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Understanding the role of supply chain digitalization in the quality of buyer-supplier relationship: case studies of Moroccan companies

Comprendre le rôle de la digitalisation de la supply chain dans la qualité de la relation acheteur-fournisseur :études de cas d'entreprises marocaines

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Abstract:

Recently and more precisely the last couple of years, we have witnessed a shift towards digital technology in almost all areas and fields of application, and that is due to COVID-19 which has dramatically accelerated digital alterations worldwide. So, the main challenge for companies remains being able to adapt to this constantly changing environment, especially while the customer has today more options and is challenging and more demanding in terms of speed, cost optimization and quality. In this context, the objective of this article is to analyze the practices of digitalization within the supply chain and their repercussions on the quality of buyer-supplier relationship. We set out, in this study, to understand the link between supply chain digitalization and buyer-supplier relationship quality while applying the approach of case study and using qualitative techniques. With this work and through in-depth case design analysis from both buyer and supplier perspectives, we have been able to confirm and understand the role played by digitalization in the quality of buyer-supplier relationship within supply chain in the Moroccan context.

Keywords: Supply chain digitalization; Buyer-supplier relationship; Relationship quality; Moroccan context; Case study.

Résumé:

Nous assistons ces dernières années à une évolution vers la technologie numérique dans presque tous les domaines et champs d'application. En effet, cela est dû à la crise sanitaire du COVID-19 qui a considérablement accéléré les altérations numériques dans le monde entier. Dans ce sens, le principal défi des entreprises est de pouvoir s'adapter à cet environnement en perpétuelle évolution où le client est de plus en plus exigeant en termes de rapidité, d'optimisation des coûts mais aussi en termes de qualité. Dans ce contexte, le présent article vise à analyser les pratiques de digitalisation mises en place au niveau de la chaine logistique et leurs répercussions sur la qualité de la relation client-fournisseur. En effet, nous avons essayé, dans cette étude exploratoire, de comprendre le lien existant entre la digitalisation de la chaine logistique et la qualité de la relation client-fournisseur tout en appliquant l'approche méthodologique « étude de cas » et en utilisant des techniques d'analyse de données qualitatives. Après avoir effectué une analyse approfondie des études de cas menées, nous avons pu comprendre et confirmer le rôle important joué par la digitalisation dans la qualité de la relation client-fournisseur au sein de la chaîne logistique dans le contexte marocain.

Mots clés : Digitalisation de la chaine logistique ; Relation client-fournisseur ; Qualité de la relation ; Contexte marocain ; Étude de cas.

INTRODUCTION

Since the mid-2010s, the terms "digital", "digitalization" or "digital transformation" have invaded the economic vocabulary while replacing the term "digital" used previously (Ughetto, 2018). Indeed, the term digitalization unlike various technological innovations aimed at transforming traditional management and transaction systems using new digital technologies, known as blockchain , e-commerce, ERP, etc.

In recent years, a new international trend in digitalization and the emergence of technological innovations has affected all sectors, including logistics. In this sense, the traditional supply chain has been transformed into a "digital supply chain" (Büyüközkan and Göçer , 2018).

Relationship in management was created for the context of customer interaction, referring to commercial activities of products selling and buying, while studying trust, loyalty and commitment (Berry, 2002). Over time it concerns more and more the context of business-to-business relationships, dealing with the exchanges benefits along with sharing the risks and costs between partners for a long duration (Rindfleisch and Heide, 1997).

Comparing studies examining business relationships, we find that a few have addressed business-to-business (B2B) relationships, at least they are small in number in comparison to studies conducted on business-to-customer (B2C) context. This is because of the traditional way of thinking, namely more importance has been given to downstream activities (selling, marketing, and distribution) than upstream operations (procurement and supply chain management) (Jeong and Oh, 2017).

The concept of digitalization is considered by many economic authors as an appropriate response to the challenges that companies are facing. In the context of supply chains, all stakeholders will consequently benefit from improved visibility of the global supply chain and this will lead to the optimization of processes, inventory management, improved profits and higher market share, all of which constitute a significant competitive advantage. Indeed, companies are now in a new digital era with new requirements for responsiveness and quality.

Indeed, this work attempts to answer the following question: To what extent does digitalization influence buyer-supplier relationship quality within supply chain in the context of Moroccan companies?. To that end, this article starts with a literature background, where we outline the main concepts, then we announce our methodology and finally we explain the steps of our study and discuss its results and its implications.

1. LITERATURE BACKGROUND

2.1. Digitalization

In general, the term digital refers to the use of technologies (Brillet et al., 2019). Nevertheless, we cannot yet find a very precise unanimous definition capable of defining this expression. Indeed, as noted by Dudézert (2018) "the ins and outs of this digital transformation are still rather poorly defined" (Dudézert, 2018, p. 13), the author explains at this level that digitalization refers to a process transformation of the company, which led to review its approach towards cooperation with customers, its internal workflows but also sometimes its business model.

