

La digitalisation du contrôle de gestion: Étude exploratoire au sein des PME agro-industrielles de la région Souss Massa

Résumé :

In the era of digitalization, management control is at a crossroads between technological innovation and organizational adaptation. These innovations make it possible to collect, process and analyze much larger volumes of data in real time, thus offering managers a more precise and updated vision of the company's performance. However, the digitalization of management control in Moroccan SMEs remains a blind spot in research. This article attempts to fill part of this void by focusing on the agri-food SMIs of the Souss-Massa region, in Morocco, in particular, we seek to explore the different determinants of the use of digital tools in management control in this research context.

On the methodological level, we continued a qualitative study based on 19 semi-structured interviews conducted with management supervisors and financial managers. The results were the subject of a content analysis carried out under the NVivo 15 software.

Six determinants emerge from the interviews, in particular the expected performance, the expected effort, the quality of the information processed, the facilitating conditions that bring together sufficient financial resources, digital skills and the support of the manager, the Covid-19 crisis and finally, habit. These results give a more realistic picture of what digital transformation means for a Moroccan SME, far from the smooth speeches about digitalization, but also more useful for those who are looking to take concrete action.

Key words: Digitalization; determinants; Management control; SMEs.

1. Introduction

Over the past two decades, digitalization has established itself as a key factor in the competitiveness and resilience of companies of all sizes and in all sectors, especially in industrial sectors facing major technological, economic and social developments. In this context, digitalization has increased on a global scale in response to the upheavals caused by globalization, the fourth industrial revolution (4.0) and, more recently, the COVID-19 pandemic. The progressive integration of IT, ERP, BI tools and, recently, advanced analytics and AI solutions, has profoundly transformed management methods and mechanisms and in particular the finance and management control (CG) professions, in fact, the classic CG tools and roles are being transformed. The digital transformation has changed, sometimes profoundly, the way companies manage their activity. Digital tools such as ERP, dashboards, reporting software, business intelligence solutions, etc..., have gradually established themselves as concrete supports to monitor performance, allocate resources and inform decisions. But the literature on this topic remains very firmly rooted in large companies in developed countries. SMEs, especially those operating in emerging economies, are little studied, even though their reality is very different. Tight budgets, often tinkered with information systems, a manager who centralizes almost everything, in this context, adopting digital tools is neither simple nor automatic.

The industrial sector of the Souss-Massa region illustrates this gap well, and in particular the agri-food sector. The region weighs heavily in the Moroccan economy, with a dense fabric of agricultural and Agri-food processing units. These companies are facing increasing constraints at the level of competition, traceability requirements and industrialization policies supported by the Green Morocco Plan and the Generation Green Strategy. In this context, modernizing the steering tools is not a luxury. This is what motivates the central question of this research: **What are the determinants of the use of digital tools in management control in the SMIs of the Agri-food sector of the Sous-Massa region in Morocco?** To answer them, we mobilize a theoretical framework by adapting them to the specific context of Moroccan SMEs. The objective is to identify the individual, organizational, technological and environmental factors that concretely explain why these tools are used, partially adopted, or simply ignored. This article is structured in three sections, a review of the literature, a methodology, and then an analysis and discussion of the results.

2. Literature review

In this section we will explore the theoretical foundations of the determinants of the use of digital tools by mobilizing the theory of the diffusion of innovations, the success model of information systems by DeLone and McLean and the UTAUT2 model.

2.1. The theory of the diffusion of innovations

Appeared in 1962, the theory of the diffusion of innovation (IDT) was developed in more detail by Rogers in 1995 that he tried, through this theory, to highlight the explanatory variables of the adoption and diffusion of innovations. Rogers (1995) concluded that this theory aims to analyze the mechanisms, motivations and speeds according to which innovative ideas and technologies spread within a social community. In addition, Wani & Ali (2015) affirm that "*the theory of the diffusion of innovation adopts a contrary approach to study changes. Instead of focusing on persuading individuals to change, she considers that change mainly concerns the evolution or reinvention of products and behaviors so that they better meet the needs of individuals and groups*" (Wani & Ali, 2015, p.3).

