

Even though Fig 5. allows to have a good visualization of the initial emergent data structure, the elements are rather static and need further explanation concerning the dynamism in between the indicators, concepts and dimensions. As it will be evident in Fig 6., the dynamism explains not only how certain barriers limit a proper research-based and practice-based knowledge deployment within the organization, but also how through collective activities and instruments, in general, exploitation and exploration of various knowledge sources is enhanced towards the improvement of services. This approach to reporting the findings allows to demonstrate the close connections among the method, data and theory building over the initial theoretical framework. For these reasons, the following findings narrative will be based on Fig 6.

BARRIERS THAT LIMIT RESEARCH-BASED AND PRACTICE-BASED KNOWLEDGE DEPLOYMENT

Need to increase engaged internal and external cross-boundary collaboration for the delivery of services

As it was previously described, the LFSO has been so far a family business which was recently taken over by ICO that intends to both modify and improve the structure of the organization. By doing this, resources are being re-organized towards seeking more efficient ways of doing things as well as getting more exposure in the dynamic market of food service. So far, ICO has identified several areas of opportunity within the organization which are mostly reflected in the way the employees interact. In this light, departments are being built to have a more structured delegation of tasks,

“Before there was no organization and now, it has been 2 months since the facility department officially started with Thomas as head of the group, he is in charge of all the paperwork and the contracts, bills... Nathalie is in Hem, she does the vending machines, the ticket system where people can put in their questions and operational is my job to fix it. We also have Tessa but she is leaving”. Facility manager

Coming from a family business way of working and a traditional mentality, there were no clear lines of action for each position but rather a very flexible environment in which every employee could fill in different positions regardless their skills to do so. Due to this, currently more attention is being paid to state and have “job descriptions” written down where there is clarity about the role to be fulfilled, as well as the skills needed for it. According to the Integration manager, having a job description will provide the employee with a clear scope, direction and acknowledgement about what is expected to be covered for a specific position to avoid assumptions and confusion (to be further elaborated later in the barriers section).

Back to the departments, the “Formula department” was firstly created in an attempt to surface and gather together the recipes of all the products, their procedures, the way they should be presented and further important/useful details.

“In LFSO now we implemented the formula department and they are going to change everything. For example, we are now developing handbooks, manuals, recipes...” Integration manager.

The advantage of the development of handbooks and manuals is that on the one hand, it promotes a common understanding across the organization through readily available knowledge regarding their own products and services. Before, there was a roll with cheese but no specification about how to make it, order it (because some of their products are being outsourced) or even sell it. Now, there are 6 employees in this department, which come from different positions, that interact altogether towards building an assortment with all the specifications needed for each product. Both surfacing and organizing the knowledge that has been embedded within each location, represent a challenging task that requires the involvement and collaboration of different employees from different departments and not just a few as it has been done so far.

In parallel to the activities that were previously mentioned, the formula department aims to carry out Research and development activities:

“But I made a new team and I called it the Formula Team which is a new department and they are in charge of checking new products, new things and they give advice to me so we can implement it in LFSO and that is the way how we are going to check what is going on in the market but what we are doing is not enough, we can actually do better”. Director of Operations

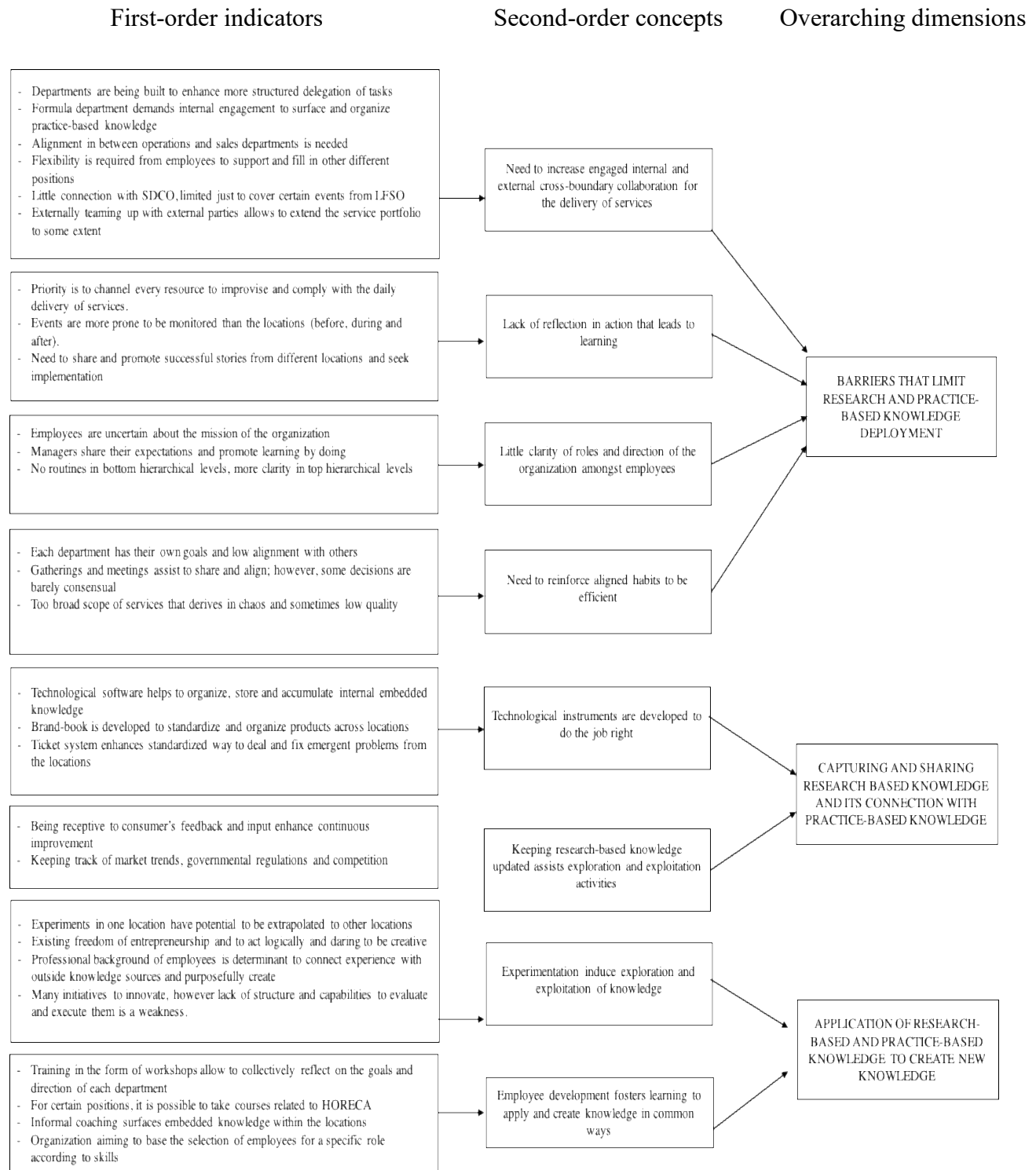


Fig 5. Emergent findings organized in hierarchies.

BARRIERS THAT LIMIT RESEARCH-BASED AND PRACTICE-BASED KNOWLEDGE DEPLOYMENT

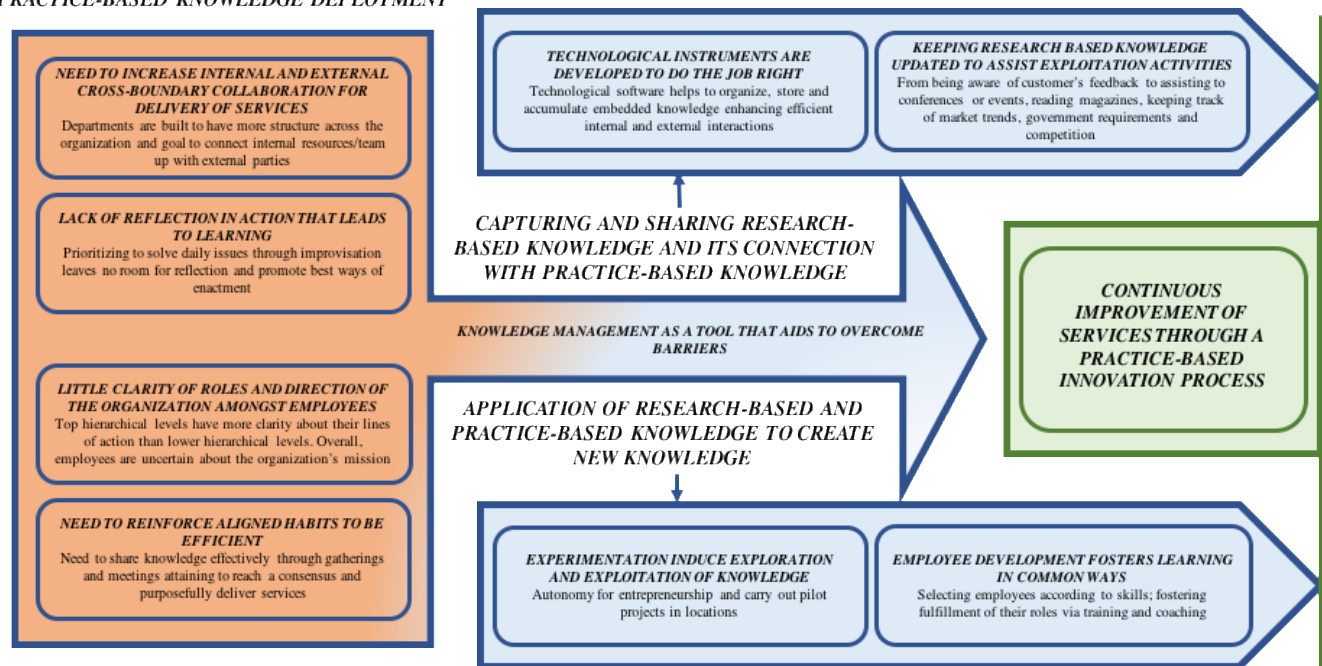


Figure 6. Dynamism in between dimensions, concepts and indicators emerging from abductive approach to data analysis.

In this light, the second aim of this department is to invest time on gathering together with the team to share and discuss about new ideas and concepts that can potentially be added as part of the assortment. As part of the team, the employees have the task to read magazines and to pay more attention to what happens in the outside world that could be useful for the business. Even though the goals of the department strive for innovative outcomes, the focus does not yet reside on properly evaluating ideas that could later be potentially implemented. Then, the activities are very broad for such a small team, and keeping a balance in between being updated with new things and building the backbone that supports the organization's assortment is evidently hard.

As it can be seen, the Formula Department has just recently been developed so the establishment of lines of action, tasks and roles will take some time until ICO and LFSO have sufficient interaction to align. In this line, there are some other departments that raised the attention regarding the interaction and collaboration patterns within the LFSO:

"... that is one of the tasks we have at the moment, we just agreed that everything that sales does, operations has to check on it. For example, if you go to a potential new customer then we go together, the sales talks about money matters and then me if we can make things work in the location... if we are going to really do what we are offering". Operational Manager LFSO

The Operations department is in charge of bringing to life what is signed and declared in each contract coming from the arrangement in between the Sales department and different schools or companies. Whenever a contract is signed, the Operations department must comply with it regardless of the budget or the capabilities within the department towards fulfilling the

requirements. Nowadays that ICO is giving more structure to LFSO, it is agreed that everything that sales does, operations has to check on it; so, when visiting either a potential or current customer, both departments should be involved from the beginning to save a lot of problems, double work and unnecessary extra costs.

