



# A Systematic Consulting Approach to Knowledge Management

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## Abstract

Knowledge management is believed to be a fundamental practice to modern corporations, being a source of innovation, operational efficiency, and the foundation for creating and sustaining competitive advantages. Nevertheless, the right approach to managing knowledge is not obvious and it demands the correct definition of “knowledge” to be aligned with a company’s culture, practices, goals, and strategy. This research was conducted inside Unicre, a traditional Portuguese company in the financial industry. Having a consulting bias, the main goal was to solve the client’s pain, caused by knowledge vacuums or gaps, created when a key employee leaves the company taking with him years of experience that were not yet crystallized into the firm’s know-how. Qualitative data was collected from a series of interviews, field visits, and internal documents and analyzed with the use of coding methods to test the two hypotheses elaborated to explain the causes of the problem. The study argued that the knowledge gaps were created fundamentally because knowledge was ill-defined in the company, leading to systems that are not designed to effectively retain it. The data showed that the hypotheses partially explained the problem, as it was possible to identify other points of improvements key for Unicre’s success in managing knowledge. The author concludes with a series of recommendations aiming at impacting the company’s culture, initiatives, and infrastructure for knowledge management.

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**Author:** Pedro Paulo Maciel Silva

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## Resumo

A gestão do conhecimento é uma prática fundamental para as empresas modernas, sendo uma fonte de inovação, eficiência operacional, e a base para criar e sustentar vantagens competitivas. No entanto, um programa de gestão de conhecimento não é de organização trivial e exige que a definição correta de "conhecimento" esteja alinhada com a cultura, práticas, objetivos e estratégias de uma empresa. Esta investigação foi conduzida dentro da Unicre, uma empresa tradicional portuguesa do sector financeiro. Sendo um projeto de consultoria, o principal objetivo foi solucionar o desafio proposto cliente, sendo este o de evitar a formação de lacunas ou vazios de conhecimento, criados quando um funcionário-chave deixa a empresa e leva consigo anos de experiência que ainda não estavam cristalizados no know-how da companhia. Foram recolhidos dados qualitativos a partir de uma série de entrevistas, visitas de campo e documentos internos, que foram posteriormente analisados com o uso de métodos de codificação para testar as duas hipóteses elaboradas como prováveis causas do problema. O estudo argumentou que as lacunas de conhecimento foram criadas fundamentalmente porque o conhecimento estava mal definido na empresa, levando a sistemas que não são concebidos para o reter eficazmente. Os dados mostraram que as hipóteses explicavam parcialmente o problema, uma vez que era possível identificar outros pontos de melhoria chave para o sucesso da Unicre na gestão do conhecimento. O autor conclui com uma série de recomendações destinadas a ter impacto na cultura, nas iniciativas e na infraestrutura da empresa voltada à gestão do conhecimento.

**Título:** A Systematic Consulting Approach to Knowledge Management

**Autor:** Pedro Paulo Maciel Silva

**Palavras-chave:** Gestão do conhecimento; Passagem de conhecimento; Consultoria.

# Table of Contents

- Acknowledgements..... ii
- Abstract..... iii
- Resumo ..... iv
- Table of Contents..... v
- 1 Introduction..... 1
  - 1.1 Hypotheses..... 3
- 2 Literature review..... 5
  - 2.1 The knowledge to manage and how to frame it..... 5
  - 2.2 Barriers, drivers and strategies to knowledge sharing ..... 7
- 3 Research methodology..... 12
  - 3.1 Interviews ..... 12
- 4 Results and recommendations ..... 14
  - 4.1 Data Analysis..... 14
  - 4.2 Results..... 19
    - 4.2.1 Culture ..... 20
    - 4.2.2 Knowledge Management Structure and Initiatives..... 21
    - 4.2.3 Barriers ..... 22
    - 4.2.4 Points of Improvement ..... 23
  - 4.3 Recommendations..... 23
    - 4.3.1 Measuring results..... 31
- 5 Conclusion ..... 33
- References..... 34

# 1 Introduction

How to improve the passage of knowledge inside one of the most traditional Portuguese financial companies? That was the challenge given by Unicre to the students working on the consulting project this year. The systematic and explicit management of knowledge inside an organization is fundamental to guarantee competitiveness and efficiency, working as leverage to processes and operational optimization, and the creation of new ideas (Wiig, 1997). Nonetheless, it lacks for many organizations the right comprehension of “knowledge” in this context, without which it becomes hard to execute any kind of management (Alvesson & Karreman, 2001).

The concern with managing knowledge began in the mid-80s with the increase in competition between firms caused by the fast development of new technologies and more efficient executive leaderships (Wiig, 1997). Knowledge is recognized as key to a company’s performance and considered unique and hard to copy, in other words, a competitive advantage (Cabrera & Cabrera, 2002; Nonaka, 2007; McDermott, 1999). Therefore, the creation and maintenance of an intellectual capital portfolio is recommended (Wiig, 1997).

Unicre was founded in 1974 having as shareholders an association of banks, which remains true to date. It operates through its brands Unibanco and Reduniq. Unibanco is a credit company, offering its services to individuals and enterprises. Reduniq is a firm specialized in payment solutions, working with a wide variety of businesses providing both in-person payment terminals and online payment alternatives.

The case presented by Unicre is a problem of knowledge sharing, which is a vital component of any knowledge management process (Cabrera & Cabrera, 2002). Due to its long history and the complexity of its business, Unicre counts with an extensive knowledge of the credit and payment solutions markets in Europe, and a unique know-how on these sectors. As explained by the internal team responsible for the project, Unicre has a multitude of manuals and guides, plus they count with a department that manage and formalize internal processes. On the other hand, they struggle to consolidate individual practical knowledge acquired from experience in the company. For example, how to handle a negotiation with a client? How to guarantee that

the young members of the team have this know-how so if the boss is not present, they can close the deal?

Having a low employee turnover and knowledge management not being a central concern, led knowledge to become concentrated on key employees, or knowledgeable individuals as defined by (Davenport & Prusak, 1998). That fact turned out to be a liability for the firm, creating knowledge gaps or vacuums hard to be fulfilled when those key employees leave the company. From this observation, came the question mentioned in the first paragraph and the necessity of having this concentrated knowledge easily available to the whole team.

Unicre started to work partially remote in 2019 (before pandemic crisis), and since then, this model has been more appreciated internally. The initiative was important to show that the company is evolving and adapting to the demands of the younger workforce, being able to attract and retain talent in the very competitive European job market. The 3 days at home 2 days at the office week had started before the Covid-19 pandemic and became the standard, but the employees have the flexibility to choose what best fits their work and personal lives. The pandemic came to accelerate this process and what could have taken years to be fully implemented and accepted, had to happen immediately.