In addition, according Robinson (2009), in the process of diffusion of innovations, it is innovations that evolve and not individuals. According to Rogers (1995), the characteristics of innovation refer to individual (intrinsic) perceptions of an innovation and organizational perceptions. These individual perceptions are expressed through relative advantage, compatibility, complexity, testability and observability (Abriane et al., 2021).

Moreover, to illustrate the contribution of the diffusion of innovation in the management control framework, we have identified two relevant articles in the field of management control, which are part of the research on the diffusion of innovation. In their first article, Bescos et al. (2002) present the conclusions of a comparative study on the dissemination of activity-based accounting (ABC method) in France and Canada. The survey reveals that the adoption rate is similar in the two countries studied, being around 20% of the companies surveyed. These results can be attributed to significant obstacles related to adoption costs and technical problems such as the availability of information.

In addition, the authors argue that "*cultural resistance*" adds to the obstacles to the spread of the ABC in France. This article focuses on the characterization of the dependent variable within the framework of the Rogers diffusion model, analyzing it through the factors related to the characteristics of innovation and the cultural dimension, which is one of the constituent aspects of a social system. In their second article, Alcouffe et al (2003) seek to explore the determinants of the diffusion of innovations in management control. Thus, they analyze the results of the study on the dissemination in France of three similar innovations: the Georges Perrin method (GP method, later UVA), the ABC and budget control. Three of the five dissemination variables highlighted by Rogers are: communication channels, the structure of the social system and the promotional actions of change agents.

An examination of the impact of these elements reveals that interpersonal channels establishing links between potential adopters, user companies, professional associations and later consulting firms are of paramount importance in the dissemination of the innovations studied.

2.2. The IS success model of DeLone and McLean (1992) (revised in 2003)

The model of DeLone and McLean (2003) highlights the quality of the system, the information and the service as key factors influencing the intention to use, the effective use and the satisfaction linked to an IS. However, the authors recognize the importance of organizational and environmental contexts, although they do not formally integrate them into their model. Based on the work of Seddon et al. (1999), they propose to deepen the analysis by considering contingency variables such as the type of system (for example, ERP) and the perspectives of the different actors involved.

This theoretical model focuses on the interdependent relationships between six key dimensions that determine the success of an IS. First of all, the quality of the system, the quality of the information and the quality of the service constitute the three fundamental dimensions directly influencing the satisfaction of the user and his intention to use. These qualities, whether related to technical performance, the relevance of the information or the assistance provided, play a central role in the overall perception of the system (Marrauld et al., 2022). The intention to use and the use then represent two complementary aspects reflecting the adoption of the system by users (Marrauld et al., 2022). The actual use or intention to use an IS is directly linked to user

satisfaction, a central dimension in the model. This satisfaction stems from the perceived quality of the system and its effectiveness in meeting user needs. The model of DeLone and McLean (2003) thus proposes an integrated approach to evaluate the success of IS, taking into account the dynamic relationships between the different dimensions (Alladatin et al., 2020).

According to DAHHANE & EL HAMEL (2025), these different interactions lead to net benefits or advantages, which measure the overall impact of the IS on the organization or users. This impact can be translated into productivity gains, better decision-making or strategic advantages. The perceived benefits can in turn influence satisfaction and use, thus forming a positive feedback loop.

2.3.The UTAUT2 Model

The UTAUT2 theory developed by Venkatesh, Thong and Xu in 2012 is the most important model for predicting the use of technology (Tam et al., 2018; Abriane et al., 2021). It constitutes an extension of the UTOPIAN theory developed by Venkatesh et al. (2003) elaborated on the basis of eight previous and competing theoretical models in the field of technology adoption. The main objective of UTAUT2 is to explain the behavioral intention of consumers to adopt a technology and their actual usage behavior.