According to Bahuon et al. (2018), digitization makes it possible to mobilize several large databases, Internet network and other multi-channel access such as mobiles. In addition, digitalization discerns new models of management, business, services and organizations. Digitization thus evokes major macroeconomic changes linked to automation, the upheaval of borders and modes of regulation of sectors of activity such as distribution, hotels or transport, giving rise to a "platform capitalism" (Abdelnour and Bernard, 2018).

Lemoine (2014) has tried to present the historical process of digitization, it is indeed a long process that began in the 1930s with the invention of the computer. The author distinguishes four major historical stages of digitization, namely, the first phase (1936-1959) related to the appearance of the computer market after the creation of the computer, the second phase (1960-1983) related to the predominance of computers in professional fields, the third phase (1984-2007) which concerns the computerization of society, the advent of personal computers and the use of Internet and finally the last phase (2008- Today) related to the dissemination of New Information and Communications Technologies (NICT) and the emergence of the digital sphere. We therefore understand that since 2008 we have entered the digital sphere. Thus, digital has now become a widespread technology in all sectors of the economy.

2.2. The digital business

For nearly two decades, sociological research has highlighted the effects of ICT in rationalization, control or automation (Grenier, 2004; Segrestin, 2004; Rosanvallon, 2011). Digitalization and digital transformation expands and updates these debates and promises the emergence of new forms of organization based on autonomy. Thus, the bureaucratic operating model is challenged in favor of more "horizontal", more flexible organizations, based on decompartmentalization and collaborative functioning (Ughetto, 2018).

At the company level, the concept of digital transformation is used to refer not only to these major changes, but more simply to the introduction of digital tools into work activities.

Faced with the current digital revolution, digitalization has become a necessary condition for companies to achieve market share. For some authors, digitalization is the change that digital technology brings to all aspects of human life (Stolterman and Fors, 2004). Indeed, digitalization has become the vector of business performance. It should be noted that 75% of the world's population owns a smartphone , in fact, this ratio constitutes a catalyst and a golden opportunity to drive companies towards digital. On the other hand, digital transformation remains a complex process given the different angles involved (Goumghar and Fikri , 2022).

The digitization of companies is a multifaceted phenomenon, it can take the form of the use of digital technologies, dematerialization, automation and virtualization. Thus, digitalization can impact social relations at company level, the content and organization of work and career development (Van Hoolandt and Auquier, 2017).

The emergence of new information and communication technologies has revolutionized the business environment in all sectors, this revolution has created a new discourse towards customers. Indeed, for more efficiency, companies must be aware of the opportunity to change to digital and must therefore engage in digital transformation (Dudézert , 2018).

2.3. Supply chains in the current age of digitalization

Supply chains are defined as "the network of organizations that are involved, through upstream and downstream linkages, in the different processes and activities that produce value in the form of products and services in the hands of the ultimate consumer" (Mangan and Lalwanii, 2016, p.10). Those chains have also been affected by the outcrop of technological innovations, which have turned into "digital supply chain" (Büyüközkan and Göçer , 2018). Indeed, digitalization makes it possible to use smart technologies to be able to ensure better cooperation and connectivity between all the actors in the supply chain but also to allow better traceability (Kayikci , 2018).

As Büyüközkan and Göçer (2018) note, the digitalization of supply chains makes it possible to adapt to different changes and to respond quickly and more efficiently and flexibly to different consumer demands. However, digitalization of the supply chain is not easy due to the lack of frameworks or guidelines for the adoption and integration of digitalization in the supply chain but also due to the lack of information sharing between the different actors in the chain. These barriers can prevent supply chain managers from deploying digital technologies (Büyüközkan and Göçer, 2018). In addition, the authors show that the technological revolution makes it

possible to improve both the productivity and the performance of the supply chain , as well as respect for aspects of sustainable development.

This new concept is widely discussed in recent times by the scientific community, needs to be clarified in order to identify its impact on the various players in supply management. chain . It is also necessary to show that it is a real competitive advantage allowing the improvement of performance in order to encourage companies to set up a supply chain . digital channel (DSC). However, supply chains must implement innovative technological solutions to access new opportunities in the market, which is also increasingly driven by technological tools. It is a continuous process aimed at keeping the supply chain up to date and transmitting information in real time, which cannot be achieved without the implementation of technological innovations at the level of all links in the supply chain. and at the level of all the management process (Büyüközkan and Göçer , 2018).

Following this digital transformation, to remain competitive and keep up with the current economic environment, supply chains must imperatively adapt to new information and communication technologies and to the automation of operations. However, this complicates the management of the supply chain in terms of increasing customer requirements, increasing the product reference but also in terms of customization of offers (Bennouri and Zerouali Ouariti , 2020).