The post-pandemic life comes as one more variable to the knowledge management challenge, introducing new interactions between employers, employees, and departments. As a consulting project, this research's goal is to propose a solution to the client's problem. For that, it will be necessary to develop a fair assessment of the situation, investigate the causes, design tailored solutions, and then, proceed with recommendations. Therefore, the research question raised in this study is:

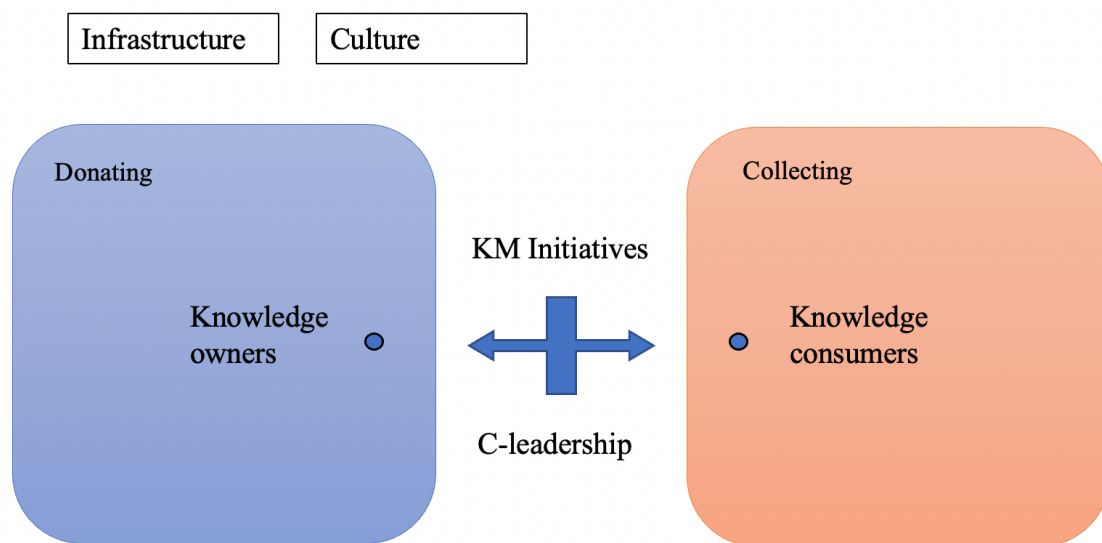
**RQ:** How to prevent the creation of future knowledge gaps at Unicre?

To address it, qualitative data was collected from internal interviews, corporate documents, and field visits. The output of this report is an action plan structured around two lines: i) operational and ii) infrastructure. The recommendations are designed to create a positive impact in the company's culture regarding creating and sharing knowledge, as well as to set the foundational infrastructure that will allow the continuous growth of knowledge transmission inside the organization.

## 1.1 Hypotheses

The initial assessment of the case was made using the diagram showed in Figure 1. The problem was framed as an interaction between knowledge donators and knowledge collectors, as suggested by Davenport & Prusak (1998) and Wu & Lee (2017). In our case, the donators are the knowledge owners, and the collectors are the knowledge consumers. Both sides interact via KM (Knowledge Management) initiatives and are incentivized by the c-leadership to share their knowledge and contribute to the company's know-how. Supporting the interactions and KM programs, we identified two external factors - infrastructure and corporate culture. The infrastructure will allow people to interact physically and digitally to share ideas and documents, while the corporate culture will be essential to create an open communication environment and a motivated team that values sharing knowledge and helping others.

Figure 1 - Case framework



This project argues that the most probable causes of Unicre's knowledge gap are related to a lack of initiatives to incentivize the transmission of tacit knowledge and cultural barriers. The reasoning behind our causes is that during the company's presentation of the problem, only initiatives that focus on transmitting explicit knowledge were showed. In parallel, corporate culture is the one component in this framework that affects greatly the behavior of knowledge owners, consumers and the c-leadership and, as pointed out in the literature (Alvesson &



Karreman, 2001; Cabrera & Cabrera, 2002; Nonaka, 1994; Razmerita, 2016; McDermott & O'Dell, 2001), it is one of the main preconditions for a successful knowledge management program. Thus, the following hypotheses are proposed to be tested:

- HP1: The knowledge gap exists because there is no structured process to manage tacit knowledge
- HP2: The lack of tacit knowledge transmission is a reality because it is not part of the company's culture

## 2 Literature review

### 2.1 The knowledge to manage and how to frame it

It is unproductive to manage what we don't understand, and the correct definition of the problem is crucial to the development of the right solution. Even with the consensus around the importance of knowledge to an organization, for times its definition seems vague, broad and unreliable (Alvesson & Karreman, 2001). While Alvesson & Karreman (2001) shows skepticism regarding the knowledge management terminology and definitions, in a consulting project we must focus on answering the questions that will lead us to relevant conclusions. As pointed out by Demarest (1997), good knowledge is the one that works.

From the client's presentation of the problem, we look for practical concepts of knowledge to effectively frame our approach. In this case, we are not looking for philosophic or scientific knowledge, but for what Demarest (1997) calls commercial knowledge, aiming at positively impacting the company's performance. The author then defines knowledge as:

*“An explicitly developed and managed network of imperatives, patterns, rules and scripts, embodied in some aspect of the firm, and distributed throughout the firm, that creates marketplace performances.”*

Although practical and measurable, Demarest's definition limits knowledge to its reproducible part, leaving behind the subjective and hard to transmit aspect of knowledge that Unicre also wants to leverage. According to Cabrera & Cabrera (2002), knowledge can be seen as a unique asset, hard to copy and path dependent, meaning that there are no two organizations that have undergone the exact same experiences and learnings. Leonard & Sensiper (1998) argues that knowledge is subjective, but it must be relevant, actionable, and partially deriving from experience. Furthermore, knowledge is subjected to the human ability to use it and it exists within people and not objects (McDermott, 1999; Davenport & Prusak, 1998).

Therefore, the kind of knowledge we are looking for is highly associated with the “knower”, acquired through experience (work, books, mentors, etc.) and it serves as the foundation for the development of analysis and solutions to a variety of professional situations, being tapped into whenever necessary. As put by Davenport & Prusak (1998):

*“Knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms.”*

Another important layer unveiled by the above definition is the division between tacit and explicit knowledge. Explicit knowledge is transmitted in formal language, via manuals and guides. Tacit knowledge is directly related to experience, and it possesses a personal quality, sometimes related to “know-how” (Razmerita, 2016; Nonaka, 1994). For example, the ability of a consultant to correctly frame a problem and elaborate the right hypotheses to find its solutions is much based on his experience, or unconscious tacit knowledge that produces insights, his “gut-feel” (Leonard & Sensiper, 1998).

Knowledge is not static but governed by dynamic interactions between its tacit and explicit parts (Leonard & Sensiper, 1998). Nonaka (1994) developed a model to explain those interactions. According to the author, tacit knowledge is shared via socialization and transformed into explicit knowledge via externalization. Explicit knowledge is shared via combination and transformed into tacit knowledge via internalization. That is what Nonaka called the knowledge spiral.

In opposition, Cook & Brown (1999) argues that tacit and explicit knowledge, as well as individual and group knowledge, are different in essence and serve different purposes. Therefore, a transformation between categories of knowledge is not possible in any circumstance. The authors conclude that, in practice, new knowledge is generated from existing knowledge through a series of interactions between individuals and groups, masters and apprentices engaged in productive inquiry, or “seeking what we need in order to do what we want”.

Despite the contrarian views regarding the transformation/creation of knowledge, there is a consensus around the fact that human interactions are at the core of managing knowledge inside an organization (Cabrera & Cabrera, 2002; McDermott, 1999; Davenport & Prusak, 1998). In consequence, it is safe to conclude that Unicef’s case is focused on sharing, or transmitting,

tacit knowledge. For its simplicity and effectivity in segmenting the flow of organizational knowledge, Nonaka's knowledge spiral model will be applied with a focus on both socialization and externalization processes.

Nonaka's framework was conceived to model the creation of organizational knowledge, nonetheless, it is also applicable in our more restricted context. Organizations are not static, and its processes and services are in constant change due to the search for innovation and improved performance. Our goal to eliminate knowledge gaps by improving knowledge sharing is part of a bigger image depicting the flow and transformation of knowledge inside the company. So, the knowledge sharing initiatives can also be seen as improvements to the firm's knowledge creation capabilities.