“I’ll make a restart of the location, we want it to be fresher and we will make it trendy and with a new concept and we are going to pay. OK, so the commercial colleague says no problem and then I go there, we make a plan: we need the equipment, the Asian people with the rice outside and then the commercial colleague says its 45,000 euros but I only have 20,000 euros. Then of course we have a problem with the budget, they think it’s too easy to make improvements...” Head of Facility

Nowadays, each department is learning how to combine and interrelate both sales and operations interests by aligning on the spot what they can sufficiently and efficiently deliver for the contract. Whenever there is a meeting with a customer, the customer needs are heard and then both sales and operations can determine at that moment if something is doable or not within the lines of action of the organization. Therefore, as ICO intends to improve this miscommunication, both departments are engaging and getting more involved altogether to have an efficient discussion with the customer and to reach a consensus for a smooth delivery of services.

Moving from the characteristics of the core departments within the LFSO, there are other interesting facts worth explaining as far as the interaction and collaboration in between different departments and even organizations are concerned. As it was previously explained, the LFSO is mainly dedicated to catering in educational institutions and, to a short extent, to the events business (outsourced mostly from SDCO). Regarding the catering business, each educational institution has a working team that is formed either by employees coming from LFSO or selected staff coming from the school. Their way of interacting is very flexible and dynamic so as to deliver the daily catering services as well as any other extras that might be included such as an event within the school. In this sense, each location has clear hierarchical layers of function that get blurred whenever an emergent situation arises:

“Also, when people gets sick and they don’t show up to work so you make a call and try to make the person that is at the location to do it without the person that was sick and I tell him/her do a bit more of this and less of that but sometimes it just doesn’t work... in that situation then you just have to go and do it yourself, to help”. Cluster manager

3

Several variables such as sickness (staff that doesn’t show up to work), having overcrowded locations or not having a specific ingredient available in the kitchen require the employees to be flexible and ready to cover different positions to comply with the daily delivery of services. Consequently, regardless of how at the top in the hierarchy an employee might be, whenever its needed, employees must be available and able to support each other. Even though this represents a very supportive environment, it prevents to invest time and resources in a proper manner for the continuous improvement of their services. In addition, going to the events business, these actions

also take place within the SDCO where the team faces some difficulties whenever there are big events or too many events happening in parallel.

“In most companies, you have three people to cover my activities but here, the chef also helps to plan the events, so we have a lot in common with the things we do. In sales, the person in charge is also an event manager on the big events... so we all support each other. It depends on how big the event is that we divide the tasks and support”. Operational manager SDCO

As it can be seen, the nature of the team is very flexible and derived from the traditional family business structure where everyone can assist each other when necessary, regardless of the activities that might not be completed due to this fact. Currently, as part of the structural renovation, the ICO intends to pursue a closer collaboration with SDCO so as to have a better delegation of tasks, to avoid disorganization and make use of each other resources in a complementary way. In this sense, the events are expected to be covered by the daughter organization allowing the LFSO to focus more on the catering for each location. As it was previously described, the collaboration in between LFSO and SDCO has been minimum and the fact that ICO is realizing this fact represents great progress towards seeking to engage and exploit both organization’s potential. However, this is a goal that still needs to be discussed and worked on to develop a plan of action to attain to such goal.

In contrast with the above described collaboration that has not yet reached its entire potential, there are a few other collaborations with external parties that have allowed the organization, for some time now, to stay on track within the lines of “healthy food concept”. As shown in Table 3., there is an external party that helps to monitor the locations that are under a “healthy school” contract to continuously check the assortment, categorize the products and rate the consumer’s experience. Consequently, the lines of action to stay on 75% healthy and 25% not so healthy product assortment can be continuously checked, improved relying on the standards of a certified organization to give approval within this realm as mentioned by a Formula manager.

Furthermore, there is an advantage to certain locations which are located within schools whose environment is related to healthiness and well-being. In this light, this enhances a collaboration in between LFSO and the school to develop new products, allowing to extend the assortment by co-creating and making use of each other’s knowledge sources:

“I do some development in Leeuwarden together with a school and we developed our own pesto, the recycling of plastic when we make our own packaging, our labels”. Head of Formula

This means that, together with the school, LFSO exchanges research based knowledge coming from being aware of trends and needs of the students and combining the skills and practice-based knowledge that ends up in the execution of the efforts of research (more examples later in this section).

To sum up, the formation of departments and fostering an alignment in between them, together with the previously described external collaborations show how the cross-boundary collaboration is taking place and is striving to be.

“For that now, I am ready to meet new ideas and develop new ideas and always get involved in the innovation cites and it is important for me to reach you and see how we can innovate because now the Italian mentality for me it’s old”. Integration manager

As stated by the Integration Manager, the real future of the organization will depend not only on the engaged collaboration within and in between departments, but also on the co-creation and developments derived from the engaged collaboration with external parties (like innovation centers, suppliers and schools) as well. Within the scope of the new organizational structure, ICO is in the initial stage of fostering more collaborations of this sort.

Lack of reflection in action that leads to learning

As described in the theoretical framework, reflection in action is understood to take place when articulated knowledge is combined with old and new insights which derive in continuous learning and improvement (Dougherty, 2004; Ellström, 2010). Hereby are some examples that surface several patterns from the interviews which limit such reflection: To begin with, the employees are used to prioritize the delivery of daily services and, consequently, the focus stands on channeling several resources merely in this direction. Connecting this instance to the previously mentioned flexibility that is required from the employees to be supportive with each other, reflection in action does not take place properly since there is simply no time or availability for it.

“I am working very hard with the stores to sell... when I go to the store I help with whatever they need. For example, on Monday I go to Hengelo and then I help the people that are in the store to sell the products. I like doing it but it is not my job as a cluster manager... It is so busy that I just cannot sit back, I need to get hands on and help them... but that is not good, what I actually need to do is to help the location manager to organize things better”. Cluster manager
2

In this light, the human resources are the primarily affected ones since covering different positions does not allow to properly fulfill a specific role and rather fosters a mechanistic way of dealing with emergent situations. Therefore, this limits the abilities of each employee to observe, acquire practice-based knowledge, collectively reflect, learn and either enhance or prevent certain situations from happening.

“I order it or I get it from somewhere or we go to another location and put it there but it always works. It is possible that these kinds of things happen because maybe some people forgot to make the reservation or I forgot to order then I go to the store and I get it... we try to make it work, it has to be done. Apart from that, it is okay... You should figure out and for me it’s simply, you just basically have to improvise”. Formula Manager

Several instances such as: forgetting to submit an order or realizing on the same day that there are no ingredients available force the employees to improvise. Since this means that there is a short time span available to react on these emergent situations, the improvisations are mostly done under pressure, however in the most logical and convenient way. For example: employees tend either go to other educational institutions and take some of available stock or they go to a supermarket

nearby to get the desired products. Furthermore, whenever the situation gets out of hand, SDCO is asked to step in and support LFSO to cover such issue.

After the emergent situation is solved, there is no time for reflection due to the fact the priority remains on continuing with the next event or daily delivery of services. In this sense, several employees mention that these situations remain constant and there is no action done to prevent it from happening again.

As mentioned in the previous paragraph, SDCO is mostly asked to cover either emergent or big events that cannot be covered by LFSO. Even though this adds a bit of chaos to the SDCO, such organization manages to reflect and monitor if the goals and revenues are being reached, if the service was satisfactory for the client, among others, both during and after the event:

“So, after the events a few days after we sit together and everyone makes their points of announcement from the good things to the bad things and the bettering points and every kind of information that can make it easier for the next time... we cover everything that needs to be said. We evaluate and make on paper evaluations, we write down the critical points about what happened and why did that happen so we can learn from it for the same event later on or for a similar event”. Operational manager SDCO

In contrast, specifically in the locations, reflection in action does not formally take place. It is until figures are not achieved or things are not running good that employees recall what might have caused such issues and an intervention is done to improve. In this light, the Operations Director in LFSO took the effort of developing a format that needs to be filled by each cluster manager in which certain operational points, and even some non-operational points, are monitored. However, it raises again the low alignment that exists in between the departments since there is no evidence that other departments are reaching this extent of monitoring:

“As the Operations Director, I introduced a format which has a couple of things that I can measure in the contracts, for example: what is my turnover from the budget, revenue, food costs, labor costs, that is absolutely operations; and when something change, the responsible of the contract (cluster manager) must fill it in and I can have an overview about what is the stand of my contracts... so when I see there are a lot of complaints with purchase, I am going to sit with them and talk about it to solve it. The format also includes, how is the trust with the clients, is it a good relationship or bad relationship, what is the position of purchase... good behavior? Do we have good products or does the company that deliver us is late? What is my quality position? What is my sales position? This is also something my department shortly measures but I know that my department is unique because other departments are not in this same line”. Director of operations

In this way, such points are shared in written form, surfacing some practice-based knowledge which is embedded in each location, leaving articulation just to intervene and make certain modifications in the way things are being done whenever it is necessary.

The difference in the way reflection is carried out in both companies suggest that more reflection in action takes place in SDCO; thus, facilitating to continuously improve the events/services. Consequently, this represents a major learning lesson that could be adopted and adapted by LFSO to continuously improve the way things are done so far.

“One thing that it’s important what we need to learn is how we are going to solve the problems for the next time. Because everything for us is new and everything that we can solve we need to try to not have the situation for the next time. So, the thing is: how can I solve the problem in front of the problem not after the problem”. Head of Facility

Furthermore, the perks of carrying out a proper reflection in action is that not only opportunities for improvement are shared, but also successful stories from an event or the daily catering of a specific location can be shared and possibly implemented. However, a process to seek implementation would be useful to evaluate if it fits some or the rest of the contracts due to their individual nature that involve different needs and requirements. As it can be seen in table 3, there are a few examples that show that new products that were successful, either a new sandwich in a location or healthy fig pastries in an event, hold major potential to be shared and promoted to other different locations and/or events. So far, if a new product has been successful in a specific location, the Head of Formula is the one making the decision to extrapolate it to other different locations and, in the case of events, the success of a new product becomes useful learning that is to be used again when another event requires it. Specifically speaking about the locations, there are several important steps that must be followed whenever there is an addition to the assortment:

“If I want to sell a new bread, then I have to get the recipe that remarks the ingredients used and the amounts so then they bring it either to me or the Head of Formula and then I will make the calculation and we can say it is in the system, we make it available so it can be bought, we make the right margin so we can say the right amount to sell it and we know in which location we would like to sell it. If everything is brought together by us then we make it available for everyone, otherwise if we let each location to adapt that recipe everyone will say differently about how to do it and then you have like 500 recipes, it doesn’t work”. Undefined position.

As explained by the employee with undefined position, it is not that easy to have a new addition to the assortment because if all the locations adapt the new product according to the needs of each contract, there would be a thousand different recipes available and that would be too complicated for him since he is the one in charge of dealing with the system. In this way, continuously improving services or assortment becomes difficult due to this “standard” which limits the ability of each location to adapt a product according to its particular and embedded practice-based and research-based knowledge.

Little clarity of roles and direction of the organization amongst employees

This third conglomerate of barriers explains how having little clarity about both the goals/direction of the organization and the activities that are to be fulfilled by a specific role/position impact the employee’s performance and their ability to enact certain activities. As previously described, LFSO acquisition by ICO is very recent and while a merge of both organization’s practice-based and research based knowledge happen, employees are stranded in between the traditional “family business” mentality and not knowing exactly how is the new best way to both enact and fulfill what they had understood so far about their roles.