This theory brings together seven constructs, four of which are based on fundamental concepts of the FUTURE such as expected performance, expected effort, social influence and facilitating conditions, while introducing three new concepts relevant to the context of consumption namely, hedonic motivation, price value and habit. These variables are in turn moderated by gender, age, experience (Venkatesh et al. 2003, 2012).

3. Research methodology

Our analysis consists in contextualizing the different dimensions drawn from the literature in order to adapt the measurement scale of CDG's digitalization to the realities of agro-industrial SMEs within the Sous-Massa region and to explore those that are not taken into account by the literature.

3.1.Data collection device selected

In our context, the use of an interview guide has proven necessary, this one containing specific themes to explore and open questions, as suggested by Lichtman (2013). The interview designed

on the basis of the literature review was thus structured to explore the determinants of the use of new technologies by management supervisors. Therefore, the methodology used is based on the collection of data through semi-structured interviews. Indeed, this tool is distinguished by its flexible and open structure allowing the researcher, although having an interview guide with key questions, but he is also free to adapt his questioning according to the answers of the participants and the evolution of the discussion.

3.2.Origin of the sample

In our study, to evaluate our research problem, we chose a sample composed of people who deal with CDG within SMEs that operate in the IAA sector in the Sous-Massa region, and who use at least one digital tool in the execution of their jobs. In the selection of this category of companies, we based our research on the official definition of SMEs in Morocco, which is based solely on a turnover criterion and does not take into account the number of employees. This definition received approval at the end of 2012 (EL-ALIANI & MHAMDI, 2025). Thus, the agro-industrial SME that we are examining is the one whose turnover is between 10 and 75 million dirhams.

The choice of this type of company is motivated, on the one hand, by the central role attributed to the IAA sector in the Moroccan economy and in the Sous-Massa region in particular. Indeed, the entrepreneurial structure of the region currently includes more than 7,000 companies, 97% of which are SMEs, of which more than 500 industrial units operate mainly in the agri-food sector. On the other hand, by the fact that industrial companies are equipped with the production chains most likely to adopt CDG and digitalization in their management system in order to control its costs and be able to effectively manage its performance. In other words, our problem is of specific importance within this type of company, where digitalization and CDG remain a major concern.

3.3.Mobilized sampling technique: Snowball

It has been discovered that carrying out a census of agro-industrial companies, which use both CDG tools and digital tools in their management, proves to be complex. Indeed, the selection led to the emergence of an undefined population, the exact size of which is unknown. Faced with such a situation, the use of probability sampling is considered inappropriate, which led us to opt for deterministic sampling, in particular the snowball method (Carricano et al., 2010). This sampling method is based on a non-probabilistic sampling approach. This process starts with a small group

of identified individuals, then the sample is expanded by asking these initial participants to recommend other people to be included in the study. In other words, the sample increases gradually, cumulatively, like a snowball gaining momentum when it descends a slope (Etikan et al., 2016).

A total of 19 individuals participated in these interviews which were recorded in the form of audio recordings, with their consents in anticipation of a subsequent analysis. Our sample then includes accountants, management controllers, administrative / financial managers, etc.

4. Analysis of the results of the study

4.1. Content analysis of the variable “Expected performance”

In response to the question about the determinants of digital tool usage, respondent 1 states that *"At the level of our ERP, it is not content only to keep the data, it enriches them, improves them... we have taken advantage this last year to obtain the license of a super BI feature it is the Divalto, it structures our data in Data Warehouse, and it is very convenient in the generation of Reports in a few clicks ... our reports directly integrate indicators necessary for our activity which explain in depth the level of our performance"*. In fact, the ERP used enriches and improves the data handled by management controllers with enhanced functionality provided by the integrated BI tool, which delivers better reporting in record time. Similarly, respondent 3 attests to this situation by saying *"I like that our ERP processes data automatically in the background. This way, accounting reconciliations or consolidations are done without me needing to intervene. This ensures reliable results and saves me a lot of time"*. As a result, the information systems used in their activities, such as ERP ensure data reliability, information consistency, and significant time savings. This indicates the importance of the usefulness of digital tools in the MC digitization process.