Knowledge sharing is the process by which employees exchange experiences, skills, know-how, task information and feedback (Foss, Husted, & Michailova, 2010; Lin, 2007). Furthermore, knowledge sharing is designed to transform individual knowledge into organizational knowledge (Foss, Husted, & Michailova, 2010; van den Hooff & de Ridder, 2004), thus being the central issue pointed out by Unicre. As indicated by Lin (2007), a team with good knowledge sharing practices can increase a company's productivity and retention of intellectual capital, as well as transform its knowledge in a competitive advantage (Cabrera & Cabrera, 2002; Foss, Husted, & Michailova, 2010; Davenport & Prusak, 1998). Therefore, the focus on knowledge sharing is justified as the focus conceptual point of this research.

## 2.2 Barriers, drivers and strategies to knowledge sharing

To Davenport & Prusak (1998), there is a knowledge market inside every organization, with buyers and sellers motivated by personal interests. Participants will engage in exchanging knowledge if the benefits of this interactions are higher than the costs (Cabrera & Cabrera, 2002; Razmerita, 2016). The knowledge market approach reinforces the role of human connections in knowledge sharing, making it clear that data bases and other information systems are not the starting point - or the solution - to a knowledge sharing process (Davenport & Prusak, 1998; McDermott, 1999; Liebowitz & Chen, 2004). Without the team's will to share, the company won't benefit from the creation of knowledge or the infrastructure to share it (Wu & Lee, 2017).

For Cabrera & Cabrera (2002), sharing knowledge in an organization can be compared to a public-good dilemma in which the strategy that yields the higher short-term returns is to not cooperate, i. e., to not share your knowledge. This way, one can enjoy the use of the public-good – knowledge – for free and if no one collaborates he saved the time of creating content for a system that does not work. Without incentives to break this equilibrium, employees won't participate.

Moreover, employees may feel demotivated to share knowledge to save time, maintain power and remain valuable for the company, thus reducing the risk of getting fired (Wu & Lee, 2017; Cabrera & Cabrera, 2002). It takes effort to edit and share documents and it takes time away from work (Razmerita, 2016). In addition, the knowledge can be perceived as of poor quality or incorrect, so employees can feel afraid or ashamed of sharing their knowledge and not trusting their colleagues (Razmerita, 2016; Davenport & Prusak, 1998). Other knowledge sharing barriers are unclear business objectives, lack of perceived benefits and no motivation to share coming from top management (Razmerita, 2016; Wu & Lee, 2017). The biggest challenge is to change the behavior, from hoarding to sharing (Razmerita, 2016; Cabrera & Cabrera, 2002).

The literature considers organizational culture as an important precondition to and constraint for knowledge management (Alvesson & Karreman, 2001; Razmerita, 2016; Liebowitz & Chen, 2004). A sharing culture can transform knowledge sharing motivations, from cumbersome to important, from wasting time to helping others (Alvesson & Karreman, 2001). Knowledge management initiatives cannot be imposed, but adapted in accordance with cultures, capabilities, priorities and social practices (Alvesson & Karreman, 2001; Wiig, 1997).

Create an environment, develop a culture, nurture communities. In a knowledge sharing culture, employees are aware of the vast amount of company's knowledge storage in a database that can be accessed by anyone and help them to complete their tasks and provide useful insights. Employees feel they are part of this knowledge creator community and take an active role on it, being opened to learn and help others whenever necessary (Alvesson & Karreman, 2001; McDermott, 1999).

Lin (2007) studied the effect of intrinsic (knowledge self-efficacy and enjoyment in helping others) and extrinsic (expected organizational rewards and reciprocal benefits) motivations on

employees' intention to share knowledge. The author concluded that intrinsic motivators and reciprocal benefits positively explain an individual's intention to share knowledge, while on the other hand, organizational rewards such as monetary prizes and job promotions are not effective incentives and won't create a sustainable knowledge sharing culture. Furthermore, Foss, Husted, & Michailova (2010) arguments that monetary rewards can destroy previously non-monetary rewards already in place. Razmerita (2016) found that "enjoyment in helping others" is the most important motivator for knowledge sharing, while monetary rewards were also perceived as good incentives. The opposite results regarding monetary prizes from Lin (2007) and Razmerita (2016) can be due to the fact that Lin's sample was mostly composed by senior executives and Razmerita's sample had a majority of employees with less than 5 years of professional experience. This fact reinforces the idea that an employee who identifies himself with his organization's culture will perceive the company's goals as his own (Razmerita, 2016).

The combination of factors impacting the process must be carefully taken in consideration. Foss, Husted, & Michailova (2010, Razmerita (2016) and Davenport & Prusak (1998) also point to the relation between the local prevailing culture and the organizational culture when analyzing incentives and how they will be perceived by the employees, as part of what the authors call "organizational antecedents". Other organizational antecedents that can affect the exchange of knowledge are managerial style, corporate culture, human resources practices and information systems.

van den Hooff & de Ridder (2004) found that affective commitment to the organization has a positive influence on knowledge donating. Constructive communication climate is a key antecedent affecting knowledge donating and collecting, exerting also influence over the level of affective commitment. Finally, the research has also shown that knowledge collecting has a positive impact on knowledge donating, meaning that a company with a strong knowledge sharing culture where employees are trained from an early stage to collaborate with others will generate senior community members that are more willing to help - a sustainable community.

In a company, leadership acts as senior members of a community and have influence over how people develop their work and social relations, therefore, influencing their experience in this community (Alvesson & Karreman, 2001). McDermott (1999) treats cultural change as a community issue. To the author, it is hard to change organizational culture and it often reacts better to contagion than decree. It is important to foment the creation of a community where

members trust each other and develop constructive discussions and exert mutual influence (Cabrera & Cabrera, 2002). According to Razmerita (2016), knowledge sharing should be recognized and valued within the organization. Leadership support and organizational culture play an important role for the adoption of knowledge sharing behaviors.

In a recent article, Wu & Lee (2017) studied the impact of leadership style as an organizational antecedent to knowledge sharing. The author considers empowering leadership an efficient practice to increase employees' intrinsic motivations and cultivate psychological capital in group members. Psychological capital is composed of four positive psychological resources -- self-efficacy, hope, optimism and resilience. It can effectively help employees to perform better and achieve their goals. It can produce positive effects on attitudes and behaviors, pose more possible solutions to solving problems. With positive emotions, employees tend to act more expansively, thus, more psychological capital leads to more knowledge sharing, helpful actions and extra-role behavior. Actions of empowering leaders are leading by example, positive language, participative decision making, informing and showing concern (Wu & Lee, 2017).

Other important motivators for sharing knowledge are reciprocity, repute (status), altruism (enjoyment in helping others), trust and praise from top management (Davenport & Prusak, 1998; Cabrera & Cabrera, 2002). According to Davenport & Prusak (1998), trust is vital to knowledge sharing, it should come from the top and be visible to everyone, via the recognition of the value of the knowledge shared and giving credit to who created or shared that knowledge. The authors also argue in favor of the creation of mentoring programs to value the knowledge of experienced employees and the use of moderated knowledge libraries to assure accuracy and credibility of the contents posted.

Cabrera & Cabrera (2002) focus their recommendations along three axes: restructuring the pay-off function to share knowledge, increase efficacy of contributors and group identity and personal responsibility. To increase the benefits and decrease the costs of sharing, the authors recommend the creation of a database to share and search for tacit knowledge posted by members of the community. It is recommended that incentives be linked to the success of the knowledge management system and not to individual participation. To increase the perceived efficacy of one's contributions, employees should receive feedback for their shared experiences and receive training on what kind of knowledge is important to be shared, how to share it and

how to search for it. Lastly, group meetings to discuss experiences should be encouraged to increase community identity, identifiability, and commitment.