In this regard, ICO is very ambitious and aims to refresh, in every sense of the word, the way things are done:

“We want to build the shop in shop and then a food market inside the building because now the food it’s not just for the food because you are hungry... it’s about to take the pleasure of that moment of the day and then the look and feel is important and then the new ideas of services... to share a moment with your colleagues. We need to be more focused on providing our customers with a wholesome experience every time they visit our locations”. Integration manager

The Integration manager, coming from ICO, made it clear along the interview that the main goal is to achieve the budget because without money, all the new ideas and concepts that want to be implemented cannot take place. To achieve this, ICO is busy working on the development of procedures, certain guidelines and a solid structure that allows the employees to be more efficient thus, optimizing the services of the organization. Some good examples that have been explained before are: the re-organization of activities via the development of departments, together with the alignment that is taking place in between sales and operation. Therefore, being aware that it will take time before the procedures are surfaced, adapted and solidified across the organization, the employees are in the meantime trying to keep the locations running in the smoothest way possible.

“We have in Hengelo an espresso bar and it was making 200 euros a day and now it’s making 800 euros a day. And I achieved that with a good styling of the location and also helping people to believe in themselves... then people smiles and this combination helps to sell a lot of products”. Cluster Manager 2

With this isolated case, the Cluster Manager 2 was currently promoted to a cluster manager position without necessarily having the experience to fulfill such role. Since there is nothing written down, he must figure things out by himself and the most logical way to start dealing with a newly assigned location is: to pay attention, observe and delegate accordingly. Even though he might be doing a good job, lacking direction or standards to be based on and make a decision imply learning by doing. If he tries something and it both works and helps to reach the budget, then it makes sense to continue in that direction and if it doesn’t, then is wise to change and try to find a different or more suitable solution. In contrast to this isolated case, several employees that have been longer in the company and/or have a solid professional background, rely on their abilities/skills to be creative thus, it becomes smoother to explore diverse options according to their specific environment, regardless of the lack of direction or standards (to be elaborated later in this section).

In this way, the accumulation of practice-based knowledge in the form of having broad experience within the food service field, shows that it aids employees to make more conscious selections by not being limited by the lack of format for action.

“I do my best to implement it but also my cluster manager shares his expectations and I know my things to do and the goals so that my staff can do things properly, but there is no format for it”. Location Manager 1

“I show them the ways to perform but with the freedom to act because if I tell them exactly how I want things... then I immediately become a manager and that limits creativity. I want young people in my team because they have now

the connection with the market, I have my experience but I also need a lot of young people around me because together we can build a better world". Sales Director

"That is what I mean, together we are good enough to say "ok, that is what we want", but also Thomas he is not the boss, he is just the boss of the department. Nowadays since we have the Italian people in Italy and also in the Netherlands and the people that were already in the company... so 3 directors its 3 times trying to make a big decision and it is time consuming. Facility manager

Therefore, it represents a common thought that it is important to give the employees certain lines of action so they can think, reason and act, otherwise they become robots and just followers. In line with ICO's attempt to avoid confusion and major variation amongst the organization, it will make things easier for the employees once a clear direction is defined and re-adapted lines of action are developed.

In addition, as mentioned by the Integration manager, it will also be important to have more skillful employees within the organization since, this guarantees to some extent that the roles will be more easily fulfilled. Thus, specifically speaking about bottom hierarchical levels, the inclusion of skillful employees can help to deal better with the challenges that rise from the non-routinary nature of daily delivery of services. Therefore, combining what was previously said together with more structured routinary activities at top hierarchical levels (visiting locations, monitoring the agenda and action points coming from the meetings and dealing with the strategic decisions to comply with the overall budget) is expected by the ICO to be beneficial for the organization. Summing up, even though the working environment is very dynamic and fast paced in all hierarchical levels, special focus should be put to the employees in bottom hierarchical levels because they are the ones both delivering the services and specifically checking if there is something that could be done better.

Need to reinforce aligned habits to be efficient

Complementing what was previously described about the new departments that are being built within the LFSO, several employees remark the fact that departments are growing apart as far as goals to be reached are concerned. For example, the Formula department has the goal of carrying out research and development activities, however this aim is yet to be connected to the activities of the rest of the departments and even locations.

"As cluster managers, we try to pick up trends we try to implement different things, it is a bit of a thing that several departments need to be involved to make the new products". Cluster Manager 1

"From the agenda or from the meetings we fill in a form with all the action points and what we spoke about and we make an action plan to see how to make things possible and then we share that because there are deadlines on the action plan and we share it in this case with the Integration manager and with operations because a lot of action points we have to work out together, we are connected with the operations department so they can also know the deadlines and the activities to be done. Head of Formula

As Cluster Manager 1 mentions, it is important to be aligned with the location and cluster managers as well since they are the ones that hold the most practice-based and research-based knowledge that is embedded within the locations. By doing so, the activities carried out by the Formula department have the potential to become more efficient since this represents a connection point that should be nurtured so as to come up with purposefully targeted services/products. Furthermore, as the Head of Formula recalls, it is important to align with Operations department about how to reach their goals as well as about the deadlines to deliver the services on time. Even though this is currently happening in between such departments, the facility department was not mentioned to be involved regardless its equal importance for the delivery of services as well. However, both the facility and operations departments show a bit more synergism and alignment in goals as it is their duty to interact and deploy their knowledge sources towards keeping the locations refreshed and running with the proper equipment. In this line, the facility department is in charge of making a proposal that fits the particular needs of each contract while operations take care of the logistics to make it happen. In another light, as it was previously described, the sales department is getting more aligned with both operations and facility departments to be able to comply with the needs of each contract by being realistic about the services that LFSO can deliver. Overall, by explaining the current situation it is showed that the Formula department is the one that holds the key strategic goals of the organization so, to attain them, the rest of the departments are attempting to follow accordingly.

Evidently, to be able to align within and in between the departments, communication (through diverse channels) is needed. It is not only necessary to communicate and align regarding the goals to be achieved, but also about the decisions made along the daily delivery of services. So far, this has been done through gatherings and meetings which make it easier for several employees to interact at the same time, debate and reach a consensus about the actions that must be followed up.

“Once a week I have to be in headquarters, visit the facility and then we put altogether on Thursday and then we stay together like 2 hours with Jan, Thomas, Nathalie, Tessa to see what is going on, to talk about projects and most of the time we talk with Natalino, about good things or bad things, doesn’t matter and operations with Dennis about what is going on... maybe there are some things that we did not do good and we have to change so, that is the day in Hem”. Facility manager

According to what was mentioned by several employees, whenever a cross-boundary interaction like this takes place, embedded practice-based and research-based knowledge can be surfaced allowing to debate (by considering different points of view) and reach a consensus. However, there are some exceptions that show that, in some cases, a consensus is not reached because the decision is made by one employee. As it can be seen in Table 3, there are some employees that stubbornly believe in their vision towards making improvements according to the goals of the department they are working for. Sometimes this action proves to be useful and sometimes it proves to be inefficient due to the double-work it involves by not reaching a consensus:

“So, when a location manager tries something, has a good profit and a good response from the students then I can make a report to the Formula manager, and then he can accept it or not. If it is accepted then he shares it with all the locations and invite them to try it and then it is possible to order it in the system”. Location Manager 2

“When I make a wrong decision, I am always very clear that we have to stop because I didn’t have a good overview of things or enough information so I bring people together and then I let them talk about it, about the results and I want to hear how they would improve what happened because of my decision. Then, we make another decision together and everybody accepts it and we go further”. Director of Operations

In the first instance, it is shown that after a location manager proves to the Head of Formula that a new development was successful, within that specific location, he can make the decision of adding it as part of the assortment. Afterwards, it is shared with the rest of the locations so each one can decide if it is worth of trying or not. In this sense, the consensus stand in between the location that came up with the new development and the Head of Formula leaving the other locations to decide by themselves and, with them specifically, a consensus is not reached. Furthermore, as it is shown in the second instance, only after realizing that a decision was bad, the team that was involved in that individual decision gather so as to make improvements over that individual decision. Thus, in the meeting, the team shares their opinion and input so that a new decision can be made and, in this time, more employees are involved towards reaching an engaged and consensual decision. These situations have a major impact in the way both practice-based knowledge and research based knowledge can be surfaced, shared and discussed within the organization since, it is so far being limited to the understanding of one person/individual. Even though this doesn’t happen in each and every department, it is relevant to surface these red flags so they can be taken into account now that the new structure is being built.

In another light, also within this specific barrier, there is a clear pattern that unveils a peculiar situation that for most of the employees is considered to be a “competitive strategy”. As part of the core values of both LFSO and SDCO, complying with the desires of the customers is the top priority, regardless if it fits within the spectrum of the organization can deliver. Along the daily catering in schools, there are some events that might rise within the school that should also be covered by the organization. Depending on what is required for a specific event, the location manager must do whatever it takes to deliver the service:

“It can happen by us that a client calls about 12:00 and he says that he has 5 guests, can you do something? and that is no problem at all, then we go shopping if necessary and we make it happen”. Operational Manager SDCO

“Since there are different events in the organization then you have food, workers, drinks and a planning when you can build the event and when can you leave the event and about the hospitality with guests, in the base everything is the same with management but the days are completely different because one day you can work with lobster and very high-end dishes and sometimes with just French fries and plastic things”. Head of Events and Banqueting SDCO

In this way, the requests from the customers range from very high-end dishes, to simply French fries; from 5 to 5000 people... even if there might be something that the organization has not yet

done before, the employees rely on their experience concerning logistics together with their abilities to improvise and make use of the resources available to make it happen. Consequently, if there is a small event, it can be easily covered by either exploiting the resources of that location/other locations or buying what is needed in a nearby supermarket. In contrast, when the event is too big, there is a high possibility that SDCO will cover and take care of the services. These actions surface the fact that the services that can be delivered are too broad and, even though there is already good practice-based knowledge (experience: logistics) and research-based (which suppliers/locations are the most suitable to help and support), it is proved that it creates chaos internally and sometimes low quality:

“Another example is that we had a big meeting about a contract of a school and a big event of 5000 people. We have the supplier that delivers the hot buffets because we don’t have the capacity for it and it was really bad, some people got sick, there were no allergen information and then you are down because you cannot do nothing more. I received a lot of complaints but this situation was too bad, regarding taste, delivery, quality of the materials, dirty cutlery, no information and of course, some people were happy with the service but the bad thing was that someone fell sick because they ate nuts and this is very serious because you can die from it”. Cluster Manager 3

Even though covering a broad spectrum of needs is beneficial towards continuously explore and increase the organizations practice-based and research-based knowledge, learning by doing on the go without reflecting by merely following the lines from the customer limits the exploitation of both sources of knowledge. In this sense, aligning about the services which can be efficiently delivered within the standards and capabilities of the organization is needed.

Summing up from this section; it is evident that there are certain barriers which limit the interactive and engaged ways research-based and practice-based knowledge are deployed within the organization towards purposefully deliver daily services and continuously improve. Nevertheless, the following sections will serve to explain and describe more in depth about the isolated capture, application and creation actions which aim to foster a more efficient and sustainable deployment of both sources of knowledge within the organization.

CAPTURE OF RESEARCH BASED-KNOWLEDGE AND ITS CONNECTION WITH PRACTICE-BASED KNOWLEDGE

Technological instruments are developed to do the job right

Along the interviews, several patterns were identified concerning the efforts being made by the employees of LFSO to retain their intellectual capital. In this sense, they are building a common knowledge base which has the purpose of accumulating all the practice-based and research based knowledge that has so far been embedded and not readily available across the organization. Such knowledge base is a software called “Easy disc” that contains detailed information about the costs, processes, prices, list of allergens and further important details of the products that are available in the locations. As such, coming from a traditional family business environment where nothing

was written down, this new software will help to surface the practice-based knowledge that is necessary to produce and reproduce the services, in a standardized way, across all the locations. In this regard, the development of the “Easy disc” software is in hands of one employee who makes sure all the knowledge that comes from the Formula management, Finance and Quality becomes available.