It should be noted that the digitalization of the supply chain presents several challenges, in particular the decompartmentalization of borders between the different parts of a company to facilitate the implementation of a common program and offer new experiences to customers. Consequently, all the actors of the company (supply, production, marketing, logistics, finance) will have a better visibility and a better traceability on the supply chain in real time, which will undoubtedly make it possible to optimize the management processes, manage inventory, reduce costs, and ultimately improve profit margins and increase market share.

2.4. Buyer-supplier relationship quality

The Evaluation of any relationship is not an easy task and assessing its quality is even more harder. Notwithstanding the recognized weight giving to this issue in literature throughout the papers covering topics such as relationship marketing, B2B marketing and customer relationship management, however unsatisfactory attention has been paid to the concept of relationship quality. This fact could amount to the standing of the current confusion and the lack of consensus among scholars concerning this construct.

This variety in designations is a result of the amounting research that has been done about this topic in different disciplines (e.g. logistics, marketing, management control), in different contexts (e.g. medical/health sector[1], industries[2], and sports business[3]), and by the adoption of different views and theories (e.g. transaction cost theory, social exchange theory, and resource-based view). This confusion opens up for different debates, assumptions, and conceptualizations about what is an inter-firm relationship, whether an alliance, cooperation, or partnership, as well as the reasons behind their formation, and how they are established and managed in the business world.

However, questions remain unanswered about this subject, such as: what makes a business relationship successful or not? What are the features that give value to the relationship? What makes partners need to preserve the relationship or not?

2.4.1. Supply chain relationships

Today, establishing strategic relationships that promote the creation of powerful and efficient cooperation with other actors have major importance in the business world and it is more crucial and needed in the context of supply chains. Moreover, in a level of competition among supply chains rather than firms, supply chain relationship quality plays an important role in the performance and competitiveness of supply chain (Mukhtar and Anwar, 2016, p. 260). Besides, customer service of high quality contributes to the establishment of cooperative supply chain relationships (Ellram et al., 1999) and a higher level of dependence among supply chain partners leads to higher level cooperation (Turner et al., 2000). According to Hernández-Espallardo et al. (2010, p. 102), the consequences behind managing supply chain relationships in literature are being investigated using two dominant theoretical approaches which are transaction cost economics (e.g. Williamson, 2008) and resource-based view (e.g. Wang and Wei, 2007).

It is thus, with the intention to satisfy demand that Christopher et al. (2017, p. 15) described supply chain as 'demand chain'. however, the authors stated that "whatever the terminology, the important principle is that it should be managed as horizontal business process that connects customers with the organization and extends upstream into the supplier base". They added that

[1] 'The impact of buyer-supplier relationship quality and information management on industrial vending machine benefits in the healthcare industry' (Kros et al., 2019).
[2] 'Strategic Equity Partnerships in Professional Football: Evidence on Stakeholder Attitudes for the Case of the German Bundesliga' (Duffner, 2020).
[3] 'Ex-ante governance decisions in inter-organizational relationships: A case study in the airline industry' (Neumann, 2010).

it should be managed as "extended enterprise; from the customer's customer back through the internal operations of the firm to the supplier's supplier" (Christopher et al., 2017, p. 15).

2.4.2. The necessity of supply chain relationship management

To build a lasting competitive advantage, organizations seek the necessary flexibility and agility through reticular structures of supply chains (Christopher and Towill, 2002). Supply chain, as an illustration of the network firm is considered by Mariotti (2005) a set of independent companies that are organized and prepared to produce the same product or service jointly. This fact brings us to the issue of the establishment and the management of business relationships. The latter was defined by Mariotti (2005) as a process characterized by coordination among actors in a production chain and supported by the development of techniques and the setting of specific rules.

According to Christopher (2017), the aim of a supply chain is relationship management, as the author believed that the name of supply chain management could be replaced by 'demand network management' where demand appoints to a chain-driven by market and network designate various links that exist within a supply chain from the supplier's supplier to the customer. Moreover, the ultimate goal of this process is profitability and achieving shared gains for all the chain's partners.

Indeed, a supply chain is a network of companies that influence one another and consists of various levels, relations, and partners, the fact that deepens its complexity, and consequently influences the performance of each actor (Chan, 2003). In addition to that, strategic sourcing is a central factor within supply chain management, because removing barriers and obstacles that exist between a company and its suppliers is crucial to hold the excellence of customer service, enhance financial performance and optimize operational costs (Biazzin, 2019).

Nevertheless, Ritter and Geersbro (2015) emphasized that optimal buyer-supplier relationships play a great part in the competitiveness of a business, only if mangers provide continuous managerial efforts in order to analyze, grasp and establish these relationships.