### 3 Research methodology

The kick-off meeting with Unicre and the literature review have provided the adequate definition of knowledge for the problem and the barriers and drivers that can refrain or accelerate knowledge sharing in organizations. Yet, to find the answer to our research question on how to solve the firm's knowledge gap, it was still needed to collect data from the company to understand how knowledge is currently being managed and if Unicre's culture is aligned with its knowledge sharing objectives. For this, we conducted internal interviews with key employees and collected qualitative data that was further coded and analyzed as indicated by Saldaña (2016). The data analyzed was in the form of interview notes, internal documents (processes, diagrams, reports, and manuals) and notes from field visits.

Due to the research participants' readiness to collaborate, the data collected was of high quality. On the other hand, time acted as a limitation since not all departments and business units were investigated, therefore, other experienced employees key to the organization were not interviewed. An external source of limitation was the availability of information regarding knowledge management initiatives in other companies that could serve as a reference point to design Unicre's program.

#### 3.1 Interviews

The contact with the client's team was conducted in two ways. From the beginning of the project, it was agreed between the parties that three senior executives would meet weekly for one hour with the students. The group met four times in video conference and one time in person, from September to November 2021. These conversations were not structured in any form, and, for that reason, they served as an important source of data collection in different subjects, such as corporate culture, organizational learning, knowledge management and Unicre's structure and operations. The meetings were also relevant so the students could clarify any doubts about the development of the project as the executives provided invaluable guidance along the way.

In addition, a series of semi-structured interviews were conducted with key employees indicated by the client or suggested by the students. While selecting the interviewees the objective was

to talk with team members covering different departments and work experiences to identify behavioral patterns, trends and actions towards knowledge management in the company from opposing points of view. After deciding on the employees to be interviewed, introductions were made via e-mail to set-up the meetings. In total, nine online calls and one presential meeting were performed, all of them in Portuguese. The semi-structured interviews took around 45 minutes each and used as guidelines the following questions:

1. What are the team's work dynamics? How is it organized?
2. What is being done in your team/department in order to achieve the goal of passing on knowledge?
3. What are the greatest needs in terms of passing on and retaining knowledge? And in your department? What are the biggest faults in this respect?
4. What are the main differences in the transfer of knowledge between face-to-face work and home office?
5. Do you have suggestions for this problem?

The questions were the same for all the interviews and had the aim to foment a conversation around the department’s work and knowledge sharing practices so we could understand why and how the knowledge gap is created. Furthermore, the questions were elaborated to understand the overall culture governing knowledge sharing inside the company and how the employees perceive it. Table 1 below discriminates the number of interviews per department and the years of experience the participants have at the company.

*Table 1 - Interviews per department and years of experience*

Department	Interviews	Years of Unicare
Corporate Center - Communications	1	1
Corporate Center – Strategy and Management Control	1	2+
Support – Risk Management	3	13 / 13+ / 25+
Audit and Internal Control	1	15+
Support – Customer Support	3	14+ / 28+ / 31+
Support – Technology, Information System and Digital	1	25+

## 4 Results and recommendations

### 4.1 Data Analysis

The data analysis followed the coding process for qualitative research suggested by Saldaña (2016), composed by successive coding cycles and analytic memo writing in the pursuit of insights and patterns to answer our research question and test our hypotheses. As previously mentioned, the objective of the interviews, and of this analysis, was to search for the main causes of the problem, to get ideas for solutions from experienced members of the team, and to understand how Unicre's culture speaks through them regarding communication and knowledge transmission.

In the first coding cycle, interview notes and analytic memos were Eclectic coded, mixing In Vivo and Descriptive methods to start understanding what the data was going to reveal. On a second cycle, memos were updated, and the codes were revisited. At this moment, the addition of Value coding allowed for insights into the company's culture. The passage below exemplifies this observation, showing how the coding extracted meaning from the employee's words. Codes are showed in [BRACKETS].

*Employee (mid-level manager): The basic of this project is related to the passage of internal knowledge. There is knowledge concentrated in one person and that becomes a liability to the company. The firm needs to move on, and the knowledge cannot be held by only one person. [FOCUSED KNOWLEDGE]*

*Author's note: Recognition of the problem by a mid-level manager with many years at the job. It shows his preoccupation with company's challenges and his commitment [VALUE: COMMITMENT] with the future of the business. As an experienced employee, he wants to transmit his knowledge, meaning that there is a sharing culture at the company. [SHARING CULTURE]*

Another data source were field visits. As indicated by Saldaña (2016), when visiting somewhere, it adds value to the research trying to infer what is the place telling you about its occupants. To exemplify, during the first visit to the company's headquarters, the design of the

office revealed different aspects of the firm’s culture and how the people working there would interact. In this guided tour, the guide was proud of her company’s modern conference rooms, boxes for focused work, and the “no walls” concept recently adopted. Figure 2 shows a detail of Unicre’s workspace that was coded as [OPEN COMMUNICATION].

Figure 2 - Unicre's open space office encourages collaboration. Source: Unicre’s archive



In total, 43 codes were generated and applied in the first two coding cycles, which can be seen on Table 2. The codes were organized in a list form with an indication of the number of times they appeared to help analytical thinking though visualization. A color scheme (not displayed) was also applied to help visualize emerging patters and it is possible to identify repetitive issues and behaviors at this point. In the list below, Value codes are market in parenthesis, In Vivo codes are between quotes, and Descriptive codes are not specially market.

Table 2 - The 43 codes generated in the first two coding cycles. Source: Interview analysis

First Cycle Codes	Occurrences	Originating Data
OPEN FOR CHANGE	1	Open space office, flexible working hours, hybrid working practices
MID-LEVEL MANAGEMENT	3	Who proposed the project was a mid-level manager with 30+ years of experience
PHYSICAL CONTACT	8	“Knowledge sharing “on the go” was harder during the pandemic”

FOCUSED KNOWLEDGE	1	“There is knowledge concentrated on one person and that becomes a liability to the company”
LACK OF PHYSICAL CONTACT	1	“Group spirit is hindered”
REDUNDANCY	3	“Always have more than one person dominating a process”
SHADOWING	1	“Create shadows of key people in small teams is harder”
COMPLEXITY	3	“It is hard to be someone’s tutor”
VERTICAL COMMUNICATION	2	“In the chain of command, information not always move up”
INFORMAL LEADERSHIP	1	“The one person everyone looks for when in need of help”
TIME AS A CONSTRAINT	3	“No one has time to be making backups”
SPECIALIZATION	1	“People tend to specialize”
SHARING CULTURE	3	They make everything possible to teach
OPEN COMMUNICATION	2	Site visit
EXPLICIT KNOWLEDGE	1	Unicre academy
ONBOARDING	3	“There is always an onboarding”
LOW TURNOVER	3	Average staying time is 15 years
DEPARTMENT SPECIFIC	3	“It depends on the department”
HIGH TURNOVER	1	High turnover on specific departments
COMMUNICATION BETWEEN TEAMS	1	“It is harder to communicate with other teams”
NON-RECURRING TASKS	2	“How to calculate insurance against atomic accidents?”
FORMAL TASK HANDOVER	1	“The formal task handover happens more on a reactive way”
“FORMAL TASK HANDOVER ISN’T THE SOLUTION”	1	N/A
“IDENTIFY KEY PEOPLE AND CLONE THEM”	1	N/A
MANUAL	6	The audit department has manuals for every task
SECONDARY PROBLEM	1	The topic is not a strong subject in the company
“PEOPLE DON’T WRITE”	1	N/A
“THINGS HAPPEN THAT WE CAN’T FORESEE”	1	N/A
“EXPERIENCE IS HARD TO BE TRANSMITTED”	1	N/A
INFRASTRUCTURE	2	There is no infrastructure for sharing knowledge
CENTRAL REPOSITORY	2	“There is no central repository”
“MORE THAN ONE PERSON HANDLING THE PROBLEMS”	1	N/A
“KNOWLEDGE IS HARD TO BE STORED”	1	N/A
“EXCHANGE OF KNOWLEDGE”	1	N/A