“Since the system “Easy-disc” is quite a new software, there are improvements that need to be done together with Finance and Formula departments who, at the end, will also work with it... so everything must work fine together. If I make one thing different, the other people can’t see it anymore, so everytime you modify something you have to think about this. We are programming the system and we also have to make a guide about how to use it because there are a lot of things within the system, you can find quite everything in the system”. Undefined position

As it is explained, the software is quite new and several departments and locations will benefit from it. By far, the two employees involved in the development of such tool have also identified the amount of work it represents not only to accumulate all the practice-based and research-based knowledge but also to continuously improve it. Thus, they are also focusing on the development of a manual that includes all the details that are needed to be taken into account to properly make modifications or additions to the system. This since, as it has been mentioned along the findings, the locations might have extra or additional products which are not included in the overall assortment but that still need to be within the software and readily available for the organization. In addition to the “Easy-disc” software, which is being developed by two employees, the Formula department is focusing on the development of a complementing capturing tool which is: A Brand-book.

“We started to build up our brand-book and in there we tell our story about the modules and the brand. In there, we have our categories (bakery, drinks...), the products we develop and we connect it with the recipe but also with the materials and ingredients and we change for the corporate assortment 4 times a year and for the education catering 3 times a year”. Head of Formula

In this way, the Brand-book will contain the specifications concerning the most ideal way to present and manage the location, how long does it take to produce something, how many items are needed to be sold so as to comply with the overall budget as well as how to coordinate the waste to comply with the sustainability values of the organization. Among others, these are some examples of what will be included in such tool; aiming to provide and share a standard within the organization concerning the basic assortment within each category of products while keeping it flexible to be updated by the location manager according to the specific needs each location.

“We make a menu plan that changes the assortment everyday so we have a basic assortment and a flexible assortment... with this flexible assortment it’s up to the location manager to say what he wants and which the categories. For example, this period you have a roll with cheese (that is the basic) but I would like a roll with cheese, mustard and salmon and they can produce out of the schedule complete menus according to what they want, depending on the season of the year... we have something for Christmas, for when you feel heavy after holidays and you want to go back on track being healthy... and every three months the brand-book is updated”. Head of Formula

In another context, there is an additional system that was recently developed towards facilitating a smoother way of action within the organization, specifically within the Facility and Operation departments. Such system enhances a standardized and more controlled way to deal with emergent situations from each location since, prior to its development, the location managers and customers used to just call or email about certain issues happening in a location creating chaos:

“So, we have a ticket system and all the facility problems we have in the ticket system and we get a ticket... every location can make a ticket for a facility problem. For example, a location can say... we have a blender and the glass is broken, for example for the equipment then the location manager fills in and I answer the glass it's no problem we can arrange a new blender for you... its 200 euros for example and I will arrange for next Monday in the location so they can make smoothies again. Then I close ticket and it's gone”. Head of Facility

Therefore, with this “Ticket system”, emergent or unexpected situations are fixed in a more efficient, controlled and structured way. This, by being able to consider different factors such as the budget, comparing different suppliers, among others, which weren't possible to be considered before due to the need of continuously solving the next situation ahead. In this sense, research based knowledge is reinforced (comparing/contrasting suppliers, most suitable solutions to solve the specific issue...) together with the practice-based knowledge that is continuously built from the solutions that were implemented.

Keeping research-based knowledge updated assists exploration and exploitation activities

With the current organizational structure coming from ICO, there are several instruments that are being developed to capture and share knowledge in common ways; thus, facilitating to have readily available sources of knowledge. In this way, not only certain tools are being developed but also, certain actions are being taken towards the capture of different sources of knowledge as well. To begin with, once the organization starts delivering its services either for a specific contract or customer, feedback and input is expected from them. In this line, both the employees that are running an event or a location try their best to be receptive to this external source and take it into account to improve their services.

“There are students that come inside the restaurant and say we want to eat something fatty, go away with your healthy stuff, but we have it. When they want a salad, we have it; a smoothie, we have it; we even have the sustainable soup and sometimes we have up to 3 different types of soups daily”. Location Manager 1

Consequently, not only services become continuously improved but also, the knowledge base within the organization coming from research-based knowledge increases due to the interactive and peculiar environment in certain locations. In this sense, exploration of different options becomes smoother since this knowledge source complements the research-based and internal practice-based knowledge. As it can be seen in table 4, an instance shows that the input of one student helped to improve the way waste was dealt within the location. Even though this represents

an isolated and embedded case, it proves that the environment of the educational institution (within the realm of healthy living and environment) is key since the knowledge from both the institution and the students can be used. In addition, another instance shows that people within the location weren't satisfied with the taste of coffee and therefore the location manager decided to explore the possibilities with a supplier to make improvements.

"Because of the meetings every 3 or 4 weeks that is why I got the sign that people didn't like the coffee so we had to plan for it because I am not happy when my customers are not happy. We not only have students, but also the employees of the university they are a lot of them so I had to think logically and in a sequential way and we had to find out first if the machines were working properly and if everything was calibrated and working in the right way so then I asked again if they still didn't like the coffee and the customers were still not satisfied so then I had to make the questionnaires to see what was going on and check the preferences so that is the phase we are now and now I am looking at the questionnaires to see what we should work on... and I shared this with the supplier and check which coffee bean is appropriate for this machine and then they will give me some ideas and that is the next phase. We will have a tasting session and then I suggest only 2 beans... 1 week for 1 bean and another week for the other bean and then checking which one they like the most from their attributes and they can choose and we can hopefully decide right over this, and that is my goal... that the customers are satisfied". Location Manager 1

In this case, the action of the location manager towards using the research-based knowledge from the suppliers concerning different sorts of coffee helped to improve the product within the location. Apart from being receptive to the customer's feedback and input; keeping track of market trends, governmental regulations and competition represent other ways of capturing research based-knowledge. To do so, some employees have the opportunity to attend different events, most of which are within the realm of HORECA (Hotels, Restaurants and Catering). Furthermore, keeping an eye open to the outside world is also a good habit that some employees have to embrace new ideas and to keep up with important regulations that should be followed in general within the country such as: allergen restrictions for the catering business. This is achieved through different channels which range from internet to specialized magazines and/or simply visiting interesting places that could be source of inspiration:

"Now we have an allergen restriction from the government that restricts the Horecca and catering businesses everything in the food branch so you have to show this to the customer if it is in the product because the customers can have a lot of allergies but now it has become official that we have to let the customer know what is inside the product". Cluster Manager 1

"I like going to Amsterdam or to Rotterdam or to several other places... other stores and check what there is that is new. New stores, new things in the shops I go there and take a look and if it's possible to bring it to our stores, I do it. There is no one that tells me to do this". Cluster manager 2

"In my job, I am still looking and searching in the internet for new trends, for new kitchen things, new products, when I am on holidays I am always looking in markets and restaurants, for the local things, for example... I was in Malaysia and it is so inspiring what you can find there in the food markets, so I tried to bring things here, for example; the chai latte which was my idea to have because specially the girls like to have something sweet, with milk and with a bit of spices and it was a big success". Location Manager 1

As such, the exploration of knowledge is done by the employees in an informal way just to keep their knowledge fresh and connected to what is happening in the outside world (regarding the food service business). By doing so, valuable and interesting knowledge becomes available for exploiting it towards the improvement of services within the organization.

Summing up what was stated in this section, the organization is taking some actions towards collecting and storing knowledge for future retrieval. In one way, while practice-based knowledge is being surfaced and accumulated in different ways within the organization, research-based knowledge is helping to both improve and keep up with the fast pace of the food service business. In the next section, it will be explained how the capture of knowledge enhance a purposeful usage and application of knowledge towards the creation of new knowledge (translated in new/improved services).

APPLICATION OF RESEARCH-BASED AND PRACTICE-BASED KNOWLEDGE TO CREATE NEW KNOWLEDGE

Since capturing both sources of knowledge does nothing unless it is used and applied, several patterns within the organization were identified that show how certain activities and situations induce exploration and exploitation of different sources of knowledge. To begin with, since the ICO's takeover, one big contract with an educational institution in Amsterdam has challenged the organization to deploy its resources. Due to the fact that this big contract represents a bigger location, it is not enough with the current assortment and services to cover the requirements and needs of the contract. Therefore, it was decided to seek and include local contractors that could complement the provision of the organization's services. In addition, ICO is also carrying out a pilot project to explore how an opening of an Italian restaurant will beneficially add to the requirements of the contract:

"We will have the next big opening in Amsterdam for an Italian restaurant, this will be the first project pilot for our company abroad for this brand and I am arranging everything for them and this is great for me. I think this is the way for the future, you must be careful about the details to avoid any mistakes in the pilot project but at the same time you have time to arrange a little and then have the road map of this brand and then you can either sell it or propose to a tender in the future to improve the performance of the company". Integration Manager

In this way, both the inclusion of local contractors in combination with the pilot project are proving to be good decisions that withhold major potential to be extrapolated to other locations.

In line with this prior example, it is clear and evident that within several locations there are some experiments that are done in an attempt to continuously improve the organization's services. Consequently, the synergism in between accumulated practice-based and research-based knowledge can be deployed and its impact can be seen almost immediately because a location has a big flow of students visiting on a daily basis and this represents an ideal setting to put such synergism of knowledge into practice. For instance, as it can be seen in table 5 one location manager decided to buy a huge pizza oven so that students could have more saying by

personalizing their food. As mentioned by the Formula Manager, even though this represents a huge success that is gaining a lot of impact within the location and is shared within the organization, there is no notice of this innovative action being embraced and implemented in other locations. In this sense, there is no clear follow-up or reflection done by other location managers regarding if such action could fit the requirements of other contracts. In another scenario, experimenting by applying the educational institution's knowledge allows to develop interesting concepts such as: new and sustainable soups, recyclable coffee cups. However again, there is no notice that the potential of these developments is exploited and extrapolated to other locations. These previous instances show that such experiments, which later became implementations, wouldn't have been achieved if the organization didn't allow to have freedom for experimenting and trying different options. In addition, it is not only a matter of having the freedom to act according to the requirements of the contract and the environment of the location, but also about the skills/abilities/expertise of the employees to facilitate purposeful developments/implementations.

"I can make a sandwich and do the research about the ingredients, then I have to know the food cost of the product, depending on the price that you are selling then you can have a nice margin that is important and if that is okay then I can send it to my manager and also the format manager and they have to agree to sell this sandwich. If this is allowed, then I can sell it". Cluster Manager 1

"I show them the ways to perform but with the freedom to act because if I tell them exactly how I want things... then I immediately become a manager and that limits creativity. I want young people in my team because they have now the connection with the market, I have my experience but I also need a lot of young people around me because together we can build a better world". Sales Director

"I have an exceptional position within my region because as I said, I manage 4 locations and the last 2 years I tried to gain more turnover by doing catering events without the school. Last year in May I had a congress in a company outside the school... I also try to go outside the school looking for more options to cater events besides the school". Cluster Manager 1

While some employees consider that having freedom of entrepreneurship is such a great way to deal with their job, other employees do not know exactly how to deal with such freedom. As explained by Location Manager 2 and Cluster Manager 1, having the freedom to try different things is great since it gives the flexibility to connect the dots and put experience into practice. Thus, making use of the readily available knowledge to seek new ideas that can be of benefit for the location/organization in general. In this way, according to a pattern that surfaced from interviews, it is showed that the professional background is very important to fulfil an entrepreneur role. On the one hand, LFSO has employees who have either broad experience in the food service field or that have gained it internally throughout the years.