Moreover, interviewee 6 emphasizes the speed of processing, the ability to integrate multiple data sources, and the ability of BI tools to generate interactive dashboards in a matter of seconds *"I appreciate BI tools like Power BI, they have a good treatment. I can link several data sources, it combines them in a few seconds to create clear and interactive dashboards"*. He also highlights the accuracy of calculations and the reliability of Power BI processing *"This speed and precision are very useful for my interpretations and recommendations so it saves a lot of time in the*

collection and management of data. She makes forecasts or proposes improvements based on the figures" even in the absence of in-depth IT skills.

Others, furthermore, go further in their comments and highlight the compatibility between the systems used in the CDG process, stating that *"what I like about BI is the synchronization with our ERP ... The data from the ERP or Excel are then integrated without errors and updated"*. (Respondent 3). This explains the fact that there is a link between different data sources and that the integration of different systems guarantees the quality of the information produced. Some specify this need by saying *"our business ERP is endowed with good quality and it is customized internally ... Its initial version, it is purchased in France. It's very old. It dates from the 80s or 70s, I think, under Emesto software ... Yes, we developed it squarely in our own language, but with another conception, another analysis, etc...It works very well, everyone uses it within the company, everyone has access to the modules that concern them"* (Interviewee 4).

4.2.Content analysis of the variable “Expected effort”

When it comes to the determinants of digital tool used in the context of CDG, interviewees shed light on the expected effort required to use the digital tool. Interviewee 8 initially highlights the importance of ERP and emphasizes that its ease of access and ability to exploit information make it an essential tool in light of emerging digital solutions, *"ERP systems are easy to use with their simple interfaces... I was able to get up and running quickly"* (Interviewee 8).

On the same ground, interviewee 4 emphasizes that the SAP they use is easy and intuitive for each of the managers who work with the modules that concern them. In his view, SAP is therefore relatively easy to use. Similarly, interviewee 7 highlights the effectiveness of the link between SAGE and Tableau, as the integration between the two tools simplifies processing and supports cost calculation. According to him, the added value lies in optimizing the effort required to obtain reliable information, which in turn optimizes his ability to monitor and make decisions. He states that *"I find SAGE with Spreadsheet very useful... The data integrate without difficulty... Everything is working well, which helps us to process and obtain information easily"* (Interviewee 7).

Furthermore, interviewee 13 takes a more BI-oriented view. He states that he uses Power BI and, like other interviewees, finds it easy to use and understandable for non-data experts. In addition,

thanks to BI, data is more reliable because this technology helps detect anomalies. According to him, *"BI tools make data that is not easily readable simple, thus transforming tables into talking graphs conducive to quick interpretation and discussions on the results with non-data expert interlocutors"*. This observation is corroborated by interviewees 6, and 10. They state that the main tool they use is Power BI, and they find very easy to use.

In line with this logic, interviewee 9 emphasizes the accessibility of Power BI. He perceives it as a tool that democratizes the production of dashboards, thanks to clear menus and well-organized options *"Power BI is a tool that makes the creation of sophisticated dashboards accessible to everyone. Its ease of access thanks to simple menus, clear and well-arranged options helps me quickly create any dynamic dashboard that does not require any programming it is very useful and leaves me time to focus on the analysis the numbers"* (Interviewee 9).

Thus, according to interviewee 11, who said *"BI has great visualizations, even if they are complicated to interpret. Above all, the graphs that are displayed are precise, dynamic since they are fed by data that is updated at any time. With this transparency to process the information, I can identify inconsistencies or anomalies quickly"*, the simplicity of Power BI is a considerable asset in the creation of dashboards and the analysis of results, as it simplifies financial calculations. It also offers good reliability of the data it produces because it is connected to various databases. Also, the use of this tool in conjunction with Excel allows him to obtain reliable information quickly.