“NOT SEEN AS A TOPIC IN THE COMPANY”	1	N/A
RESOURCE USAGE	1	“It consumes resources”
“KNOWLEDGE IS NOT DEFINED”	1	N/A
MENTALITY CHANGE	1	It is seen as bureaucratic task
REPORTING	1	There is no reporting structure for when a project is completed
<b>Second Cycle Codes</b>	<b>Occurrences</b>	<b>Originating Data</b>
VALUE: COMMITMENT	1	It shows his preoccupation with company’s challenges and his commitment with the future of the business
VALUE: GROUP IS IMPORTANT	2	UTalks initiative shows the effort to unify the group
VALUE: LACK OF COMMITMENT	2	“Inside work groups there is no preoccupation with connecting the pieces of the puzzle”
ATTITUDE: PRAGMATIC	1	“Redundancy without purpose doesn’t work”

Supporting the analysis in our research question, the codes were then reviewed and categorized. Through comparing codes, interviews, and data in company documents, a clearer understanding of the process leading to the creation of the knowledge gap in the firm emerged. Some codes were considered not relevant, and others were merged into new codes, as the categories evolved into four final buckets exploring how the codes fit into our case framework. The final categories are presented below and will be further developed on section 4.2.

## **THE FOUR FINAL CODING CATEGORIES**

### **1. Culture**

Related codes:

LOW TURNOVER

PROXIMITY

KNOWLEDGE MANAGEMENT NOT A TOPIC

SHARING

DEPARTMENT SPECIFIC

OPEN MIND

### **2. Knowledge Management Structure and Initiatives**

Related codes:

OPEN COMMUNICATION

EXPLICIT KNOWLEDGE

ONBOARDING

MANUALS

INTERNSHIP

### **3. Barriers**

Related codes:

“EXPERIENCE IS HARD TO BE TRANSMITTED”

QUALITY OF COMMUNICATION

TIME

NON-RECURRING TASKS

“KNOWLEDGE IS NOT DEFINED”

COVID

### **4. Points of Improvement**

Related codes:

SHADOW

REDUNDANCY

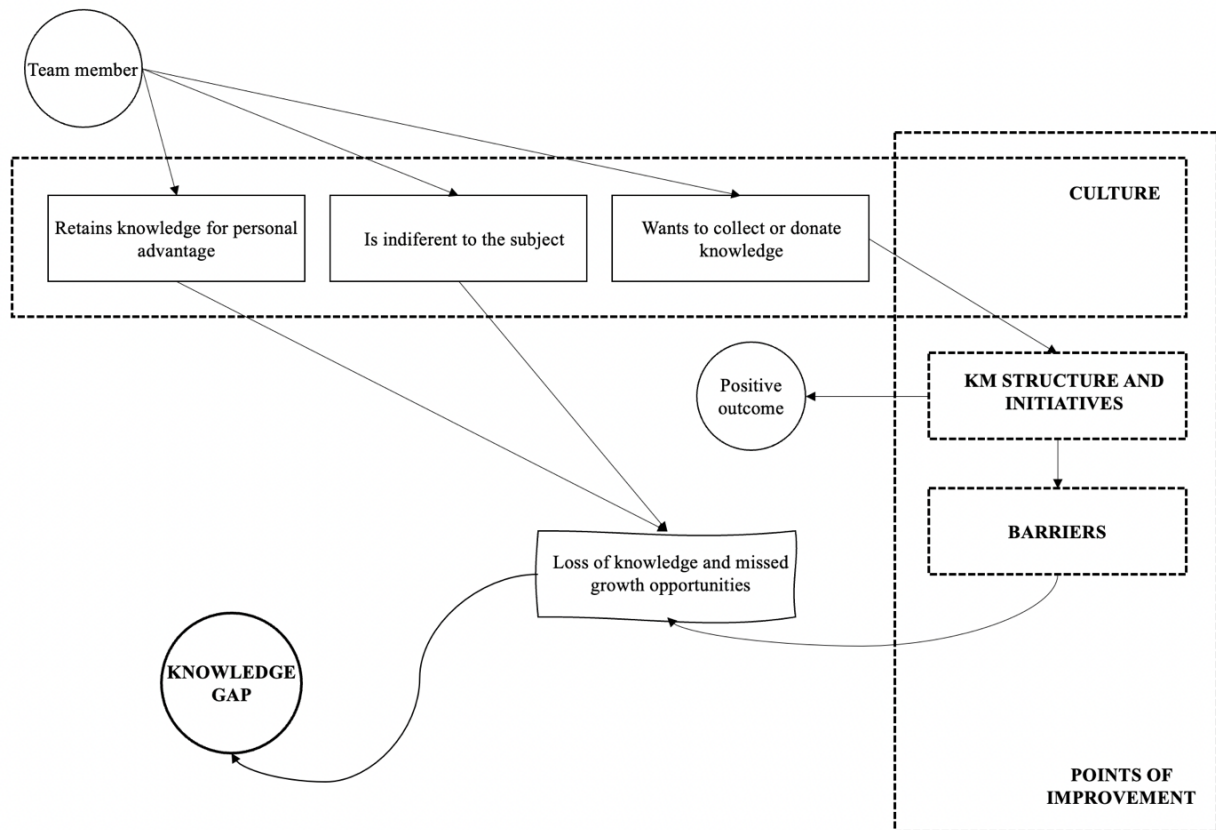
“PEOPLE DON’T WRITE”

INFRASTRUCTURE

IDENTIFY KEY PEOPLE

Figure 3 shows the current picture regarding knowledge management at Unicre and how the different categories of the analysis weave together. Every day, team members will face the decision of whether to enter the knowledge market to acquire what they need or to transmit what they find relevant. Their action here will be strongly influenced by the company’s Culture and their personal values and work ethics. In entering the market, they will use the firm’s Knowledge Management Structure and Initiatives, leading them to a successful outcome, or struggling with the Barriers. If unsuccessful, the knowledge will be lost, creating missed growth opportunities, and opening the way for a knowledge gap situation. The Points of Improvement can positively influence the Culture, improve the Knowledge Management Structure and Initiatives, and eliminate the Barriers.

Figure 3 - Operational model diagram of Unicre's knowledge management process. Source: Interview analysis



## 4.2 Results

Knowledge and its maintenance are an active part of Unicre's Human Capital initiatives. Due to its rich 47 years of history, the company is experienced and well-structured to attract, develop and retain talent. As we will discuss further in this section, there are mechanisms in practice to guarantee that the employees have the necessary knowledge to perform. On the other hand, those initiatives are most focused on explicit knowledge, leaving the transmission of tacit knowledge exposed to the risk of a knowledge gap.

Learning and preparing the newcomers are established processes, although systematically share and receive tacit knowledge is a new subject in the firm. There is not a structure, physical or methodological, currently in practice to incentivize the transmission of tacit knowledge. Therefore, our hypotheses are partially confirmed, since they are not capable of fully explaining the creation of knowledge gaps, but correctly explaining part of it.