"My education was completely different, I actually started in construction and I didn't finish school because I didn't like it so I started working behind the bar and that is how everything started. Then slowly I went further and further. I work a lot with my hands but in education not much. I really like working in the field". Facility manager

On the other hand, there are other employees which are either newcomers or evidently do not have enough skills or practice-based knowledge to fulfill their roles.

“I worked for Sodexo and I was responsible for the WTC in Rotterdam, responsible for the Congress and the events center. Maybe you know Efteling, a theme park in Tilburg, I was responsible for the events department there for 4 years... I worked in a football stadium, I also worked in an exhibition place in Utrecht as an operations manager so I have been in big companies within the Netherlands in the catering events. Because of my experience, the last 10 years I became more from sales because when I speak to the clients they trust me because they know what I am talking about”. Head of Events and Banqueting SDCO

“Before Good Foods I started as a flower stylist. I had no work and my friend who was a chef in Good Food said there was people needed to work here and I started driving a bus and now as a cluster manager”. Cluster manager 2

In this case, entrepreneurship becomes either an interesting platform that allows skillful/experienced employees to be creative or a drawback that creates chaos and uncertainty amongst the employees which are not skillful enough. Since it is known that the lines of action of the organization are currently being developed and aim to remain, to a certain extent, flexible; providing those employees which do not have sufficient experience/skills with tools that can enhance their performance is necessary (employee development will be further elaborated in this section). In addition, since it is also the duty of the employees working at the formula department to be entrepreneurial, employee development is also good since so far, the activities have remained mainly exploratory due to their insufficient abilities to exploit the ideas/concepts and translating them to reality.

Employee development fosters learning in common ways

In connection to what was stated above, ICO is already taking some actions to provide the employees with a common ground that allows them to improve their performance and thus, the improvement of services. Consequently, there is one employee who was recently hired because of all his experience in coaching organizations within the same field in an aim to improve their performance. As it was mentioned in the barriers, there is a lack of clarity within the departments and in between employees which is keeping them from fulfilling their jobs accurately. Also, as it was mentioned prior in this section, the insufficient skills and experience of certain employees is becoming a drawback for the overall organization to have smooth patterns in the delivery of services. Therefore, one of the actions that this new employee is spreading across the organization is to have training sessions in the way of workshops to pursue a collective reflection on the goals and the direction of the organization. According to the interviews, each department participates in the workshop so the employees can surface their knowledge, debate about it and reach a consensus concerning the goals of their department as well as their specific tasks to be fulfilled by each employee. Furthermore, through this workshop, the Sales Director is also providing the employees with certain skills which will allow them to have more impact when approaching already existing clients or when reaching out new ones.

“You guys are part of the formula team and this is the best part of the job (you have to make them important), what is our responsibility, what do we have to do? can you tell me how you see it... and then I write in a board: we have to give advice in the assortment, we have to know about the trends, we have to give advice about the presentation... when the tender comes we have to give them advice but also, when we win the tender we have to give them advice. How are we going to manage this?. Then, the formula team should make a presentation for the organization saying what the responsibilities and tasks are for the team. All the departments have to make a presentation for the organization stating what is their role of the team and each member of the team, the goals, how they are going to manage their activities... so and so forth”. Sales Director

As explained by the Sales Director, this workshop represents a simple model that aims to give more focus to the staff, locations and the departments. Even though it is important for management and headquarters to make the ultimate decisions about the roles and direction of the organization, it is an advantage that such model focuses more on involving bottom hierarchical levels since there is where the money is actually generated. Apart from the workshops, the organization is used to share practice-based knowledge to newcomers by coaching and sharing what should be done sometimes by word-of-mouth.

“I go to a location and I train the colleagues over there, I teach them about the smoothies, the juices, the salad bar, how to put bread in nice forms and things like that. Sometimes you cannot explain things because things are too busy and then I help them. Working along with them... I show them how they should do things with the computer, which people she can contact to get certain things from, etc”. Formula Manager

“So now, John from Good Foods passed the knowledge to Ostwald and Ostwald now it's arranging step by step the national banqueting and he is starting with one contract which is the UvA”. Operational Manager SDCO

Currently, there is one employee that was given the duty of coaching newcomers. According to her (Formula Manager), the best way to fulfill such role is by both sharing and teaching what she knows so far about the organization's way of doing things. Also, since she had the opportunity to take a course within the HORECA realm that is why she was the chosen one to spread that somehow “specific and essential knowledge”. She recalls that this task is sometimes difficult because what she understands to be correct can or cannot work as such in a specific location and therefore, she is just showing the essentials and allowing the rest to be figured out along the way by the specific person being coached. Besides her, there is no other employee that mentioned they could take this HORECA course. However, there is a hospitality training course within the LFSO that provides employees with a common base about food service. According to the Facility Manager, regardless if the training is good, some employees are not receptive enough and do not follow the lines about what they were taught in the course. In this line, that has mainly to do with employees that are working within the organization out of necessity and not of passion.

*“We have the **hospitality training** within the company but I think it is the right way to do it because every hospitality course that I had was not pressing the right buttons... for me, hospitality has to come from your heart, you cannot learn hospitality in my opinion, it has to be in your blood. Of course, you can learn it but that doesn't say that you will succeed in it everytime, because some people just see this as a job just like “I got to make sandwiches from 8-5”.*

But, for people that really live for food and drinks then they would do that in a more positive way always thinking about service and with a smile in their face. That is the difference, and when you go back to the hospitality courses you might not be pressing the right buttons and you have to ask them: why are you doing this, do you really like this, is this really something you like and want? And from the heart you have to give an answer... and that is why the hospitality courses that they give for the people that work in Cormet in different positions is not pressing the right buttons. Sometimes it's difficult to find the right one and every time it has not been the right, there is something missing and what happens every time some weeks after the course everything you learned is gone... you have to trigger something in people and ask them the right questions". Location Manager 1

Thus, there is a clear pattern that shows that both coaching and taking courses happen to a few employees and only alignment is reinforced until something goes wrong. Thus, leaving up everything to the person to keep continuously learning by him/herself. As previously mentioned, one of the actions that ICO is taking to pursue a smoother delivery of services is to be more selective of their employees, by aiming to have more skillful and passionate people. Thus, making it easier for the organization to further develop over an existing foundation of its employees' skills.

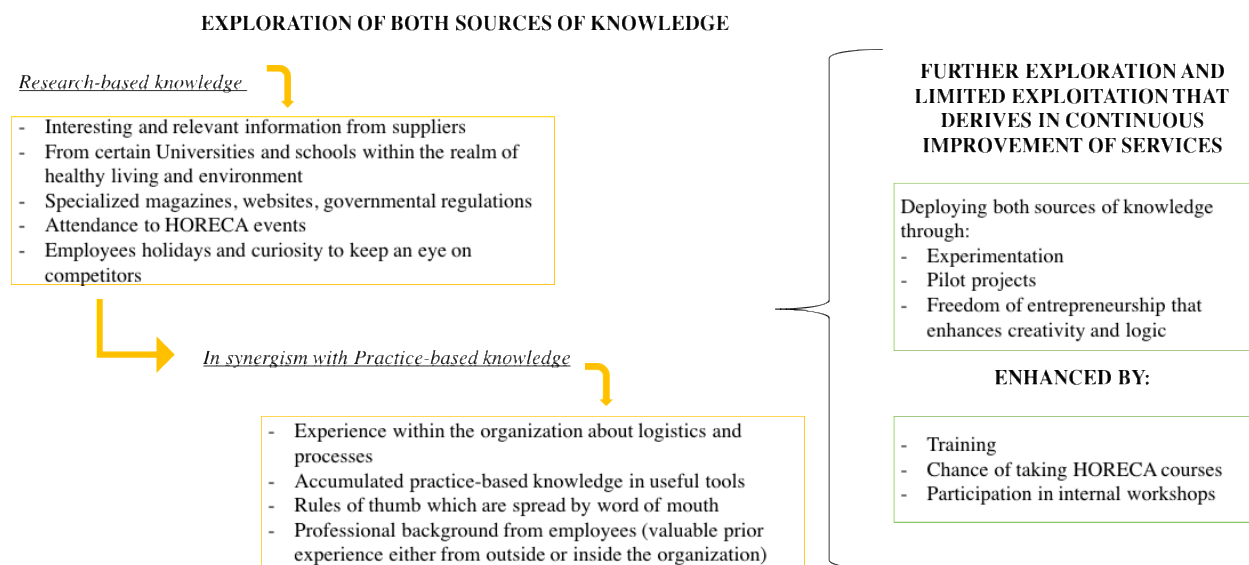


Fig 7. Exploration and limited exploitation of both sources of knowledge that derives in continuous improvement of services

To sum up the last section of the results, figure 7. shows the exploratory interactions in between practice-based and research-based knowledge which allow to carry out more exploration and limited exploitation activities (limited since successful developments mostly remain embedded). Thus, by experimenting and carrying out pilot projects with the freedom of entrepreneurship, improvement of services is expected and has the potential to be enhanced by training and employee development.

Discussion and Conclusions

In this present study, it has been analyzed the way a Dutch Food service organization deploys both practice-based and research-based knowledge. Along the analysis of the findings, several patterns made evident that there are not only certain barriers to knowledge deployment, but also certain actions that are taken to provide more structure and foster the continuous improvement of services within the organization. To begin with, in the dynamics of the Fig 6. It is shown that certain barriers are keeping the organization from reaching its full potential when it comes to the general use of research-based and practice-based knowledge since the way of doing things is, to some extent, still entwined in the traditional family mindset. However, there are some actions coming from the ICO that are taken in an attempt to have more structured patterns of action. Before ICO, the employees of LFSO were used to have wide flexibility to cover different positions whenever necessary and to improvise accordingly just to be sure that the delivery of daily services was done. On the one hand, such flexibility enhances an exploratory mindset that allows to be involved in different practices which enriches practice-based knowledge (Marabelli et al., 2012). However, the short-term focus on time and money by just delivering daily services results in scarce resources, which favor exploitative efficiency but limit explorative activities (Eriksson, 2013). In this sense, speaking about the general dynamics of the locations, the balance tends more to the short-term exploitative side, whereas the explorative becomes shortened and this does not represent a good balance due to the limited time and effort invested on paying attention and reflecting over what actions could be improved.

In addition, ICO is aiming to narrow down the extent of flexibility aiming for more efficiency by having departments with their own tasks, their own team and each employee with its respective job description. It is through workshops that the employees from each department can sit and share together to build on what their activities, goals and roles are. In this sense, integration and knowledge transfer which happens in the workshops are important mechanisms for enhancing ambidexterity (Andriopoulos & Lewis, 2009). As Dougherty (2004) mentions, being engaged and collectively participating in the organization's activities is desirable to purposefully act and learn in common ways. In this line, collaborating and being engaged in a cross-boundary way; for instance, through workshops or even in between departments (as it is majorly happening in between sales and operations) enhances alignment and fosters common learning. Thus, all the knowledge that has been embedded within the organization can be surfaced, articulated and consequently reflected upon in between the employees. Since the activities within the organization are all interconnected, it is necessary that all the departments seek an alignment and more clarity in between their activities so they can efficiently cooperate and have balanced delegation of tasks. In this way, involving more than just higher management positions is a must since most of the diverse sources of knowledge in the form of "know what" and "know how" about the activities, services and products within the organization resides at bottom hierarchical levels (Brown & Duguid, 1991).