4.3.Content analysis of the “quality of information” variable

On one side, the comments of the interviewees reveal that the quality of information is the key factor that determines the effective and efficient use of digital tools. Interviewee 1 emphasizes the idea that any technology loses its value if the data entered is inaccurate *"Technologies in general are only really useful if the information we inject into them is correct, to be realistic without own data, the analyzes will be distorted from the start ... the value of an ERP above all rests on the quality of the data fed. As soon as the information is wrong, the whole system loses its relevance and therefore the outputs will be wrong"*. According to him, an ERP can only produce reliable results if the initial database is clean and correctly populated, otherwise all analyses will be biased.

Interviewee 7, meanwhile, highlights Spreadsheet's technical contribution in improving the quality of information in terms of accuracy. He states that *"Spreadsheet allows us to obtain precise information ... The data is cleaned automatically according to the filters prefixed on the system to guarantee the desired quality. As a result, it provides me with a simple, accurate and useful dashboard for analysis"*. His comments show that, for him, the added value of the digital tool lies not only in the presentation of data, but above all in its ability to automate information cleaning. This observation is supported by interviewee 15. He emphasizes that it is not the choice of tool that determines the use of technologies, but rather the reliability of the data it processes, which determines its personal adoption. In the same sense, interviewee 3 extends this logic and shows that the quality of information directly influences the added value of digital processing.

On the other side, other interviewees have access to better quality and more up-to-date information thanks to the quality of the digital tools they use. Interviewee 8 adds, in addition to the dimensions already discussed, the dimension of timeliness in measuring the quality of information. He emphasizes the benefits of a centralized and constantly updated ERP *"With our ERP, the data is centralized, clear and always up to date. No duplication in terms of the data entered, for example, no confusion too... But every time the ERP reports inconsistencies, it is almost always related to a bad human input and not necessarily related to the system itself"*, considering that the main source of errors remains human input, which makes the initial quality of the information entered critical.

Nevertheless, interviewee 19 demonstrates a more advanced level of usage. He states that *"the AI tools that I use from time to time on our BI module further improve the information. The AI detects anomalies in the data and provides me with personalized analyses, which helps me formulate recommendations to provide to the CFO, and this ensures that I am working with the best quality data possible given the available capabilities"*, which highlights that the AI integrated into the BI module enables the detection of anomalies and refines analysis, which in return guarantees a high level of quality.

4.4.Content analysis of the variable “Facilitating conditions”

4.1.1. Digital skills

Content analysis reveals that digital skills are a determining factor in the use of digital tools in management control. Indeed, digitalization is profoundly transforming the skills required of management supervisors, although this change is perceived differently depending on the interviewee. According to interviewee 9, *"I was lucky to learn Python... since it really gave me a boost, it saves me a lot of time to prepare and clean the data before using it in Power BI"*. This shows that Python skills significantly improve the efficiency of data cleaning and preparation, and subsequently facilitate the advanced use of Power BI. In the same vein, interviewee 13 emphasizes that his skills in data analysis and visualization give him confidence in the use of advanced solutions such as Tableau or Power BI, and allow him to go beyond the basic uses of Excel.

Similarly, the interviewee 6 observes that it is the daily use of BI tools that has developed her IT skills, improved her ability to track key performance indicators and allowed her to react quickly. Interviewee 19 highlights the decisive contribution of his Visual Basic and statistical skills, which strengthen his mastery of ERP modules, his ability to consolidate and visualize data, and his motivation to fully exploit digital technologies. For his part, the interviewee 8 declares that *"currently, we have a new position at the management control level who deals with nothing but data ... First of all, he must master everything that is processed via digital, this does not require that he will master everything, but at least have a general idea, test on current management control practices, the different tasks, the different reports"*.

However, some interviewees express opposite opinions. Interviewee 4, for example, considers that digitalization has not radically transformed the fundamental skills of the management controller; indeed, the ability to collect, structure and process information remains above all an intrinsic competence of the management controller, regardless of the tools used. He states that *"Everything that is collection and management of information, it falls within the skills of the management controller. But I don't see a big difference. Because, as I have already said, preparing information and knowing how to process it is not a quality linked purely to technologies, it is necessarily linked to the management controller, he is recruited for this"*.