As mentioned in section 4.1, a structure of four distinct categories was derived from the data to guide us to the conclusions. They are Culture, Knowledge Management Structure and Initiatives, Barriers, and Points of Improvement. As we discuss them individually below, we will identify in detail how is knowledge managed at the company and how the employees perceive it, what are their pain points, and observations to improve it. The insights revealed by the data analysis will then serve as foundation for the recommendations presented on section 4.3.

#### 4.2.1 Culture

As documented in the literature (Alvesson & Karreman, 2001; Cabrera & Cabrera, 2002; Nonaka, 1994; Razmerita, 2016; McDermott & O'Dell, 2001), organizational culture is a key aspect impacting the transmission of knowledge inside a company. Unicre has a relatively small team with around 230 employees and a low turnover rate, being the average time of permanence in the company 15 years. (Unicre, 2022) These factors leave a strong impression, contributing to create a collaborative environment where people know each other for many years. The human connection characteristic of the firm is also apparent in its statement of purpose that says, “*We connect people, companies and technologies, creating unique payment experiences*”.

Open space offices reinforce the openness to communicate between teams and levels of seniority. Moreover, the company hosts weekly events, called UTalks, of various themes, with internal and external speakers to promote discussions and transmit information, which also reveals the willingness to share and foment an open environment. An important conclusion here is that there is a positive communication environment, which has been noted as a knowledge sharing precondition by van den Hooff & de Ridder (2004).

The departments that compose Unicre’s organizational structure have autonomy to determine its practices regarding the passage of knowledge. Even though the practices may vary among them, they all carry the concern to teach and prepare the members of the team adequately. Mapping processes, writing manuals and shadowing are not foreign concepts to the managers, who act independently to prepare their teams. The key concept missing is tacit knowledge and its importance, how to recognize it and pass it forward in a systematic way.

Another important initiative in this regard is the Unicre Academy. Its definition is to create knowledge, maintain it and acquire it. In this way, the learning journey of the employee is well defined, but it encompasses more technical, or explicit knowledge such as mandatory trainings, business models and leadership. The formations are not designed to transmit Unicre’s knowledge, but to prepare the employees with the requisites necessary to excel at their job. Nevertheless, the program is structured around key core values to the creation and maintenance of knowledge with the purpose of sustainability and value creation rooted in the company’s culture and DNA. The program creates a culture of learning, and it becomes part of the employee’s cycle in the company.

4.2.2 Knowledge Management Structure and Initiatives

Table 3 below summarizes the knowledge management structure and initiatives in practice at the company and how it impacts the transfer of knowledge.

Table 3 - Unicre's knowledge management capabilities and impact. Source: Interview and documentation analysis

KM Practice	Overall Benefits	Impact on Tacit Knowledge
Open Space Office	Encourages/facilitates communication	By allowing people from different departments and levels of experience to communicate, it positively impacts the transfer of tacit knowledge
Onboarding	Prepares new entrants to start working in the company or in a new position	Due to its short duration, the onboarding contributes more to the passage of explicit knowledge
Manuals of Processes	Increases one’s autonomy and work performance	Not useful to transmit tacit knowledge
Unicre Academy	Keeps employees up to date with technologies and methods necessary to produce high quality work	Mostly focused on explicit knowledge. During classes students absorb tacit knowledge from lecturers, but it does not solve the knowledge gap problem due to its short duration and different contexts
Utalks	Collaborates to an open communication environment; Shares information with the whole company, creating a sense of union and importance	Good to transmit tacit knowledge, but not efficient due to its broad nature and different focus
Internship Program	Prepares the next generation of employees; Gives students a chance to enter the job market and acquire real world experience	Not useful to fix de knowledge gap since the participants are in an early stage in their careers and are not responsible for key issues

### 4.2.3 Barriers

In the context of this study, barriers are behavior patterns or structural characteristics hindering the flow of knowledge and leading to the creation of the knowledge gaps we are looking to fill. During the research, the identification of barriers happened indirectly when analyzing the company processes and working habits – as an external viewer - and directly asking the team what they see as the major factors on the way of knowledge sharing – an internal point of view. Knowing the barriers, we can then design the recommendations to overcome them properly. Using data from the interview analysis, barriers are presented below, divided in three levels: complexity, time, and work.

#### **COMPLEXITY**

From its definition, tacit knowledge is inherently complex to be transmitted. The difficulty in identifying and transmitting it can be seen in different examples. In some cases, a group responsible for finding a solution to a non-recurring problem will not keep its processes recorded, so the knowledge developed is lost. Is it not a simple task to keep a project's record and transmit its nuances and reasons to why such course of action was taken. At the same time, not only its transmission is complex, but also the correct identification of what should be preserved. More often than not, the leadership is too far from the action to be able to pinpoint informal leaders and experts, people with key knowledge that should be shared.

#### **TIME**

Lack of time is a constant topic since transmitting knowledge is a laborious task. It consumes hours of work to write good quality manuals and reports, while still incurring the risk of that document not being read or not being useful. Other forms of knowledge sharing, such as mentoring and lectures, are also time consuming and demanding, both for the knowledge owner and the student. Razmerita (2016) observed that it is paramount to change one's mentality from hoarding to sharing to increase the success rate in transmitting knowledge. In our case, we can also observe the importance of changing the mentality from "wasting time" to "investing time". From the student's point of view, it is easy to perceive the value you are receiving, but from the

knower's perspective it becomes a key barrier to be overcome. As also pointed in the literature (Lin, 2007), an environment of enjoyment in helping others and the perception of usefulness will increase knowledge sharing in an organization.

## **WORK**

Work barriers are related to aspects that happen naturally or are hard to control, born out of work practices or external factors. For example, due to work stability, some employees tend to get highly specialized on a few subjects and work alone on that for years without concerning with what will happen if they are not there. At the same time, while in general Unicre has a low turnover of employees, this is not true in the lower ranks of the company, where a higher turnover rate causes operational inefficiencies. As a recent external factor, the pandemic was pointed by many interviewees as a cause of decrease in the communication quality within and inter departments, leading to worse work relations and a lower level of knowledge sharing.

### 4.2.4 Points of Improvement

In all interviews, the employees were asked for suggestions on how to solve the knowledge transmission problem of the company. The suggestions are resumed in the points below.

- i. Create redundancies: Nonaka (1994) also observed that redundancies were efficient to increase group work collaboration and the generation of ideas. In Unicre's case, it can also be used as a focused tool to prevent knowledge gaps
- ii. Develop a mentoring and shadowing program
- iii. Increase physical contact
- iv. Create more manuals and map more processes
- v. Identify key people and work on retaining their knowledge
- vi. Change the common mentality of knowledge management not being a priority
- vii. Create the infrastructure necessary to share knowledge

### 4.3 Recommendations

The firm seems to have a favorable environment for knowledge sharing, with good communication practices and a learning and personal development culture. On the other hand,

knowledge sharing is not a topic at the firm, therefore, the idea of preserving tacit knowledge does not exist. Consequently, the knowledge management practices created until now are focused on sharing explicit knowledge and the company cannot retain tacit knowledge.

The recommendations, on Table 4, were then thought to create the concept of Unicre’s tacit knowledge, make the team aware of it and its importance so they can identify and share what is relevant (Alvesson & Karreman, 2001; Cabrera & Cabrera, 2002). They also intent to reinforce the open communication culture of the company (Cabrera & Cabrera, 2002; Wu & Lee, 2017; van den Hooff & de Ridder, 2004), show the support of the leadership (Lin, 2007), build trust (Nonaka, 1994), and create more situations where the employees can feel comfortable sharing or seeking for knowledge (Sandvik, 2020). Each initiative is discussed below with indications on implementation.