In general, more than just internal involvement of both human and knowledge resources is needed towards collaborating for efficient action. In this sense, ICO's has reflected over the fact that

LFSO's practice-based knowledge, research-based knowledge and capabilities are not enough to keep up with the delivery of their services (in the locations and in events). Therefore, certain actions such as: pursuing an engaged collaboration with its daughter company SDCO and co-creating/partnering with different external parties have become essential aims to achieve the goals of the organization. In this way, different sources of knowledge in combination with complementary ways to put it into practice can be sustained in processes of participation in which knowledge comes to life, stays alive and fades away (Nicolini et al., 2003). Thus, aiming to extend LFSO's interactions and networking with different external parties (educational institutions, innovation centers, SDCO) have major potential for exploring different alternatives and, later on, exploiting them in an aim to make additions/improvements to the service portfolio (Harmaakorpi & Melkas, 2012).

Moving along from the interactions to the capture and use of different sources of knowledge towards the creation of new knowledge: ICO expects to enable a smooth interconnection and participation in the activities within the organization by the development of several instruments which will allow to capture all the research-based (for example: products from the assortment) and practice-based knowledge (for example: ways to deliver the organization's services). Knowledge capture involves the collection, organization, and storage of knowledge for future retrieval (Pee & Kankanhalli, 2016). In this sense, both research-based knowledge (which is a form of explicit knowledge) and tacit knowledge (which was previously articulated and surfaced) may be captured in electronic knowledge repositories and document management systems (Alavi & Leidner, 2016). Thus, the brand-book, technological software and ticket system enhance a standardized way to deal with daily services and even fix emergent problems that might arise.

Apart from the physical instruments, the capture that is done by being both receptive to outer sources of knowledge and keeping track of important knowledge streams within the realm of food service allows certain employees to reflect towards purposefully make use of such resources. Altogether with the major autonomy and entrepreneurship that is given to the employees to make decisions towards the improvement of services, several experiments and projects are carried out to test and explore their rate of success for possible implementation. Thus, these become the result of cognitive processing which is triggered by the inflow of new stimuli (Alavi & Leidner, 2016). As it was described in the findings, certain experiments (coming either from the formula department or within the locations) remain successful and embedded. However, if a development project succeeds with its innovation mission, the developed knowledge and/or solution must also be diffused in order to make a greater impact (Eriksson, 2013). Several of these experiments were successful within a location, but knowledge transfer and innovation diffusion across the organization was generally not achieved. A reason for this is that the autonomy afforded to the locations brings with it the risk of them becoming disconnected from other locations and even departments within the same organization. Therefore, to avoid such disconnection it is important to consider the development of an evaluation system or other tools that can foster the production/implementation in other locations (Andriopoulos & Lewis, 2009). It is well known

across the literature that organizations focusing too much on exploration may suffer the costs of experimentation without gaining many of its benefits due to the fact that many remain underdeveloped (March & Olsen, 1989).

With all the above being said, even though the entrepreneurship and autonomy enhance a limited exploitation towards the greater good of some locations, it was surfaced from the findings that such flexibility means nothing if the employees are not skillful enough to continuously seek for the improvement of services. In this way, employees that have broad knowledge coming from either their professional background or expertise within the organization have proved to be able to seek both purposeful and useful alternatives that have major potential to be implemented. Consequently, such employees are more prepared to face the challenges of continuously adapting and unadapting the way things are done without feeling intimidated or lost. Thus, more experienced employees would have some responsibility to bring the accumulated knowledge out of the embedded via diverse communication channels (meetings, gatherings, workshops, etc.) with the knowledge seekers within the organization (Alavi & Leidner, 2016; Brown & Duguid, 1991). By doing this, the accumulated practice-based knowledge in combination with research-based knowledge “that is kept updated” can be both further increased and developed.

In contrast to what was described about the more experienced employees, trainings and informal coaching are key to align newcomers as well as less experienced employees with the rest of the organization. As part of the trainings, certain positions have the opportunity to take extra courses in order to acquire more knowledge; and mostly, those who receive the training are selected to coach the employees who need it. However, certain rules of thumb and very general lines of action are provided and from that point on, it is up to the employees to learn by doing. In this line, it is important that newcomers pass through various stages of learning to connect with the way things are done and acquire growing competence since knowledge is integrated and distributed in the life of the community (Lave, 1991; Nicolini et al., 2003). Regardless of the efforts to train/coach the newcomers and less experienced employees, ICO is also focusing on a more careful selection of staff based on skills and competences. In this way, a purposeful selection of employees is important for the ambidexterity of the organization since, by increasing the number of skillful/knowledgeable people, diversity is achieved towards a sustained balance in between creativity (exploration) and cohesiveness (exploitation) (Andriopoulos & Lewis, 2009). In addition, the assessment of both passion related attributes (exploration) and discipline related attributes (exploitation) as part of the selection process is relevant to find people with ambidextrous identity (Andriopoulos & Lewis, 2009).

Overall, the structural changes that ICO is currently working on, are aimed towards an improved capture, diffusion, use and creation of new knowledge (channeled towards the improvement of services). In this way, the barriers that are derived from the traditional family business mentality, are gradually being overcome by the above-mentioned actions which, although good, still have some areas of opportunity. So far, it all mostly narrows down to the abilities and capabilities of

the employees to put such scheme to work and purposefully deploy both “knowing how” and “knowing what”.

When the focus is primarily on knowledge, the centrality of action in knowledgeability is lost (Orlikowski, 2002). In this line, the focus most rely on the bricolage of material, mental and social resources which, realistically speaking, are the resources that are intertwined in work processes (Nicolini et al., 2003). Consequently, the findings led to grasp the relevance that several resources have in the daily delivery of services and not just knowledge in general. Therefore, both Dougherty (2004) and Ellström (2010) contributions, which were the bases for the development of the theoretical framework, are complemented by other theoretical stream: knowledge management from the light of resource-based view. Resource-based view highlights the importance of resources (physical, organizational and human resources) and capabilities (skills and processes like: knowledge capture, diffusion...) towards supporting organizational survival, growth and effectiveness (Barney, 1991; Pee & Kankanhalli, 2016). Thus, resources can have either a suppressing or enhancing effect on one another depending on their presence, impact and deployment in between them (Black & Boal, 2007). With this in mind, a more holistic approach can be developed to attain to a sustained practice-based innovation process (Fig 8.)

As it can be seen in Fig 8., knowledge, technological instruments and human resources are key resources that surfaced from the findings to be key for the improvement of the LFSO services. To begin with, since most of the employees that are currently working in the organization do not have enough skills/knowledge to fulfill their positions; training and coaching will serve to continuously develop them within the organizations lines of action. However, also evaluating the level and range of specialized knowledge, job expertise and skills seem to be relevant parameters to consider for the selection and addition of new employees to the team (Pee & Kankanhalli, 2016). Consequently, once a more thought out decision/evaluation of the workforce is done in combination with the continuous training/development within the organization, the technological instruments that are being created will allow to collectively make use of the captured knowledge (from diverse sources) in common ways attaining to be more efficient. Up until this part, both the instruments and human resources show the relevant influence that these have on the organizational structure because of its connection to the way knowledge is deployed. In this sense, the organizational structure (which is translated in the formal allocation of work roles together with the mechanisms/processes for integrating and controlling work activities) dictates the channels through which knowledge flows.

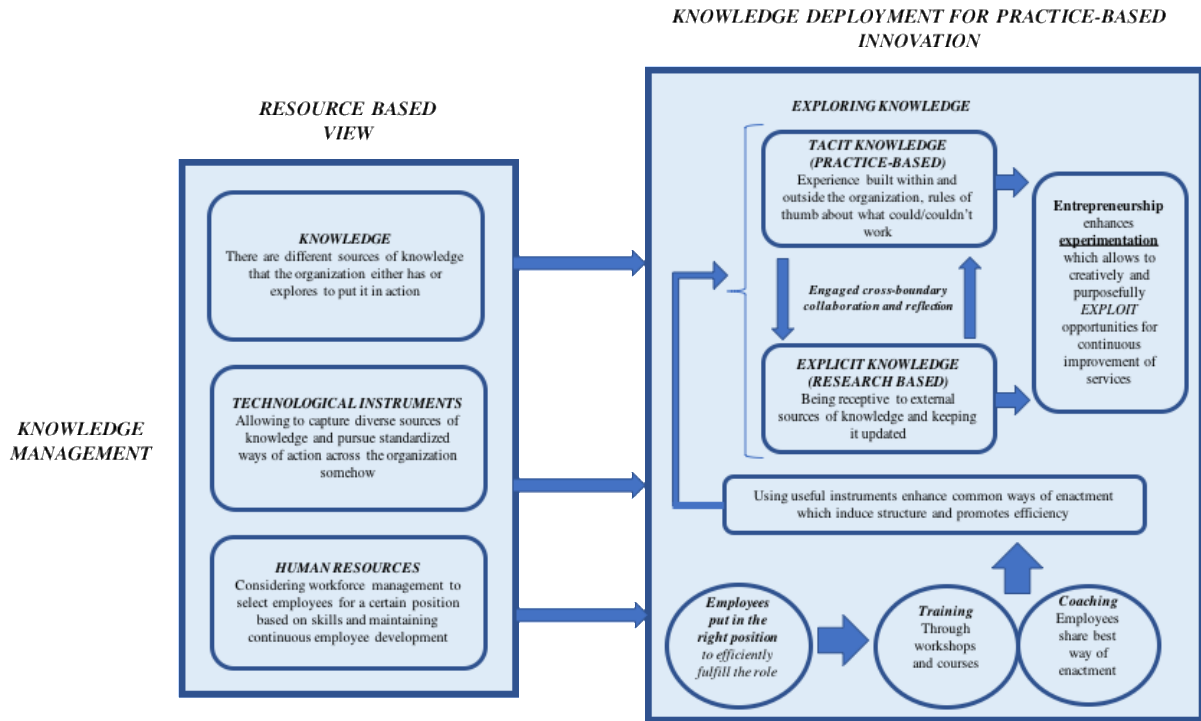


Fig 8. Holistic framework that attains to practice-based innovation from the knowledge management and resource-based view perspective.

As it could be seen in the findings, there are several barriers to knowledge deployment (capture, diffusion, use and creation of new knowledge) which are attempted to be overcome by certain actions that ICO is taking. In this line, such actions surface the organizational ways that allow a synergism in between both research-based and practice-based knowledge to happen (Fig 7.). Thus, it is confirmed that, in daily activities, both sources cannot be taken as separate due to its underlying connection towards the improvement of services. Consequently, by increasing engaged cross-boundary collaboration and reflection along the daily delivery of services, tacit and a form of explicit knowledge can be deployed across the organization. In addition, the continuous collaboration and engagement fosters exploration habits which have the potential to be extrapolated and further exploited.

In conclusion, with the above described framework, the main objective of the study regarding theory building over the synergism in between tacit knowledge (practice-based) and a form of explicit knowledge (research-based) within the realm of practice-based innovation is achieved. In this sense, diverse types of knowledge have proved to be useful to continuously cope with the challenges that arise from the dynamic and fast paced environment of food service. Overall, knowledge is a mix in between framed experience, values, contextual information, amongst others and thus, it is clear that practice-based knowledge is just not enough when aiming to continuously improve services. Practice-based innovation theory has been limited to a certain utilization of resources, thus, a more complete and holistic framework (Fig 8.) that elaborates not only on the internal resources but also on how such resources enable the collective exploration and exploitation

habits to take place towards deploying diverse sources of knowledge is developed. Taken both from the findings and the continuous literature review that was done, it is a matter of each organization to delimit their goals and their ways of enacting/developing work processes accordingly to pursue ambidexterity in exploration and exploitation habits. In this particular case, even though the organization is aiming to have a balance in between both, more exploration of diverse sources of knowledge takes place with a limited exploitation that keeps the organization from perceiving all the benefits. Further research would be interesting to be done to understand more in depth about the specific practices and activities that enhance and foster knowledge deployment rather than just interviews. In this sense, carrying out an ethnographic study could complement the findings that were obtained to a higher extent. Also, by studying a more extensive number of organizations, the generalizability of this study can be improved and extended. However, the outcomes of this study can be taken as a solid starting point due to its potential to be extrapolated to other contexts which are under the light of practice-based innovation.

