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# Both faces of autonomy: control and credibility walking side by side within the HQ-subsidiary relationship and giving voice to the local units

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# Both faces of autonomy: control and credibility walking side by side within the HQ-subsidiary relationship and giving voice to the local units

## 1. INTRODUCTION

Recent researches in International Business have drawn attention to the subject of the subsidiary role, performance, activities and autonomy in digital contexts (Meyer & Li, 2020; Sambharya et al., 2005). Meyer & Li (2020) point out important gaps for research about the subsidiary, especially regarding its new possible shapes and activities, created with the acceleration of the digital world. Studies reveal that, regardless of the role they played in the organization's structure (Bartlett & Ghoshal, 1986) or in the global value chain (Rugman et al., 2011), subsidiaries are essential for multinationals to respond to the main demands imposed by the digital economy: high agility and local responsiveness, without losing its global efficiency (Galli Geleilate et al., 2019; Nuruzzaman et al., 2019; Verbeke & Yuan, 2013; Birkinshaw et al., 2015; Decreton et al., 2019; Finnegan & Longaigh, 2002). The few studies that address the subsidiary within the digital economy context indicate that the headquarter has been able to access local information with greater precision and agility through technology, increasing the coordination and control of the headquarter over the subsidiary (Finnegan & Longaigh, 2002; Sambharya et al., 2005).

However, there are authors who sustain that technology is more an enabler of autonomy and subsidiary initiative (Bouquet & Birkinshaw, 2008; Galli Geleilate et al., 2019; Meyer & Li, 2020; Schmid Et Al., 2014). Birkinshaw & Morrison (1995) claim that each headquarter can exert some type of control at different levels, whether the subsidiary has an executer or strategic role. As it is a recent line of study, few researches have considered the strategic aspect of the subsidiary in the current digital context (Meyer & Li, 2020), especially regarding the autonomy to develop and implement its own digital strategies focused on the demands of local customers (Decreton et al., 2019). Therefore, new studies emerge, seeking to understand the dynamics between control and autonomy in the HQ-subsidiary relationship whithin digital contexts (Meyer & Li, 2020; Galli Geleilate et al., 2019).

The purpose of this paper is to understand the HQ-subsidiary relationship within the digitalization context, specifically, the subsidiary autonomy for elaboration and implementation of digital strategies for the final consumer. Through a multi-case study contextualized in the Brazilian agribusiness sector, the research concludes that subsidiaries are using technology and data management to claim more autonomy for local business strategies focused on the final consumer. The intense usage of technology and data, enables subsidiaries to present evident-based arguments and communicate more frequently with the headquarter. This new relationship allows a closer follow-up by the headquarter of the local activities promoting autonomy based on credibility and control.

The study contributes to the theoretical discussion as it brings light to a new type of HQ-subsidiary relationship based on levels of control and credibility that give greater autonomy to the local unit, especially in areas responsible for developing and implementing digital and innovative solutions to final customers. As for the contribution to managers, the study suggests the opportunity to subsidiary's leaders to develop data analytics teams in order to sustain local strategies with solid information and claim greater autonomy and participation in global decisions involving the country in question.

## 2 LITERATURE REVIEW – THE AUTONOMY OF THE SUBSIDIARY TO ELABORATE AND IMPLEMENT CUSTOMER-FOCUSED DIGITAL STRATEGIES

### 2.1 Study context: Customer-focused digital strategies in Brazilian agribusiness subsidiaries

Brazilian agribusiness has a historical relevance in the global commodities trade. Due to its high volumes of soy corn, ethanol and coffee export, Brazil has always been a high global relevance market. In recent years, the country has been drawing attention of international investors for its ability to produce more efficiently, using new technologies and cultivation management techniques.

Last year, a global economic crisis hit, caused by covid-19 and its demands for social distancing, lockdown and face-to-face activities. In Brazil, however, agribusiness stood as the only sector with a positive GDP growth. While the industry and services sectors presented, in the second quarter of 2020, negative variations of -12.3% and -9.7%, respectively, agribusiness continued with a 0.4% growth in the same period (Globo, 2020).

Whether digitalization was already a tendency for the segment until 2019, in 2021 the deployments caused by the new coronavirus pandemic accelerated this scenario. From the many opportunities made possible by technology, the agribusiness industries have been questioning itself about the possible ways of entering this digital world. Many of them already have several digital initiatives and others have even adapted their products and services to include the technological innovations offered by over 1,000 Brazilian Agtechs. Each company in the sector is seeking, within its reality, a better digital strategy to meet the demands of the new Brazilian farmer – more digitalized, demanding, young and professional (McKinsey, 2021).