Several researchers and managers follow Christopher's assertion that supply chain management is a collaborative paradigm where "individual success is subordinated to the collective success of the chain" (Fabbe-Costes and Lancini, 2009).

We can then understand that the management of supply chain relationships is primordial and takes a crucial position at the organization's tactical level. More accurately, the upstream activities that are mostly buyer-supplier transactions, or in other words, procurement or sourcing activities are a part of supply chain management expertise. Consequently, supply chain

management is related to managing the sourcing relationship across the boundaries of a firm, mostly between a company and its suppliers.

2.4.3. Why Relationship Quality?

"Relationship quality can be defined as the extent of both parties' willingness to pursue common interests, mutual understanding, reciprocity, loyalty to each other, and long term cooperation" Liu et al. (2010) p.4.

The concept relationship quality is within relational marketing, and the fact that it is being explained by both transactional perspective (discrete exchange, impersonal, independence) and by relational or social perspective (close, personal, interdependent relation), make the concept more multidimensional, inconsistent and conflicting. Hence the absence of one measure for relationship quality. Moreover, authors like Hult et al., (2007) and Srinivasan et al., (2011) used an extended version of resource based view theory in the context of business relationships by entailing that relationship quality may appear as a strategic relational resource for the firm.

In that sense, one of the focal variables in this study is the quality of buyer-supplier relationship as perceived by both parties, the buyer and the supplier. It is viewed as a higher-order construct established by at least three attributes; commitment and trust as well as satisfaction with the partner.

The unclearness and the shortfall of the existing literature about business to business relationship among with the process of their development make it difficult to present a model assembling the antecedents and the consequences of any inter-firm exchange. Social exchanges and transactional relationships are typically a complex topic, as well as a subject to a set of various influences. The type of the anticipated outcomes, which could be negative or positive is the reflection of favorable or unfavorable perception of the on-going relationship. Hence, the choice of relationship quality as a high order concept that predict the nature of the exchange and can be used in a business-to-business context.

Regardless of the importance of maintaining a good relationship with partners, the construct of relationship quality has remained a challenging topic, due to the little attention paid to it and to the absence of a common definition and attributes between scholars. Aside from the lack of empirical studies, especially with regards to the measurement and the operationalization of the construct, there is a more fundamental issue which is about the variety of appellations surrounding the concept of relationship quality, some researchers adopt partnership quality (Srinivasan et al., 2011), others use the concept of partnership success (Brulhart and Favoreu, 2006).

Relationship quality is the highest concept that can explain a business relationship. This concept is considered by Srinivasan et al. (2011) a higher order construct as well as an important determinant of supply chain performance. According to Liu et al., (2010), relationship quality determines the probability that transactions among relationship partners will likely continue. It might also prevent the use of complicated and lengthy contracts that costs the partners and present difficulties in monitoring them (fynes at al. 2005; Zaheer et al, 1998). In other words, if the inter-firm relationship is based on mutual trust, "it may allow the bypassing of traditional expensive governance mechanisms" (Srinivasan et al. 2011, p. 263).

In the context of buyer-supplier exchange, a close relationship may provide benefits to the general performance of engaged parties, especially if this relationship is based on trust, cooperation and the mutual sharing of risks and benefits (Srinivasan et al. 2011). Besides that, fruitful cooperation and collaborative contracts depend on the quality level of buyer-supplier relationships (Claassen et al., 2008).

In accordance with literature, mutual trust, commitment and satisfaction are the constant and more important dimensions of relationship quality regardless of the absence of a consensus among scholars about a definition and dimensions for this concept.

2.4.4. Relationship quality dimensions

Relationship quality is a multidimensional construct, there is no consensus about its dimensions as well as their measurement. However, we join the scholars (e.g. Donada et al., 2019; Athanasopoulou, 2009) who believe that relationship quality is a higher order concept representing trust, commitment and satisfaction.

- **Trust and commitment**

Other field besides marketing such as social psychology raised the importance of the topic trust in interpersonal dyads (Schlenker et al., 1973; Dunning et al., 2019). What is even more intriguing being that scholars have used theories belonging to sociology and social psychology in order to understand and study trust in marketing and business relationships, such as structural balance theory (Qi et al., 2016).

Trust can lessen the need for auditing and accounting controls mechanisms (Broadbent et al., 1996; Power, 1996), it might facilitate the company's functioning (Subramanian and Mia, 2003) and support cooperation in arms-length relationships (Seal et al., 2004). There exists more than one differentiation in the literature about the concept of trust, separation about organizational trust and personal trust, distinction between vertical trust and lateral trust.

According to trust-commitment theory, the concepts trust and commitment should be considered as key factors in an exchange relationship because they motivate the exchange partners to cooperate in order to protect a specific investment. They can be the way to resist short-time distractions and wait for long-term gratifications and so the result is maintaining the relationship with the exchange partner. They represent also the tools to avoid opportunism by being wise about latent high risk behavior. (Morgan and Hunt, 1994).