4.1.2. Sufficient financial resources

Following a complementary perspective, many interviewees go beyond the individual aspect and emphasize that the availability of financial resources is a key factor in the adoption and appropriation of digital technologies. Interviewee 1, for example, reveals that even the best designed technical projects remain dependent on adequate financing, stating that *"This financial support had a real plus to use these tools"*. Thus, interviewee 4 converges on the idea and emphasizes that without sufficient financial resources, it is difficult to provide an ERP.

Moreover, on the one hand, interviewee 10 describes the technological investment as *"heavy"* and *"expensive"* compared to the financial capabilities of the company. It clearly highlights the existence of a financial barrier to digitization, particularly pronounced in organizations with limited resources. He affirms that *"it is a heavy investment, which is expensive compared to the financial capabilities of the company, but very beneficial in the long term, I think, no doubt"*. Thus, this verbatim illustrates a logic of arbitration between immediate cost and future value creation, reinforcing the idea that digitalization constitutes a structuring investment for the sustainability of the company.

In accordance with this point of view, small organizations, as pointed out by interviewee 7, will often encounter difficulties in this regard due to a lack of financial resources for the acquisition, maintenance or training of staff in the use of these tools. He states that *"To invest in technology it takes a lot of time and effort, and above all financial resources. He there is a material to buy, to install, to repair in case of breakdowns, a staff to train etc. all this is not possible in small-sized structures, with us already the fact of having an ERP is a success...la more share of small companies in the sector do not even have it, why? Quite simply, it is a question of resources"*.

On the other hand, the interviewee 19 emphasizes that the budget allocated to digital technology should not be considered as a cost, but as a value-creating investment, stating *"we must change our mentality towards things, instead of seeing it as an additional cost to bear, we can think about the advantages that it offers, it will change the game"*. In response to the ambiguities that exist around the added value of these tools, he supports the use of external experts to accelerate learning and reduce risks.

4.1.3. Management support

In addition to the financial aspect, the interviewees mention another determining factor of technological use, namely that of the active involvement of the management. Interviewee 4 points out that it is impossible to procure an ERP system with the absence of a desire to do so, even if there are sufficient financial resources. According to him, *"There is an interrelation between the resources and the initiative of the manager, well, it is almost impossible to provide an ERP without having the necessary financial resources even if there is the willingness of the manager to invest the funds, and aim for that"*. This idea is confirmed by interviewee 1, who emphasizes that the activation of the BI module in their ERP would never have been possible without the positive support of the management and the necessary funds.

Following this reasoning, interviewee 4 adds that his ERP was acquired thanks to a digital initiative financed and closely followed by the management, according to him *"our director authorized the funds and monitored the implementation process which was not easy as it was perceived"*. He develops this idea and shows that the management did not limit itself to financing the ERP project, but also followed its implementation and helped employees to familiarize themselves with the software through a series of training sessions, which facilitated its use. Interviewee 15 reinforced this perspective by stating that *"The investment in technologies shows that the company wants to move forward, because digital is the future ... management must be reactive in this sense and meet the needs of the company in terms of information management which has become large today, from different sources and which require specific treatment to be useful"*. This observation highlights that technological investment must align with the global strategy and meet the requirements of an environment where data is large and varied. In addition, the interviewee 7 explains that within small organizations, digitalization is strongly influenced by the personal vision of the leader, especially in predominantly family contexts, because their organizational culture often merges with that of the leader.

On the other hand, interviewee 18 emphasizes the importance of managerial support to meet operational challenges and maintain competitiveness, stating that *"We can say that the strategy of investing in digital with us is motivated by two main reasons, on the one hand, to raise the challenges encountered during the execution of our missions which are sometimes complex, and on the other hand, to accompany the technological trend of the environment, supposedly competing companies ... our leader is doing what he can to succeed in this strategy.... By the way, the last*

need is the most important. But the first is a necessity that was born with this need". According to him, the management acts as the driving force of the digital strategy according to its priorities and its capabilities.