Reiterating the digital acceleration of agribusiness in Brazil, Fleury (2020) suggests that Brazilian multinationals in the sector are the most advanced in terms of digital maturity, compared to those in manufacturing and services. Large multinationals have been using their subsidiaries in Brazil to test new digital solutions for the field, such as Syngenta, with "Syngenta Digital" (ÉPOCA NEGÓCIOS, 2020), and Bayer and Monsanto, with "Climate FieldView" (TERRA, 2020). With the digital economy, Brazil has shown itself strong not only in the production of commodities, but also a leading power in the development of digital solutions for the producer.

Besides, industries responses to the market need to be increasingly agile and more effective in terms of results. From this context, it is possible to identify a tendency for local subsidiaries to seek higher strategic positioning. The autonomy of these units appears to shifting, such as the relationship with the headquarters, mainly in matters of digital innovation and strategies for local producers.

### 2.2 Theoretical framework: Digital Strategy - concept and components

The Digital Strategy (DS) theory emerged from the literature on digital transformation and digital economy. Since 2015, studies on the subject have intensified, mainly through the integration of new technologies to the most diverse sectors and socioeconomic activities, which drives new business models and forms of technology usage. The tendency is that these studies will intensify even more after 2020, as the covid-19 pandemic has altered most economic activities, impacting individuals and the manufacture, agribusiness and services segments. The Digital Strategy theory has been treated within the Digital Transformation process as a strategic response to market demands driven (VIAL, 2019). Bharadwaj, El Sawy, Pavlou and Venkartaman (2013) were the pioneers in conceptualizing the term, treating it as an integration

of two strategies: IT strategy and organizational strategy. In contrast, other authors advocate the non-divisibility of both (Mithas et al., 2013), so that the organization should have a single strategy centered on business and inspired by technology, resulting in value generation (Eller et al., 2020; Matt et al., 2015; Setia et al., 2013; Yoo et al., 2010). Other authors complement the argument of Bharadwaj et al. (2013), Mithas et al. (2013) and Yoo et al. (2010), adding new theories such as the theories of dynamic capabilities, financial planning and operational management. We also can segment the digital strategy in two types, according to Ross et al. (2017): Customer Engagement and Digitized Solutions. According to Ross et al. (2016), establishing one of the two strategies as the main one is essential to have a clear path to follow and achieve results more efficiently.

### 2.2.1 Customer Engagement

The purpose of the digital strategy called Customer Engagement (CE) is to create an experience and generate loyalty, credibility and, at best, passion for the company (Ross et al., 2016). This type of DS transforms the market access of the organization, which means new kinds of distribution channels, means for selling and forms to relate to customers.

### 2.2.2 Digitized Solution

The so-called digitized solution strategy, in contrast, is tied to what the company sells. This DS reformulates the organization's business model, enriching the product or service with information and/or expertise to solve customer problems. In an extreme scenario, a company that sells a specific product can reshape itself to the point of being a service company, so that the product becomes just a part of all the value it can offer (Ross et al., 2016). Companies that develop products linked to technology have great advantages in this type of DS. John Deere has changed its strategy to become a company that supports the farmer at all stages of the production cycle, offering a value beyond agricultural machinery.

According to Vial (2019) the main drivers for formulating a digital strategy are disruptions in consumer behavior and expectations, high availability of data and changes in the competitive scenario. Based on these market pressures, companies seek and adapt organizational resources that can be used to generate value and compose the new strategy. However, the organization does not always have all the necessary SMACIT (social, mobile, analytics, cloud and IoT) capabilities and resources internally, so it seeks them out in the external environment through partnerships, investments or acquisitions (Sebastian et al., 2017). Through the reconfiguration and alignment of internal resources and interactions with the ecosystem to obtain complements, the company is then able to generate external gains with a focus on creating, capturing and delivering value to the customer – and internal – focused on operational gains, as cost reduction and production efficiency.

## 2.3 The HQ-subsidiary relationship evolution and subsidiary autonomy on digital contexts

The headquarter-subsidiary relationship has been studied for years. Some authors argue about typologies and roles of the subsidiary in the multinational structure (White & Poynter, 1984; D'cruz, 1986; Bartlett & Ghoshal, 1986; Jarillo & Martinez; 1990; Gupta & Govindarajan, 1991; Roth & Morrison, 1992; Rugman et al., 2011), but, Bartlett & Ghoshal's (1986) model remains the seminal literature on the subject. The authors define subsidiaries as semi-autonomous entities with four different roles: Strategic Leader, Implementer, Contributor and Black Hole. They define the four possible roles of the subsidiary according to two dimensions: (1) Strategic Importance of Local Environment and (2) Competence of Local Organization.