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Appendixes.

Interview format

Name:

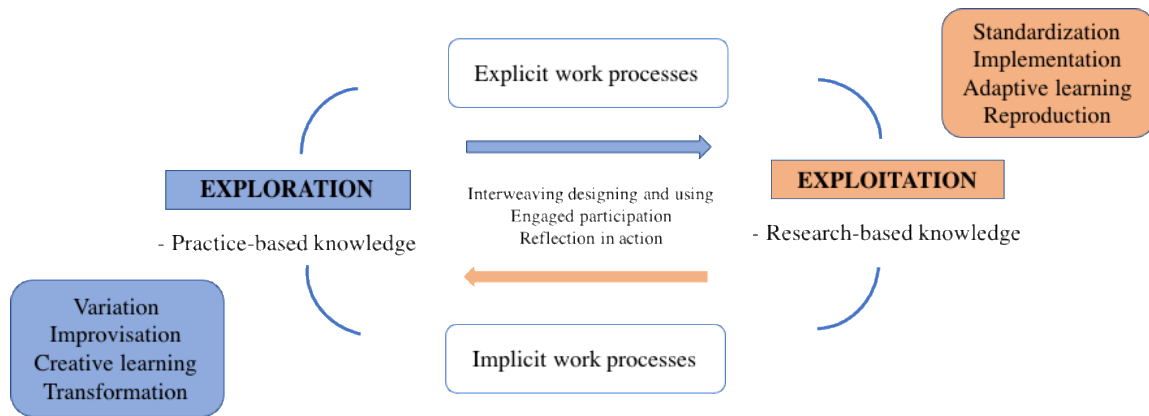
Date:

Position and how long working in the company:

Segment: Format/Facility/Events and banqueting/Corporate catering

Brief introduction about what the interview is about, duration and ask for permission to record.

Break the ice



REGARDING THE COMPANY

1. Describe the **corporate culture**

- What are the beliefs, behaviors, values and attitudes that define the company and interaction between employees and management?

2. Which are the **goals of the organization**

EXPLICIT PROCESSES *known as formal procedures that should be enacted daily.*

3. **Professional background** and knowledge kept up to date (*research-based knowledge*)

- Skills and competences required for the position;
- Level of education.
- How to keep the knowledge up to date? *Knowledge bases, symposium attendance, fairs, etc.*
- *SPECIFIC:* How is the process to evaluate and possible adapt new technologies? *Time invested and resources needed.*

4. Could you please give me details about your **position**?
 - Describe one typical work-day;
 - People under his/her charge *team interactions*;
 - Which are the main activities that should be enacted? *by him/her and the team, provision of resources to perform job accordingly*;
 - How should the main activities be enacted? *guidelines, formalities, rules, policies, deadlines, sequence (adaptive learning)*;
 - What goals should be achieved? *who dictates them, proper resources, clarity*.

IMPLICIT PROCESSES: *known as emergent situations that rise from daily processes.*

5. Which parts of your **daily activities** do you find most **challenging**?
 - Name and describe significant challenges over the course of daily activities *at least three*.
6. How are those challenging situations solved or **overcome**?
 - Which activities should be enacted? *specific guidelines to follow*;
 - How are these activities enacted? *interactions, improvisations*;
 - Which resources are needed to tackle them? *documents/knowledge bases, historic data (creative learning)*.

MONITORING PROCESSES

7. What processes are done to monitor performance (**continuous learning**)?
 - How are these processes enacted? *individual or engaged/interactive*;
 - Specific process to give feedback;
 - How often are these processes done? *how much time involved*.
8. What happens if **goals** are **successful**?
 - What processes are enacted (**reflection in action**)? *personal/organizational adaptive learning*;
 - How are these processes promoted/enacted? *knowledge carried along the practice is surfaced, standardization, implementation, reproduction*.
9. What happens if **goals** are **not achieved**?
 - What processes are enacted (**reflection in action**)? *personal/organizational creative learning*;
 - How are these processes promoted/enacted? *knowledge carried along the practice is surfaced, disrupt of work processes, through variation, improvisation, transformation*.

Thank you for your time. As soon as I have a draft of my research results, I will be glad to share the results with you. Your contribution was extremely valuable.

BARRIERS OF KNOWLEDGE DEPLOYMENT	
Second order concepts	Supporting Sentences
<i>Need to increase engaged internal and external cross-boundary collaboration for the delivery of services</i>	
Departments are being built to have more structured delegation of tasks	<p><i>“We are implementing the departments in LFSO... for the innovation department we have specific departments in Italy for food service and then everyday you have a team there who is following the procedures for innovation (products or services or systems) to upgrade the level of our services”</i>. Integration Manager</p> <p><i>“Then, as cluster managers we try to pick up trends to give it to the department and we try to implement things like that, it is a bit of a thing that several departments need to be involved to make the new products”</i>. Cluster Manager 1</p> <p><i>“When I look at the departments that are being organized, before the end of this season I want to have the fundaments ready, for that the targets are: that all people know what they have to do”</i>. Head of Formula</p>
Formula department demands internal engagement to surface and organize practice-based knowledge	<p><i>“The formula department, which is relatively new in the company is trying to make the structure within the company and trying to make all the recipes and the working schedules for every location so we know what can be implemented depending on the size of the location but it’s a guideline about how to work and what we should sell in every location and they are responsible for all the products and also implement new trendy things”</i>. Cluster Manager 1</p> <p><i>“Kind of what we did was to build the assortment with the recipes... because before there was a roll with cheese and there was no specification about how to make it or about the cost so I was in charge to build the specifications of the product: concerning allergens, nutritional value, etc. ICO developed this department because it is important to have things like these”</i>. Head of Formula</p>
Alignment in between operations and sales departments is needed	<p><i>“And no, but if we do it on the front, its better because you can see prior the things that are going to happen... but the commercial people they don’t want to see, they only want to get the contract. Contract, the signature and easy... and for the rest of the departments it’s too late. A lot of double work and cost”</i>. Head of Facility</p> <p><i>“The commercial people they only see the euros and it’s also okay because it’s their job but decide without checking or communicating better with the people that translate what it is there in the contract. They think too easy about it. And when they have all the people together from the departments saying that if it’s okay then they can say sell or not sell. Now it is a small thing at one shop but we have a lot of other bigger problems”</i>. Facility Manager</p>
Flexibility is required from employees to support and fill in other different positions	<p><i>“At the end of the day I am responsible for the operations but our work is... we don’t work practically in layers of function, everyone has their own department with the proper head but when the event starts, everyone is back to the position as a member of the team and fulfill the necessary point in the event... so I can take place in the kitchen, but also work at the bar, serve food to the people</i></p>

	<p>dinner at the table. We have a very small team in the base and for the rest we work with a lot of flexibility". Operational Manager SDCO</p> <p>"There are only 3 people in the Formula department now compared to when the department started... some employees from the team are now covering other different positions like cluster or location managers because of the structural changes now that LFSO took over". Head of Formula</p>
Little connection with SDCO, limited just to cover certain events from LFSO	<p>"I have practically no connection with LFSO from what they do because what we do in SDCO is completely different. We work at different times and different things... every day is a different one and I like a job like this because it is a challenge". Operational Manager SDCO</p> <p>"Of course, I would like to share a lot with LFSO, but we are so busy with the daily things that of course our clients and our guests are for us the most important. Sometimes there is no time or energy to inform them and I know that is not the right way but we have such a small team with 5 people that is sometimes very difficult". Head of Events and Banqueting SDCO</p>
Externally teaming up with external parties allows to extend the service portfolio to some extent	<p>"Following the healthy school concept, using the golden scale and that's a scan where you have to put all your assortment from drinks to bread and you can see how far are we: are the basics okay, total experience okay, coffee machines okay... are they based on a healthy school?" Formula Manager</p> <p>"I do some development in Leeuwarden together with a school and we developed our own pesto, the recycling of plastic when we make our own packaging, our labels". Head of Formula</p>
<i>Lack of reflection in action that leads to learning</i>	
Priority is to channel every resource to improvise and comply with daily delivery of services	<p>"But the most important thing is that I want to support my employees... so when I see that my staff is a bit stressed or running behind schedule then I take off my jacket and put on my apron and help. I feel this is very appreciated and I really like my job a lot". Cluster Manager 3.</p> <p>"We have one school and from Thursday to next Wednesday there was a party and the University forgot to give us the banqueting order with a lot of dinner for 200 people and is such a small amount of time to react... then I called the caterer SDCO to do the party for the food and drinks. They called me and they said, "we need your help... we need the banqueting" and then I just submit the banqueting order". Cluster Manager 2</p>
Events are more prone to be monitored than the catering within the locations (before, during and after)	<p>"Approximately 3 weeks later, I come back to check if things are running good, if the money is rising from that location or not and then I check the action points. I go and check it just once and then when it is okay it's okay... and when it is not, then I go back". Formula Manager</p> <p>"We speak together with the team to see if everything is going alright with the event and then you discuss for the goals for the event and on the event, you see what is going on and also with the revenue and the cost but that is for SDCO and after sales with the clients, evaluation with the client... the calculation after the event". Head of Events and Banqueting SDCO</p>

Need to share and promote successful stories from different locations and seek implementation	<p><i>"I had an event in October and the question was to have something healthy and for old people so I bought sugar cream pastries based on figs and dates with no additives and they were spot on". Cluster Manager 3.</i></p> <p><i>"There was a sandwich which was only sold Leeuwarden and it was a big hit there so they decided after a few months to sell the sandwiches to the whole country... so this is an example of a successful idea". Cluster Manager 1</i></p>
<i>Little clarity of roles and direction of the organization amongst employees</i>	
Employees are uncertain about the mission of the organization	<p><i>"What I think is that our company LFSO needs to have a good mission, vision and things that they want to achieve and first that is what we need to know because it is not a 100% clear. We need to think how can we make maximum results by the best and a lot of things so we have to make a combination... between the desires of LFSO and the guests so we can help them to make the best choices". Head of Facility</i></p> <p><i>"We want to refresh everything and LFSO wants to be not the biggest one but a caterer that is focused on the green... healthy school. Yeah, I guess it is to be a caterer that is focused on a healthy school... I don't know". Formula Manager</i></p>
Managers share their expectations and promote learning by doing	<p><i>"There is no specific work description for my position, just to manage the locations and to be as smooth as possible. That is the main thing I think and we try to look at new things and to do a lot of things without and within the school so, not every day is the same". Cluster Manager 1.</i></p> <p><i>"And that is the problem between me and my boss that there is not a good communication with them because I look for things for myself with no direction. When the Integration Manager communicates to the Director of Operations and he communicates with us then there are some troubles because I am looking for things by myself... when ICO food says we must sell 100 products then I know it's a clear goal otherwise how am I supposed to know and that is the problem within the company". Cluster Manager 2</i></p>
No routines in bottom hierarchical levels, there is more clarity in top hierarchical levels	<p><i>"Every day is different and there are a lot of small things that I don't know what I must do then the Director of Operations doesn't tell me which direction to follow then it's difficult". Cluster Manager 2</i></p> <p><i>"On Monday morning, I receive from every district manager and from the contracts they have, what is good and what is bad, and I will send before 12:00 my feedback to them. Every Wednesday, I send the total revenue of the week before to the company and they can see how we are and what can we do better about a certain situation". Undefined position</i></p>
<i>Need to reinforce aligned habits to be efficient</i>	
Each department has their own goals and low alignment with others	<p><i>"I think that one thing is to make sure that everyone gets more aligned within the company because there are a lot of different departments and they have got their own goals and there is not a general goal". Operations Manager LFSO</i></p> <p><i>"Sometimes I feel alone with my team of operations because we are standing with more controls and monitoring than other departments and that happens because when you have a job you want to do the best and be the best". Director of Operations</i></p>