Koubaa (2008) believe that commitment take place due to the investments deployed in time and resources, the fact that result in the relationship upholding. The author also defined the concept by: a) The emotional and affective attachment of the company towards its network of belonging formed by different forms of cooperative relationships. b) The obligation and responsibility of the company not to act opportunistically while seeking individual interests at the expense of collective interests. c) The feeling that the relational network constitutes an indispensable strategic asset.

Commitment is "a desire to develop a stable relationship, a willingness to make short-term sacrifices to maintain the relationship, and a confidence in the stability of the relationship" (Anderson and Weitz, 1992).

The intensity of commitment shows the dedication toward the exchange relationship and represents a sign that it will continue in the future.

- **Satisfaction**

In fact, relationship management has used more frequently trust-commitment paradigm (Morgan and Hunt, 1994), while ignoring the potential contribution of satisfaction in predicting partner's commitment. Our work will highlight this point by proposing satisfaction as one of buyer-supplier relationship dimensions. Nevertheless, Dwyer et al. (1987) believe that after the commitment phase in buyer-supplier relationship, partners exclude any other possible partners because they have reached a high level of satisfaction and thus become loyal to each other.

To attain a successful long-term relationship, supplier's satisfaction towards prices and payment procedures is primordial (Hamri et al., 2019). In addition to that, buyer-supplier relationship quality shows the buyer's satisfaction with previous performance of their supplier and the degree of confidence that they have in each other in terms of honesty and faith (Walter et al., 2003).

To sum up, buyer-supplier relationship quality reflects the trust that exists between buyer and supplier, the partners' satisfaction and commitment towards the inter-firm relationship, which are required for its continuity.

2. RESEARCH QUESTIONS AND METHODOLOGY

Our major research question in this work focuses on the link between digitalization and business relationship quality. We are interested in the benefits of digitalization rather than the cost, and therefore identify its effects on buyer-supplier relationships. In addition to that, we attempt in this paper to develop our understanding of what are the attributes of a B2B relationship of a high quality for Moroccan companies. Thereby, we will attempt in this paper to bring answers to the following questions:

RQ1: what is the place occupied by supply chain digitalization in Morocco?

RQ2: how Moroccan companies view the B2B relationship quality?

RQ3: what are the effects of digitalization on buyer-supplier relationship quality?

❖ Case selection and data collection and analysis

Given the qualitative and exploratory nature of this research as well as the tremendous aspect of buyer-supplier relationships, in-depth case studies were assumed to be the most suitable methodology to address our research questions (McCustcheon and Stuart, 2000; Yin, 2009). McCustcheon and Stuart (2000) consider in-depth interviews as the most useful and appropriate tools for investigating B2B relationships. The case study brings answer to the questions of 'how' and 'why' (Schell, 1992; Pratt, 2009), which we ask more in complex phenomena that are influenced by multiple factors and have many interpretations of their observed outcomes (Stuart et al., 2002). Data triangulation was also used to increase the validity and reliability of the results through opting for various sources of data, because in doing so, any weaknesses or shortage will be filled in by the strength of other data or informants (Hales, 2010).

Indeed, this paper adopts a qualitative methodology based on the handling of a small number of case studies with the conduct of one or two in-depth interviews in each company (Yin, 2009). Besides, we have used a guide to organize the interviews which include themes and open questions in order to ensure fluency and flexibility and therefore give the respondents freedom to answer (see table 1).

Table 1: Interview protocol

Sections	Questions
Digitalization	1. What are the forms of digitalization that take place in your company? 2. Which are the challenges that you encounter during the implementation of these forms of digitalization? 3. How can digitalization involve buyers and suppliers? 4. Does digitalization provide new ways to engage buyers and suppliers? 5. Does digitalization help improve transactions between buyers and suppliers? 6. Do you think that digitalization has an impact on your transactions with your suppliers? 7. Do you think that digitalization has an impact on the buyer-supplier relationship within the supply chain? does it improve the relationship or not? 9. What kind of information do you share through platforms with your suppliers? 10. Could you list the changes that have taken place in the management of your company after digitalization?
B2B relationship quality and Buyer-supplier relationship quality	1. What is the degree of importance of buyer-supplier relationships in your business? 2. How do you describe your relationship with your main supplier? Do you trust them? 3. Do you see your relationship with your supplier as a transactional or cooperative relationship? 4. Could you replace your major supplier or is it difficult? 5. What are you doing to retain your supplier? 6. On what basis do you choose your suppliers? 7. Are you dependent on your suppliers? Is it a long-term relationship? 8. How often do you communicate with your supplier? Is it only when necessary? 9. Do you share relevant information? How often and in which cases?
Banks implication in buyer-supplier relationships	1. What is the role of banks in supply chains? 2. Does your bank invest in new technologies? Are they designated for buyer-supplier dyads? 3. What is the role that you play in buyer-supplier relationships? 4. What are the forms of digitalization that you offer within buyer-supplier relationships? 5. Do you believe that those tools enhance the quality of buyer-supplier relationship?