Table 4 - Knowledge management initiatives and objectives

Operational	Objective
Talk series “O saber fazer da Unicre”	Create awareness around Unicre’s know-how and its importance to the company; Contribute to a sharing/open to communicate culture
Mentoring program	Increase efficiency in knowledge transmission
Shadowing program	Increase efficiency in knowledge transmission; Prepare the next generation of leaders
Job rotation	Create redundancies
Never work alone	Create redundancies
Lessons learned report	Preserve the knowledge developed in a certain project
Delegate more	Create redundancies; Increase the levels of knowledge collecting and donating
Diverse teams	Create redundancies; Increase the levels of knowledge collecting and donating
Infrastructure	
Central repository	Facilitate the access to the company’s knowledge; Incentivize knowledge collecting and donating

**TALK SERIES “O SABER FAZER DA UNICRE” (UNICRE’S KNOW-HOW)**

This talk series will serve as the launching pad of the knowledge management initiatives to come afterward with the goal of creating a systematic knowledge management program, avoid

the creation of knowledge gaps, and increase the efficiency of new knowledge development. The idea is to call everyone’s attention to the subject, creating awareness and contributing to the company’s open communication culture (Wu & Lee, 2017; van den Hooff & de Ridder, 2004; Cabrera & Cabrera, 2002).

To achieve it, experienced executives of the company and outside speakers from academia and other corporations will be invited as speakers. The goal is to create the concept of a tacit knowledge of the company, translated as its know-how. The lecturers will show how Unicre’s knowledge is rich and unique, how it was acquired along the years, and how it acts as a competitive advantage to the firm. Furthermore, according to Nonaka (1994), sharing individual original experience is fundamental to build trust which is a necessary precondition to knowledge sharing. The event will also positively impact knowledge sharing by showing the support of the company’s leadership (Lin, 2007).

The event will happen along two weeks and count with five talks of one hour each. The schedule is showed on Table 5. The specialists will be chosen from academia or from companies with a successful track record of knowledge management programs and the senior executive will preferably be an employee with 20+ years of experience and a deep understanding of the company and its history.

*Table 5 - Implementation schedule*

	<b>Talk Theme</b>	<b>Description</b>
<b>Week 1</b>	What is knowledge management & the CEO on the uniqueness of Unicre	Brief introduction to the event and to the concept of knowledge management. The CEO will talk about the importance of transmitting knowledge and how Unicre’s know-how is unique and a sustainable competitive advantage
	Meet the specialist: the concept and importance of knowledge management	The specialist will explain the concept of knowledge management so the team can acquire the necessary background for the success of the program. Furthermore, real life examples will be used to explain its importance
<b>Week 2</b>	Meet the executive: the impact of Unicre’s knowledge	The senior executive will explain with a real-life story the importance and uniqueness of Unicre’s know-how

	Meet the specialist: best practices	The specialist will explain the best practices regarding knowledge management and how to identify the knowledge that must be preserved
	The future of Unicre's knowledge	In this closing talk we will explain the future initiatives that will be launched to preserve Unicre's knowledge. We will also lay out the KPI used to measure the success of our knowledge management program and what we want to achieve

## **MENTORING PROGRAM**

Developing a mentoring program was an initiative mentioned during interviews and it is being implemented by the Human Capital department (HC). Given Unicre's open communication and personal development environment, a mentoring program (and the shadowing program discussed below) could effectively direct the problem of initiation costs faced by knowledge seekers that are initially hold back in their pursuit of knowledge (Sandvik, Saouma, Seegert, & Stanton, 2020).

Furthermore, evidence shows that mentoring programs cause a positive impact on mentees, leading to more promotions, higher performance and salaries, increased job satisfaction, and organizational socialization benefits (Allen, Eby, Poteet, Lentz, & Lima, 2004; Dreher & Ash, 1990; Ragins & Cotton, 1999; Allen, Finkelstein, & Poteet, 2009). In addition, mentoring programs are used by organizations to address succession planning and share their future leadership (Allen, Finkelstein, & Poteet, 2009). Ragins & Cotton (1999) point out to the importance of informal mentoring programs, where the pairs are naturally chosen by the participants, and the importance for the organization to keep this possibility open to the employees. According to the authors, informal mentorship programs can provide, in some cases, higher benefits than a formal program.

In accordance with the current needs of the company, the mentoring program should have the goal of preparing the next generation of leaders, guaranteeing they possess the necessary knowledge and commitment to build the future Unicre. Therefore, the mentorship will focus on career development, with organizational socialization and psychological benefits expected to

appear as a secondary effect. Given the wide breadth of possibilities in developing a program's structure and the necessity of adapting it to the company's specific environment, a few general orienting guidelines will be proposed for further improvement. Let's discuss mentors, mentees, and the program's structure.

The HC department should appoint a team of one or two people to be responsible for monitoring the program, attending to the needs of mentors and mentees, carrying out the evaluation and reporting of results and working on its revisions and improvements. It is also recommended to form a mentoring committee to work on the program's structure, selection of candidates and matching the pairs. To integrate the initiative into the company and show its advantages and personal development qualities, the Utalks can be used as a publicity tool and to present the results and evolution of the program periodically. Moreover, according to Allen, Finkelstein, & Poteet (2009), it is important to train the participants on how to be in a mentoring relationship and manage expectations on both sides. For that, training courses will need to be elaborated by the HC department before launching the program.

Regarding the selection of mentors and mentees, the requisites should be founded in the program's goals and aligned with the company's culture. Mentees should possess the qualities the firm is looking to develop, and mentors should have the skills to help mentees to work on those qualities. To show the upper management support, it is recommended that directors participate in the program as mentors and incentivize the employees to apply. To provide an alignment of interests, participation in the program can be linked to the annual performance evaluation, impacting one's bonuses and credibility.

According to Allen, Finkelstein, & Poteet (2009), mentors should display characteristics such as empathy and enjoyment in helping others; ability to teach and provide guidance; technical knowledge; credibility and a high level of commitment and time to dedicate to the program. On the side of the mentees, the authors suggest they should show openness and willingness to learn; strong work ethic; interpersonal skills; willing to accept and act upon constructive feedback; and be achievement oriented.

It is recommended that a pair of mentor and mentee stay together for a minimum period of six months (Allen, Finkelstein, & Poteet, 2009), after which it should be evaluated if they created a meaningful connection and desire to renew their mentorship relation. The participants can



choose to stay in the formal mentorship structure or move to an informal one, without direct control from the HC department. The number of meetings, the mode of contact and activities and subjects to be developed should be oriented by the company, but the pair must have the flexibility to adapt to their needs and evolve with the program. Every six months, the participants should report their progress/results to the HC department that will gather the data to measure the results and efficiency of the program.

### **SHADOWING PROGRAM**

The shadowing program is a specific form of mentoring designed to prepare candidates for promotions. Therefore, it follows the same recommendations previously presented, but with a different selection of mentors and mentees and different expectations. The foundation for this initiative comes from a mid-level manager who is independently preparing his succession, mentoring his “shadow” to assume his position for the past five years, an example of an informal mentorship relation, one that happens naturally. With this successful case within Unicre’s culture, it seems appropriate to exploit the shadowing model as an addition to the mentoring program being launched.

In this case, the HC department will work closely with the mentoring committee and mid-level managers to select shadow candidates, as well as to identify the key roles that need to prepare for succession. Since there is a concrete and relevant expectation attached, the criteria and conditions to participate should be carefully develop, leaving space for flexibility and informal relations to emerge.