Referring to the words of interviewee 10 who highlights the traditional conflict between short-term financial constraints and the long-term strategic advantages associated with investing in digital tools, this reinforces the idea that the management's vision is a key factor in technological investment. This vision reflects a strategic approach to digitalization, perceived not as a simple operational expense, but as a sustainable performance lever, likely to improve the efficiency of processes, the quality of information and the capacity for analysis and decision-making.

4.2. Analysis of the content of the variable "Crisis period"

Many respondents agree on the significant and transformative impact of the COVID-19 pandemic on the adoption and use of digital tools within companies. According to them, this period of crisis has accelerated the digital transition. Interviewee 1 indicated that, although his team already mastered remote work tools, the crisis has significantly accelerated the pace of their use and, above all, forced reluctant or novice individuals to resort to digital technologies in order to ensure communication and adapt to the context, He affirms that *"With COVID, the pace of remote work has increased a lot ... we were forced to do correspondence either by email, or via the remote contact platforms provided by the company at the time, in particular videoconferences"*.

According to a complementary logic, interviewee 5 emphasizes the importance of digital tools to remedy the considerable uncertainty observed at the beginning of the pandemic and the lack of information. He affirms that *"During Corona, we were faced with a huge uncertainty especially in the first months of confinement, there was really a total absence of exact information about what is happening, especially in terms of internal management of our company. At that moment, the digital tools in this framework allowed us to communicate with each other and quickly create simulations and financial forecasts to remedy the situation and find stability"*. This observation indicates that, during the crisis, digital tools facilitate communication, the creation of simulations and financial forecasts in order to restore a certain stability.

The interviewee 14 agrees in this sense and affirms that *"When COVID-19 hit, everything is disrupted. But our integrated software allowed us to monitor the activity remotely ... Thus, the connection between the services would have been impossible without Sage ... everyone had to get involved to adapt ... Really it allowed us to synchronize our information and get closer to our customers"*. His speech confirms that the crisis has forced all the company's staff to adapt and guarantees its internal and external communication.

Finally, interviewee 8 also points out that the pandemic has highlighted anomalies in processes, which lead to disruptions in business management, according to him *"The pandemic has revealed anomalies in our processes. At the beginning, like the rest of the sector, we experienced a rupture in terms of activity and work management, which was largely done remotely"*. He adds *"Thanks to ERP and custom Excel, we were able to create our version of automatic dashboard which facilitates the analysis"*. This observation confirms that the use of technological tools allows them to focus on analysis.

4.3. Analysis of the content of the variable "Habit"

The words of the various interviewees reveal that the need to use technology is a determining factor in its use to accomplish their tasks. Some continue to use older tools simply because they effectively meet their professional requirements, like the interviewee 12 who maintains his planning tool for the sake of continuity, he states that *"I use this planning tool because I have always used it"*. Similarly, interviewee 2 indicates that he prefers his Excel script, which is integrated into his work process, stating that *"for cost calculation, the new software may be more efficient, but my old Excel script is so integrated into my work chain that I can't do without it"*. This need is also correlated with operational comfort, as the interviewee 2 points out. He claims that employees spontaneously return to their sheets or to Excel because they are more familiar with this tool.

The repetition dimension is omnipresent and reflects the role of routine actions in the use of digital tools. Interviewee 16 explains that the use is gradually becoming automatic, he emphasizes that *"It is only memory and repetition of tasks and everything comes naturally afterwards"*, while interviewee 19 specifies that in his daily work, he systematically repeats the same procedures

without conscious thought. In addition, interviewee 15 adds that *"Every morning, the first thing I do is check the system, I check my reporting, I don't even need to memorize it"*. This observation indicates that consulting his reports has become an automatic and habitual behavior. Interviewee 16, for his part, shows that repetition creates a habit that makes any change difficult, affirming that change *"It is not always simple as we perceive it, it is a job not to fall back into the old way"*.