Source: authors

Based on the steps proposed by Stuart et al., (2002), the conduct of our empirical work pass by five stages which are described in the next table:

Table 2: study's course

STAGE 1	Research question	**RQ1: what is the place occupied by supply chain digitalization in Morocco?** **RQ2: How Moroccan companies view the B2B relationship quality, and specifically their buyer-supplier relationship?** **RQ3: what are the effects of digitalization on buyer-supplier relationship quality?**
STAGE 2	Instrument development	**Case studies of Moroccan companies in different sectors**
STAGE 3	Data gathering	**Semi-structured interviews**
STAGE 4	Data analysis	**Transcription of interviews and content analysis**
STAGE 5	Dissemination	**Variables validity and existing in reality**

Source: authors

For the interviewees, we targeted managers and senior level of the investigated companies because they are the ones who will get us more information about business relationships and strategic decisions about digitalization. In the following table, we describe the interviews in terms of the sector of activity for each explored organization, their turnover, their number of employees and the position of the organization in the supply chain as well as the position of the interviewee within the organization.

We conducted a total of 14 interviews (see table 3). This sample was fixed on the grounds of the amount of information gathered from the interviews (Flyvbjerg, 2001). Our respondents were contacted either by phone or e-mail in order to fix a meeting if they are willing to participate in this study.

Similar empirical studies that have used the matching methodology based on multiple case studies have opted for a reduced number of cases (e.g. Silvestro and Lustrato, 2014: 2 cases, Laudien and Daxbock, 2016: 11 cases; Gajdić et al., 2021: 6 cases).

The collected data (audio recording and notes) from in-depth interviews are not comprehensible and accessible immediately, so it is primordial to register, transcribe and categorized them. Next, we have opted for content analysis while using the summary/synthesis method[4]. It is an adequate form of analysis for reduced amount of data, which is the case of our study. Ultimately, all our transcription was grouped in one table allowing a vertical and horizontal

[4] This thematic content analysis consists of detecting meaning and important expressions and concepts in the words used by the interviewees as well as their frequency of occurrence, which could have significance.

reading[5] in order to reduce the verbatim recorded and get only the main ideas, and finally presenting a summary of our final results.

Table 3: Case studies: companies' characteristics and interviews framework

#	Activity sector	Employees number	Turnover	Supply chain position	Interviewee's position
1	Fish canning industry	4000	500 MMD	Manufacturer	-Logistics manager -Purchasing manager
2	Real estate	500	400 MMD	Manufacturer	-Sales agent -Sales manager
3	Packaging	1000	300 MMD	Supplier	-Management controller -IT manager
4	Fish freezing company	20	4 MMD	Supplier	-Manager -Sales manager
5	Retailing and distribution industry	100	1,3 MMD	Marketer and retailer	-Storekeeper -Manager
6	Agri-food business	400	100 MMD	Manufacturer	-Logistics manager -Production operative
7	Fish canning industry	500	150 MMD	Manufacturer	Export-import manager
8	Agri-food business	200	120 MMD	Manufacturer	-Executive assistant -R&D manager
9	Fishing sector	30	5 MMD	Supplier	Procurement manager
10	Bank	5	-	Service provider	Account manager
11	Bank	5	-	Service provider	Account manager
12	Bank	6	-	Service provider	Manager
13	Freight carrier	2000	200 MMD	Logistics service provider	-Operator
14	Freight carrier	100	50 MMD	Logistics service provider	-Manager -IT agent

***MMD: million Moroccan dirhams**

Source: authors

[5] Vertical reading "the progress of an interview on all the predetermined themes" and horizontal reading "theme illustration by all the interviews", (Jolibert and Jourdan, 2006, p. 59). Horizontally, our objective is to detect similarities and compare elements between the various interviewees answers.

3. FINDINGS

The findings of our qualitative study are segmented according to the themes of our interview guide. Thus, we deduced the following conclusions after analyzing, discussing and synthesizing the verbatims.

4.1. Research results about the complex picture of supply chain digitalization in Morocco

All our respondents agree that to face the current intense competition, innovative information and communication technologies as well as digitalization are needed. Lately, e-commerce for example has become more widespread in the Moroccan market, especially during the containment period, and therefore has allowed the continuity of businesses.

In the case of Moroccan agri-food sector, digital technologies are viewed as promising different instruments in order to improve productivity and competitiveness while guaranteeing the sustainability of resources. This is consistent with the study of Gajdić et al. (2021), which deduced the same conclusion in the context of organic food products in Croatia.