Gatherings and meetings assist to share and align; however, some decisions are barely consensual.	<p><i>"I have my weekly session with the Head of Events and Banqueting SDCO to see what is going on and what is the status in the company, I check the bills that are coming in, I go a little bit on sales, we have a few clients which are my responsibility for the big events, for what's next year, what is going to be the look of the event (a bit of sales), a bit of marketing". Operations Manager SDCO</i></p> <p><i>"I am bad at making consensus... if I want something job wise, then I need to get it; "no" is not an answer for me and if someone tells me no then I find another way to do it. For me it works, because at the end of the day I want to make my staff and clients satisfied. If I talk to someone in the purchase department and they tell me: "no, you can't" they I say "aha" and I go buy it myself. Because I'm not asking for me, I am doing it because I want to improve the services at the end of the day". Operations Manager LFSO</i></p>
Too broad scope of services that derives in chaos and sometimes low quality	<p><i>"So, everything is really flexible... that is our problem. For example: what we do is very broad, we can really do everything, from the insurance of the cars to the ornaments in the locations". Head of Facility</i></p> <p><i>"...it depends on the events but you have to make sure always that you prioritize the client and its wishes and you never make a negative reaction or bad face about what the client wants... we will figure out the way to make the client happy" Operations Manager SDCO</i></p>

Table 3. Supporting phrases for the overarching dimension: barriers that limit research-based and practice-based knowledge deployment

<i>CAPTURING AND SHARING RESEARCH-BASED KNOWLEDGE AND ITS CONNECTION WITH PRACTICE-BASED KNOWLEDGE</i>	
Second order concepts	Supporting Sentences
<i>Technological instruments are developed to do the job right</i>	
Technological software helps to organize, store and accumulate internal knowledge	<p><i>"We are programming the system and we also have to make a guide about how to use it because there are a lot of things within the system, you can find quite everything in the system. If you would like to know what kind of salad you have to use for a specific bread, you can find it in the system, as well as the process, the price, the list of allergens and everything what is in each product... most of the things I can connect them and then everything is in the system". Undefined position</i></p> <p><i>"The CASA tells me everything and we have to use this kind of information. How many coffees do we sell at 8:00? How many sweet products we sell along with the coffee?. If you don't use this data then how can you manage? First what I ask is to give me the information from the CASA and between 9-10 am revenues are very low, but what is the lesson here? Maybe it's better to open at 8:00... because people tend to go to Starbucks since they open earlier, so you have to follow the trends, assortment, data, and advice the company concerning this". Sales Director</i></p>

Brand-book is developed to standardize and organize products across locations	<p><i>"You have a specification about how to present things in an ideal way and how you can manage your location... but also the back-office processes so, how long do you take to produce something, how many of each item you make, how to coordinate the waste... it is all in the brand-book so you can follow the lines but for the long support is part of the job".</i> Head of Formula</p> <p><i>"We started to build up our brand-book and in there we tell our story about the modules and the brand. In there, we have our categories (bakery...), the products we develop and we connect it with the recipe but also with the materials and ingredients and we change for the corporate 4 times a year and for the education 3 times a year".</i> Head of Formula</p>
Ticket system enhances standardized way to deal and fix emergent problems from the locations	<p><i>"We act with tickets but also, we should know the budget of the schools. We want to know if the thing that the school asks us we can do it for the budget that is already there. For example, when you need a new chair... it costs 100 euro, do you have the budget? Then if it is positive, the administration makes it ready and we can proceed to buy it"</i> Facility Manager.</p> <p><i>"Officially the Integration Manager says in January no one can call you again so, when I don't have things in the ticket system then... well, but it is a new way of life and I think it is good but I must learn how to do it this way. Before anyone could call me to fix or solve anything but now I cannot act unless there is a ticket in the system".</i> Facility Manager.</p>
<i>Keeping research-based knowledge updated assists exploration and exploitation activities</i>	
Being receptive to both consumer's feedback and input enhances continuous improvement	<p><i>"What happened some time ago, it was from the lunches, there were a lot of sandwiches left... there was one Spanish student who took the plate with the sandwiches and was giving them away and then I approached him to ask what was he doing and he said: "I am sharing them because either way, you are going to throw these sandwiches away" so I listened to what he had to say and I told him that I understood but it was not the right way to proceed and that I would like to have a talk with him about it and then let's see what can we accomplish because this behavior was very radical and a bit impolite from him".</i> Location Manager 1</p> <p><i>"We have 2 grinding coffee machines and they are not satisfied with the taste, they would like to have another taste... so we make a questionnaire and I already finished that and I am working with the suppliers of the coffee machines and then we have to see what is people saying about the coffee... is it too weak, too bitter and then we have to plan to change the beans and have another taste so consumers can be satisfied. This is one of the little projects that we are doing with the location managers for example".</i> Location Manager 1</p>
Keeping track of market trends, governmental regulations and competition	<p><i>"I keep my eyes open everywhere I go, if I go to the cinema or on a holiday in my head I am working and seeing certain things that are good and I would like to translate to the company in my position and I can work on it to do things with it or also seeing what other companies do thinking that it might be a good idea to implement it and I always like to keep myself up to date... everything's changing in the market every day".</i> Head of Facility</p> <p><i>"It is important to check what are the neighbors doing, what is going on in the east, west, north... they have different interests when it comes to consuming and buying food and drinks. For example, it is not the same in Amsterdam or The Hague as it would be in Twente or Enschede, because</i></p>

	<i>they eat different, they drink different and they think different and it is important to know". Location Manager 2</i>
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Table 4. Supporting phrases for the overarching dimension: Capturing and sharing research-based knowledge and its connection with practice-based knowledge.

<i>APPLICATION OF RESEARCH BASED AND PRACTICE-BASED KNOWLEDGE TO CREATE NEW KNOWLEDGE</i>	
Second order concepts	Supporting Sentences
<i>Experimentation induce exploration and exploitation of knowledge</i>	
Experiments in one location have potential to be extrapolated to other locations	<p><i>"In Leeuwarden, they have got a huge pizza oven where the pizzas go in and the students can get to choose which toppings, size, etc. they want and that is marvelous. The manager of the location is the one that innovates and from there we can give it a try in another location... depending on the contract, needs of the school, etc. Formula Manager</i></p> <p><i>"Here it is supposed to be healthy, a nice sandwich bar, a good coffee concept, nice soups, a lot of sustainability inside: we have the Tupperware, the keep cup, the soup with cucumber from a company from the University and we really sell a sustainable soup that is made from vegetables that are about to be thrown away because the supermarket doesn't want it. We started and it has been a big success, we are a pilot doing here and when it is a success in more locations then we can implement it in all our locations". Location Manager 1</i></p>
Existing freedom of entrepreneurship to act logically and daring to be creative	<p><i>"When you have a new panini and you know it costs 1 euro and you want to sell it at 1.5 euros it is not possible for LFSO... you have to know what you are doing. You can sell it at 2.7 or 2.95 and that is a very good price (for the average panini). So, we can try if the price is good, if the panini is also good then we check from the people the reaction because all day you have people coming to the location and you can see almost immediately the results of it. It is good to have a very busy location because you can allow yourself to try a wide variety of possibilities". Cluster Manager 1</i></p> <p><i>"Many locations you have all day people, in here you have everyday between 700 and 1000 guests, so when you try something, you see almost immediately if it works. If you have an idea, try it, observe and check how it goes... when is good then you keep it and otherwise, you choose something different". Location Manager 2</i></p>
Professional background of employees is determinant to connect experience with outside knowledge sources and purposefully create	<p><i>"This was an initiative from ourselves because this is in the working form and of course I talked about it to my cluster manager and the other managers and they liked the solution. I just shared with them in the meeting, I don't know if they are doing this in other locations but at least I know that they hear and see me and I hope they are spreading it around". Location Manager 1</i></p> <p><i>"I have worked in total 12 years and I have the feeling to see what people like. I tried many things so, in my own database I know a lot of people. At the HBO I worked a lot with them so I can feel what they want and I always want the best so I always try different things to check if it works or not... and if</i></p>

	<i>there is something that really worked then I remember and apply it again. Of course, based on what people like". Location Manager 2</i>
Many initiatives to improve, however lack of structure and capabilities to evaluate and execute them is a weakness	<p><i>"The second challenge is to develop an assortment and also to develop a vegetarian assortment and the challenge there is that I can be creative but how can I make the translation to all levels to make the same? And that is very difficult". Head of Formula.</i></p> <p><i>"It is nice to develop new and innovative things but, are people going to eat that? It is interesting to find new things for Christmas, summer, when I find new ideas then I tell it to my boss and then he tells me to check it out, check the costs and then I try and check if it's doable or not". Formula Manager</i></p>
<i>Employee development fosters learning in common ways</i>	
Training in the form of workshops allow to collectively reflect on the goals and direction of each department	<p><i>"All the departments have to make a presentation for the organization stating what is their role of the team and each member of the team, the goals, how they are going to manage their activities... so and so forth". Sales Director</i></p> <p><i>"I will teach them how to make a pitch and then they can do it in the schools because sometimes they give information to the wrong department and this is not right. When you give, and share the presentation to everybody then it is clear. From this point of view then they are really involved, they ask questions, and we create together the presentations so everybody is involved. I give them the mirroring effect so they can do the things that I show in the workshop". Sales Director</i></p>
For certain positions, it is possible to take courses related to HORECA	<p><i>"We have the hospitality training course within the company but I think it is the right way to do it because every hospitality course that I had was not pressing the right buttons... ". Facility Manager</i></p> <p><i>"I had a management training provided by the company for food service for 2 years. That was a part of a study for students, in a training where you select some students and then you go with them... I have to cut a cucumber in 10 steps, what do you need... and these activities are inside this training. Every manager in LFSO has to follow that course". Formula Manager</i></p>
Informal coaching that surfaces embedded knowledge within locations	<p><i>"I had to prioritize to avoid chaos and I trained the assistant manager from scratch, in every single aspect there was improvements needed and of course it is important to question... where can I start? So first, I observe to understand why and what are they doing so then I can put my input on how they should do things". Formula Manager</i></p> <p><i>"I am going to Rotterdam and there is a new colleague, so she doesn't know anything... she has to learn how to do the administration, the orders, personal training; so that is what I am doing now. This so she can know how to do her job... but still she doesn't organize quite well". Formula Manager</i></p>

Organization aiming to base the selection of employees for a specific role according to skills	<p><i>“Every day is different and there are a lot of small things that I don’t know what I must do then Director of Operations doesn’t tell me which direction to follow then it’s difficult”. Cluster Manager 2</i></p> <p><i>“What is the specialty of this people... because there are some managers that I consider that they are in the wrong place. A lot of people work here because they need the money but you can tell they are not very passionate”. Sales Director</i></p>
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Table 5. Supporting phrases for the overarching dimension: Application of practice-based and research-based knowledge to create new knowledge.