Several authors attempted to update the Bartlett & Ghoshal typology (1986). In 1995, Birkinshaw & Morrison (1995) consolidated the different existing models at the time, including Bartlett & Ghoshal's. They came into conclusion that three main possible roles could be played by the subsidiary: Local Implementer, Specialized Contributor and World Mandate. Thus, whereas Bartlett & Ghoshal's (1986) model focuses on the dimensions of the multinational and the roles played by subsidiaries in this structure, Birkinshaw & Morrison's (1995) model focuses on the possible contributions of the subsidiary to the multinational's global operations (Meyer & Li, 2020).

Bouquet & Birkinshaw (2008) advocate that the proactivity of the subsidiary, which, by claiming greater autonomy, plays a different role than the one initially assigned by the headquarter. The local unit can proactively develop internal capabilities to respond to local opportunities, often not even identified by headquarter (Bouquet & Birkinshaw, 2008; Ekman et al., 2019). Studies show that subsidiaries that are proactive in implementing their own initiatives perform better in financial and managerial terms, compared to other units (Ambos & Birkinshaw, 2010). When the subsidiary's initiatives have a high level of success, with a great impact on the local ecosystem and on the value chain, it can reach higher levels of management, production, creation and value capture than its headquarter (Schmid et al., 2014).

In addition, recent studies showcase the subsidiary as a key agent for the multinational, since these local units own the ability to obtain knowledge of foreign markets. Monteiro and Birkinshaw (2015) study the so-called scouting units revealing this new fundamental role of the subsidiary, never deeply explored. This model becomes relevant in the current context of accelerated digitalization, as the subsidiary becomes essential in the search for new technologies and insights to respond to local demands with agility and profitability (Finnegan & Longaigh, 2002).

The HQ-subsidiary relationship is based on the role and autonomy of the subsidiary, whether granted or claimed (Meyer et al. 1993). This autonomy, however, can emerge at different levels, depending on the strategies and projects of the multinational (Meyer et al. 1993). There is a tenuous relationship between control and autonomy, especially when all kinds of technology start to be used on a global scale (Birkinshaw & Morrison, 1995; Finnegan & Longaigh, 2002; Sambharya et al., 2005).

### 2.3.1 Subsidiary autonomy

Bartlett and Ghoshal (1988) define autonomy as the enabler of creation and diffusion of locally developed innovations by subsidiaries. In addition, autonomy can be related to the freedom of decision making of value-added strategic activities, such as production, marketing and R&D (Young & Tavares, 2004). According to Birkinshaw et al. (1998), the subsidiary's level of autonomy depends on the context in which it is located. Environment variables and pressure for local responsiveness are determining factors for autonomy (Birkinshaw et al.; 1998). With the digital economy, there is a greater market demand for companies that operate locally to respond quickly and in a personalized way to the most different demands. Such a change in context can drive subsidiaries to take on new roles. (Galli Geleilate et al., 2019).

According to Birkinshaw (2015) and Ekman et al. (2019), by interacting with three markets (local, internal and global) and owning a dual embeddedness characteristic, subsidiaries are strategic players on the multinational structure. They hold the ability to identify regional opportunities, increase integration within countries and leverage the organization's global learning capacity. In emerging countries, subsidiary initiatives are not only aimed at local adaptation, but can become an important center of reverse innovation (Borini et al., 2009; Engelen et al., 2014).

However, headquarters' choice of the conferred autonomy level on each of its subsidiaries can lead to great results or great losses at the local and global level (Galli Geleilate et al., 2019). This occurs due to the increasing communication between units, allowed by the information technology. This intensification of interactions provides greater power to the headquarter, mainly in coordination and control processes (Finnegan & Longaigh, 2002). In contrast, it simultaneously can hinder important entrepreneurial attitudes for local development. From this impasse between autonomy and control, the first proposition of this study is presented.

*Proposition 1: In the digital transformation context, subsidiaries can have greater autonomy to develop producer-focused digital strategies.*

So that a digital strategy is efficiently implemented by a subsidiary, either by itself or guided by headquarter, the reconfiguration of assets and the interaction with the regional ecosystem are fundamental (Sebastian et al., 2017; Ukko et al., 2019, Vial, 2019). The formulation and implementation of digital local initiatives, therefore, depend heavily on the subsidiary's level of autonomy to reconfigure internal assets or pursue capabilities in its external environment (Bouquet & Birkinshaw, 2008). This demand for internal reconfiguration and search for SMACIT resources to successfully implement a digital strategy leads to the second proposition of this study.

*Proposition 2: In the digital transformation context, subsidiaries can have greater autonomy to reconfigure internal assets when developing producer-focused digital strategies.*

According to Bharadwaj et al. (2013) every company operates within a complex and interrelated network, so that its digital strategy cannot be implemented without interacting with this ecosystem, whether it is composed of competitors, partners, allies, suppliers or influencers. Subramaniam, Iyer and Venkatraman (2019) define the digital ecosystem as the combination of complex networks of production and consumption. Most companies, in the past, built their strategies with a focus on the production ecosystem, while the digital economy forces them to consider the consumer ecosystem (Strange & Zucchella, 2017), which has complex demands based on experiences.