One of our respondent stated that "Today, more and more business are trading across online networks, especially with the advance in technologies and the access to internet… this fact increase the availability of our products to consumers"

If we discuss digitalization in the road transport sector, we are certainly talking about Embedded Computing (EC), which has indeed opened up new perspectives for transport operators in terms of their system efficiency. Thanks to EC, vehicles can communicate and interact with their environment and the driver is assisted in all his activities. Such systems offer several advantages to improve the efficiency and performance of the transportation system, particularly in terms of mobility control, reduction of negative externalities and improvement of road safety and travel security.

The embedded computer system (ECS) allows communication between a vehicle and a computer. The aim is to exchange information instantly with a company or a customer. It also allows to send useful data for the driver (weather, itinerary, traffic information...). This system makes it possible to instantly transmit important information to the customer and to non-drivers: driving and rest times of the driver, fuel consumption, geolocation and route of the vehicle, information on the transported goods... All these data make it possible to save time and to automate many tasks such as the drafting of the payroll or the organization of the drivers' schedule.

The digitalization of freight carrier is also manifested by the TMS or Transport Management System software, which is a transport management tool. The TMS mainly meets the needs of traceability of deliveries and optimization of transport (schemes and assignment of carriers). TMS are primarily intended for carriers or service providers whose core business is to provide transport and logistics on behalf of their customers. For these carriers, TMS cover functionalities such as the management of a fleet of trucks and drivers, the organization of loading schedules, deliveries, their unloading and invoicing.

Furthermore, innovative techniques such as sensor technology or RFID[6] contribute in the optimization of the internal processes of firms, as it allows managers to track their products throughout production or services (i.e. the case of freight carriers) throughout delivery, and therefore heighten efficiency.

Digitalization supports the sharing of pertinent information and therefore boosts efficiency and flexibility as well as faster response within the entire supply chain.

4.2. Research results about supply chain relationships and digitalization in Morocco

❖ Buyer-supplier relationship quality and digitalization

Setting up platforms or online channels between buyer and supplier shows to a certain extent the presence of trust between partners in the supply chain. These channels involve sometimes all the stakeholders of the supply chain.

One of the prerequisite of having a buyer-supplier relationship of high quality is communication among partners, because information sharing leads to a quality collaboration and an elevated level of trust as it reduce uncertainty between buyer and supplier. Digitalization tools simplify and improve the process of information sharing within supply chain, and therefore increase trust, foster commitment and support satisfaction.

Digitalization enhances transparency among supply chain partners through improving communication particularly in the case of negotiating the prices between buyers and suppliers, that might influence significantly the commitment and loyalty of suppliers.

One of our respondent clarified that "when digitalization is implemented all network actors are on eye level", which enables coordination without the use of intermediaries to manage the relationships among partners. In addition to the possibility of minimizing costs and reducing wasted time through real time access to pertinent information and direct access (or in some

[6] Radio-frequency identification

cases direct management) of partner's inventory[7] and production process, because "orders are made through platforms"

❖ **The role of banks in buyer-supplier relationship in the era of digitalization**

Relying on the use of digital tools, banks or financial organizations in general are able to bring assistance for buyers and suppliers by supporting their integration in the supply chain, and this is through coordinating and sharing information. These digital tools could be trade platforms as well as electronic payment systems that are related to partners' information systems.

Digitalization has achieved a significant breakthrough in financial and banking sector. The last few years have witnessed a great expansion of digital solutions offered by Moroccan banks for their customers. One of our interviewee stated that "Now, more and more operations can be executed remotely … some of them concern transactions with our suppliers"

Digital Banking refers to the evolution of a bank's relationship with its customers driven by digital technology. It encompasses four main elements: mobility, immediacy, distance and interactivity.

The Attijariwafa bank group, one of our investigated banks, offers its clients 'Factoring[8]' to help its clients safeguard themselves against non-payment risks linked to their commercial operations. Factoring gives companies the opportunity to refocus on their core business by relieving them of the handling of debt collection. Attijari Factoring, for example, offers a wide range of dedicated products that offers a protection against unpaid debts thanks to the reimbursement of 100% of the amount of the debt in the event of financial failure of the debtor. An immediate financing of the commercial debts and an integral management of the customers' accounts. Attijari Factoring also covers the financing and the management of the collections of its customers abroad, by ensuring the assessment of the creditworthiness of the customer, by offering an advance of 80 to 90 % of the amount invoiced to the firm and by dealing with the collection of its receivables.