This repetition systematically leads to a digital dependence, where the tool becomes essential for the proper execution of the work. Interviewee 3 states that the failure of the ERP system leads to the complete cessation of the department's activities. In addition, the interviewee 9 considers himself *"lost"* without his indicators on the dashboard, stating that *"I feel lost if I don't have my indicators in front of my eyes on the dashboard. This is my obligatory passage of the day"*. Similarly, interviewee 13 expresses a feeling of stress in the absence of his daily notification. Moreover, even when conventional tools are less effective, their familiarity with them reinforces this dependence, as indicated by the interviewee 17, who prefers an older and slower system but knows all its shortcuts. This observation is corroborated by the interviewee 6, that he perceives a new BI tool as efficient but disturbing his work rhythm.

4. Discussion and conclusion

Based on the content analysis of the determinants of the use of digital tools in management control, concerning expected performance, we observe the manifestation of the five dimensions identified in the literature, namely the usefulness of the tool, which reflects its ability to effectively meet the real needs of the user and help them achieve their objectives; speed, which describes how fast the tool performs tasks and displays results; processing capacity, which refers to the tool's ability to handle large volumes of data or perform complex operations simultaneously without slowing down or crashing; system compatibility, which is reflected in the level of harmony with other systems; and finally, security, which concerns all the measures put in place by the tool to protect data and its confidentiality, guarantee its accuracy, and prevent unauthorized access or cyberattacks. These manifestations of expected performance are relationship-oriented, as we asked the interviewee to describe the determinants of their technological use.

In addition, we have identified three dimensions of the expected effort variable: ease of use, which refers to the degree to which a digital tool can be used effortlessly; simplicity of the system, which refers to the clarity and lack of complexity of the tool's structure and features, making it easy to understand, configure, and use, even for non-expert users; We also consider flexibility, which refers to the user's ability to interact with the tool in a natural way, without cumbersome procedures or technical constraints.

In another side, following the content analysis on information quality, all of the interviewees (mentioned above) converge on the same conclusion that information quality is not just one determining factor among others, but rather a non-negotiable prerequisite that gives meaning, usefulness, and credibility to any use of digital technology in the company. We observe a manifestation of four dimensions identified in the literature, namely accuracy, which indicates the degree to which information is free of errors and accurately reflects observed reality; relevance, which means the adequacy of information to the needs of the user; timeliness, which is a measure of the extent to which information is available at the right time and reflects the most recent state of data, and consistency, which can be defined as the harmony and compatibility of information between different sources, formats, or periods, without internal contradictions.

As well, concerning "*Facilitating Conditions*", three dimensions stand out to characterize this variable, namely, digital skills which represents the ability of users to manipulate technological tools, understand their functionalities and mobilize the necessary knowledge to effectively perform its tasks on digital tools; financial resources which brings together all the available budgetary means that make it possible to acquire, deploy and maintain these digital tools ; and the support of the management which translates into the involvement and encouragement on the part of the general management in the adoption of digital tools, in particular through strategic support, investment decisions and the establishment of favorable conditions for its use.

Furthermore, the variable COVID-19 pandemic has acted as a major accelerator of the digital transition within companies, frustrating all staff to adapt and intensify the use of digital tools to maintain internal and external communication. Faced with the disruption of traditional processes,

the isolation of remote work and deep managerial uncertainty, the adoption of integrated technologies such as ERP (such as Sage) and Excel modeling solutions has been crucial. These digital tools have not only made it possible to secure the sharing and synchronization of information between departments, but they have also offered the necessary reactivity to design simulations, financial forecasts and automated dashboards, thus refocusing the teams' activity on strategic analysis in order to restore organizational stability.

Finally, following the analysis of the content of the variable “Habit”, the interviewees address three dimensions, namely the necessity of use, which refers to the extent to which a user perceives an obligation or a constraint to use a tool, a service or a procedure to accomplish his task or achieve his goals. Repetition is another dimension. It is defined by the frequency and regularity with which the tool or procedure is used. Finally, the dependence on digital tools in management control practices which represents the attachment or inability to do without the usual tool or procedure, even if there is an objectively better alternative.

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