The duration of the training phase will vary according to the specificity of the role and the department, but as showed by the mid-level manager example, it is expected to last a minimum of 3 years. During this period, the “shadow” will learn from the leader how to best perform his job and absorb as much tacit knowledge as possible. The shadow’s progress will be measure during the performance evaluation every semester. The main goal of the training is to preserve the company’s tacit knowledge, consolidating it as a competitive advantage.

## **JOB ROTATION, NEVER WORK ALONE, DIVERSE TEAMS AND DELEGATE MORE**

These initiatives are designed to create redundancies. Redundancies sometimes can be seen as inefficiencies, but on the other hand, it can bring advantages such as increase creativity, knowledge sharing and trust among team members (Nonaka, 1994). As mentioned by an employee during an interview, one point of improvement in the company would be to *“have more than one person dominating a process. It increases work efficiency, motivation, pushes us out of our comfort zones and the company becomes less dependent on single individuals”*.

Job rotation can be applied on every level, for shorter or longer periods of time. It can happen as a quick “internship” in another department or be a promotion to a new role in a different area. The never work alone initiative translates into a task not being carried out by only one employee, but a team of two or more people. This idea seeks to facilitate the creation and transmission of tacit knowledge using redundancy. Diverse teams are another way of creating redundancies. A team formed with members from different backgrounds, age and department will create information overlap.

In addition to redundancy, the delegate more initiative aims to serve as an incentive to the collection and creation of knowledge, impacting, therefore, the redundancy of information and the donation of knowledge. When the leadership delegates more, the team needs to make an extra effort to complete the new tasks they are not experts at. In the process, they must go after the necessary knowledge, forming a virtuous cycle of knowledge donating, collecting, and creating.

To facilitate the implementation and control, these initiatives should be applied on key tasks that are important for the company and cannot take the risk of becoming a knowledge gap. They should be identified by the leader of the department in partnership with the human resources team.

## **LESSONS LEARNED REPORT**

The lessons learned report is one of the hardest measures to implement, but also a fundamental tool to keep a good record of the company’s knowledge creation. As rightfully pointed by an

employee during an interview: “Everyone is very busy, we don’t have time to go making backups”. Although time consuming, the report will guarantee that the solutions developed, as well as the mistakes made on a project, are stored and can serve as a guide when a similar situation occurs. The document should contain a resume of the project, the history of communications and the analysis of data that led to the conclusions presented. For this, it should follow a standard format, as indicated in Figure 4 below. Also, it is important to note that not every task or project will ask for a lessons learned report, being important to identify the situations where it is necessary.

Figure 4 - Example of a lessons learned report structure

Table of Contents	
1 Introduction (name of the project/task; context; start and end date; team members) .....	1
2 Project development (why and how it was structured and executed) .....	1
3 Results (data analysis; decision making history) .....	1
4 Conclusions (final remarks and future recommendations) .....	1
Annexes (communication history and other useful documents) .....	1

To solve the lack of time problem to prepare the report, three ideas can be applied. First, when closing a project, the person responsible for writing the report should allocate one afternoon for the task. This should be a rule respected by everyone and strongly supported by the leadership. Second, this task can be assigned to an intern or junior member of the team, being the leader responsible for reviewing it. Finally, to encourage the execution of the task, a presentation can be made to the team or even the whole company to show new discoveries and the project’s contribution to the firm.

**CENTRAL REPOSITORY**

The central repository is in the center of our knowledge management program. It works as a place to store and to search for the company’s know-how, serving as a trustworthy source of truth for everyone. It will contain documents such as the lessons learned reports, manuals,

books, articles, and other types of spontaneous contributions. The repository can be initially developed using one of the current cloud-based databases the company already uses, organizing the information in folders. The folders can be divided by department, area of expertise, subject, and type of document. Later, as it grows in size, points of improvement can be detected to better suit the users and the repository can evolve to a dedicated tool.

To keep the repository’s integrity and organization, a curator from the human resources department should be appointed. The curator will be the only person authorized to add documents and edit the folders. She will also be responsible for getting the approvals necessary to publish new contents and notifying the employees of the new documents posted. The documents need to be approved by the department’s director and, in specific cases, by the CEO.

4.3.1 Measuring results

Unicre conducts biannual performance evaluations for all its employees, and it includes KPIs common to many departments, as well as different metrics depending on each specific job function. To reinforce the company’s commitment to knowledge sharing and transform it in a measurable goal, it is recommended to include it as a KPI to be evaluated annually, as its impact will be more apparent in the long term.

To this end, it is suggested the adoption of an adaptation of van den Hooff & de Ridder (2004) scale, originally composed of six questions to evaluate knowledge donating and four questions to evaluate knowledge collecting (Table 6). The form was adapted to include questions targeted at Unicre’s core problem - the creation of knowledge gaps. It is proposed a range of answer from 1 (strongly disagree) to 5 (strongly agree) and further adaptations can be made according to the company’s experience and to improve results as the form is used and practical impacts become apparent.

Table 6 - Knowledge management measurement form. Source: Adapted from van den Hooff & de Ridder (2004)

Knowledge Donating	Knowledge Collecting
When I have learned something new, I see to it that colleagues in my department can learn it as well	Colleagues within my department tell me what they know when I ask them about it
I share the information I have with colleagues within my department	Colleagues within my department tell me what their skills are, when I ask them about it

I share my skills with colleagues within my department	Colleagues outside of my department tell me what they know when I ask them about it
When I have learned something new, I see to it that colleagues outside of my department can learn it as well	Colleagues outside of my department tell me what their skills are, when I ask them about it
I share the information I have with colleagues outside of my department	I think that knowledge is lost in my department from a bottom-up perspective
I share my skills with colleagues outside of my department	I think that knowledge is lost in my department from a top-down perspective
I feel that I am helping to prepare the members of my department to assume a leadership position at the company	I feel that I am being adequately prepared in my department to assume a leadership position at the company

## 5 Conclusion

Unicre is a company in the financial services industry and its 50 years of history are closely related to the history of the credit market in Portugal. The firm has around 230 employees and its subsidiary, Reduniq, has 60% of the payment processing market in the country. The company presented us with the challenge of solving their knowledge management problem, related to the creation of “knowledge gaps”, that is, a discrepancy between what the company knows and what the team knows. This gap is caused by the sudden absence of an employee who used to concentrate responsibilities and key knowledge, without passing it forward.

As mentioned by Alvesson & Karreman (2001), one of the goals of a knowledge management program is to detach the knowledge from the individual, to leverage the decades of experience in a company, transforming it in a sustainable competitive advantage. Using Nonaka’s (1994) definition of explicit and tacit knowledge, we concluded that the company needed to focus on the transmission of tacit knowledge, being it the less covered by the current initiatives and the hardest one to be expressed and shared, as well as the most valuable, given the unique set of experiences necessary to develop it.

There are many initiatives to manage knowledge in the company. The main finding of this consultancy project was that those initiatives were missing the focus on preserving Unicre’s tacit knowledge, and the firm was suffering the consequences. Therefore, we aimed at creating a systematic approach to it, using what is already in place and complementing it with new ideas designed to create awareness to the problem, reinforce the company’s culture, and increase the collection and donation of knowledge.

A total of 9 initiatives and one KPI were recommended. They will be launched after a two weeks talk series called “O saber fazer da Unicre” which will serve as a platform from where the program can be worked to reduce implementation friction. The KPI should be measure at the end of the first year to serve as input, along with feedback forms, to evaluate and improve the program. As the program consolidates, it will be important to remember that knowledge management is not about building a large library but connecting people (Alvesson & Karreman, 2001), that is, preserving a sharing culture and a motivated team will bring more impact than focusing on numbers alone.

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