❖ **The complementarity of physical supply chain and financial supply chain**

The role of banks is to build the connection between the financial aspect of the supply chain and the physical one. Besides managing the flows of products, materials and information, there is also the management of money. This later is neglected in almost all supply chain research as it focuses on the exchange of goods and information. Be that as it may, physical supply chain

[7] Vendor managed inventory which is a digital technique where supplier take charge and become responsible of the inventory management of their buyer

[8] It is a technique that allows companies to transfer their commercial invoices to its subsidiary Attijari Factoring, while the latter handles their recovery

is operating parallel to financial supply chain, which represents all the interfirm flow of cash, involving expenses, invoices and investments. Organizations trust that banks will assist them improve their performance and the one of the whole supply chain by understanding their operations and processes and ultimately putting into their availability flexible payment and financing services. The latter are customized and differ from buyers to suppliers.

4. COULD DIGITALIZATION ENHANCE BUYER-SUPPLIER RELATIONSHIP QUALITY?

A report published at the end of 2019 by the consulting firm McKinsey states that digitalization in Morocco is influencing several economic sectors. Also, the technological transaction will touch a total of 6 million jobs more precisely and the consequent change will be more drastic by 2030, "leading to the automation of 64% of industry, 58% of mining, 57% of the transport and storage sector and 52% of the information sector". Therefore, These numbers shows the evolution of digitalization in Morocco.

Supply chain management which has become one of the major key success for firms is also going through some changes due to technological revolution. The organization's strategies are redesigned to move beyond the traditional boundaries and therefore suit the connectivity and transparency of the current business practices. For Büyüközkan and Göçer (2018), firms could develop their supply chain management system through Industry 4.0 to achieve agility, flexibility and thus generating more values.

On one hand, we confirmed that quality is a necessary prerequisite for a successful long-term business relationship, companies that rely upon having a buyer-supplier relationships of a high quality, are the ones that could adjust quickly to environment changes, minimize the controlling costs, enhance performance, detect and resolve organizational issues

On the other hand, we found that digitalization of supply chains brings different actors together which will improve the efficiency of their operations, especially when those technological and digital mutations create visibility and transparency. However, implementing the concept Internet-Of-Things (IOT) for example and digital services in general requires radical innovation and costs highly. This apply to the concept of "industry 4.0" which refers to the fourth industrial revolution that is the main driver behind the creation of entirely connected ecosystems within companies' various functions.

Furthermore, digitalization enables stakeholders to bridge the gap between supply and demand, facilitate timely and effective communication with other supply chain actors (suppliers, service providers and customers), in addition to improve order scheduling and monitor performance

indicators. Therefore, digitalization heightens trust, supports commitment and leads to satisfaction, thus having a business relationship of high quality.

CONCLUSION

With the changes occurring in trading and the increasing of mobile smart phone users that is due to the progress of internet, the online retailing platforms as well as the conduct of financial transactions online, the digital aspects of manufacturing, distribution and transactional are extended to touch all of the supply chain stakeholders. Digitalization brings the opportunity to create competitive advantage and enhance competitiveness, however it has to face new economic and environmental challenges.

This phenomena has the potential to become an outlet for the progress of industry and economy as it opens new avenues for automation, industrialization and revolutionizes the social environment for Morocco. Moreover, the employment of digital tools within supply chain lead to create loyalty in relation to a business partner, through supporting trust, commitment and satisfaction, particularly between buyer and supplier.

Given that this is the first tentative of investigating the perception of relationship quality in the Moroccan context in the light of digitalization, this study will contribute to business practices, while encouraging managers to implement and lean more on technologies to improve trust, commitment and satisfaction, and thus the quality of buyer-supplier relationship.

From there, a number of managerial guidelines can be stated. Indeed, this study allows us to suggest the use of technological and digital tools at the level of the whole supply chain within the framework of a collaborative environment in the sense that it will allow each of the actors to contribute by providing information in real time for a better visibility and an increased security in response to the new requirements of the current economic market. We also aim to help managers understand that technological evolution allows for the standardization of transactions so that they are simple, easy to use and more adapted thanks to the bringing together of stakeholders (carriers, suppliers, etc.)

Thus, we emphasize that it is important to integrate the digitalization of the supply chain into the culture of Moroccan companies because digital transformation is first and foremost cultural. Moreover, a successful technological transformation must take into account common projects and involve all the parties involved in the supply chain.

Nonetheless, this research has some limitation, one is related to the diversity of sectors of the investigated companies, the fact that makes it difficult to assess the different situations. This is

true also due to the differences in products, in relationship structures or in the forms of their management that significantly impact the quality of these relationships.

Finally, this work contributes to filling the gap that exists in literature about this topic by offering a deeper understanding of digitalization and B2B relationships. We have also illustrated how the former might impact the latter. Nevertheless, the research results and the diversification of cases suggest that further investigations are desirable and much needed in the future especially quantitative type, to be able to confirm the relationships between the concepts and explore them in greater depth.

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