Since the digital economy advances and the emergence of platform-based companies, researchers are now advocating for ecosystem-specific advantages and not only the specific advantages of the firm (Li et al., 2019). Thus, implementing a digital strategy in the current context without the support and partnership of the ecosystem in which the subsidiaries are embedded becomes unfeasible. Galli Geleilate et al. (2019) argue that the relationship between subsidiary autonomy and performance is highly dependent on the internal and external context in which it operates. Furthermore, they argue that the local unit's level of autonomy can be affected by interactions with external actors.

Therefore, proposition 3 of this study seeks to understand the autonomy of subsidiaries to interact with the ecosystem in search of complementary assets to develop and implement local digital strategies.

*Proposition 3: In the digital transformation context, subsidiaries can have greater autonomy to implement producer-focused digital strategies through partnerships with technology companies in the ecosystem.*

## 3. METHODOLOGICAL PROCEDURES

### 3.1 Research design: case study

The case study method was chosen to explore the presented topic mainly for its ability to generate causal explanations and incorporate contexts (Eden et al., 2020), in addition to being used for explanatory research (Yin, 2009). The case study method has been the most used in qualitative research in the last ten years in the international business field (Eden et al., 2020). According to Eisenhardt & Graebner (2007), the case study can deepen into different levels of analysis. This study aims to understand the HQ-subsidiary relationship within the digitalization context, specifically, the subsidiary autonomy for elaboration and implementation of digital strategies for the final consumer.

### 3.2 Primary and secondary data collection

This research consists of a multi-case study, in which two agribusiness subsidiaries in Brazil are analyzed. The case study uses several information sources for greater validation and reliability (Yin, 2009; Eisenhardt, 1989). Data collection and triangulation were performed through: Eight online semi-structured interviews with employees of the two studied companies (through the Microsoft Teams online platform); Analysis of the company's annual and sustainability reports; Analysis of documents and news; Five semi-structured interviews with market experts (through the Microsoft Teams online platform).

### 3.3 Subsidiaries selection:

The two subsidiaries selected for this study should present some basic criteria, such as: operating in agribusiness, include digital transformation as one of its main strategic focuses, in course of developing digital strategies with a focus on the final consumer – Brazilian farmer. Besides these context criteria, the selected subsidiaries also followed the theoretical approach: each of them presented a different type of Digital Strategy in course: one with a strong strategy of Customer Engagement and other with a Digitized Solution strategy (Ross et al.; 2017) (Table1).

**Table 1 – Details of the selected subsidiaries**

| | **Subsidiary A** | **Subsidiary B** |
|---|---|---|
| **Country of origin** | Germany, Leverkusen | United States, Moline |
| **Global presence** | 392 subsidiaries in 87 countries, including Health Care | 94 subsidiaries in 30 countries |
| **Segment** | Agricultural inputs | Agricultural machinery and implements |
| **Digital strategy focused on the predominant customer in Brazil** | Customer engagement: digital strategies focused on customer experience, not directly applied to agricultural inputs. | Scanning Solutions: digital strategy directly linked to the organization's core/sold product. |

Souce: The author, based on public reports for 2019.

The respondents were selected according their respective role in the local subsidiary. There were prioritized managers and directors of innovation teams, customer success and/or experience teams, sales, IT and data analytics teams.

## 4. CASE REPORT – SUBSIDIARY A

In 2018, the Multinational A completed the purchase of a competitor, becoming the world leader in seeds, fertilizers and pesticides. After this acquisition, 80% of the earnings of Multinational A will come from the agricultural sector and 20% from consumption and pharmaceuticals. Among the reasons which led to the acquisition was the Multinational A's competitor pioneering digital solution called Climate FieldView.

Once the acquisition was completed, Multinational A reformulated its strategy to the merged businesses, placing digital transformation as one of the main pillars. Thus, the multinational currently has a global guideline for the development of digital strategies focused on the rural producer. The organization's three global pillars consist of Innovation, Digital Transformation and Sustainability. The digital pillar, in particular, deals with the company's quest to increase its operational efficiency and enable producers to make decisions that are more assertive. With this, Multinational A seeks to offer individual and personalized solutions to the farmer and players of the value chain.

For Multinational A to be able to implement increasingly customized solutions which are integrated to the producer's business as a whole, the subsidiary in Brazil created areas within the structure. The main areas involved with the development and implementation of Digital Strategies focusing on the producer are Customer Experience (CX) and Open Innovation (OI). The Customer Experience area centralizes the development and monitoring of digital strategies focused on the producer. Both are areas created within the last year and are still constantly being reformulated, as they gain space and importance in the structure (local and global).

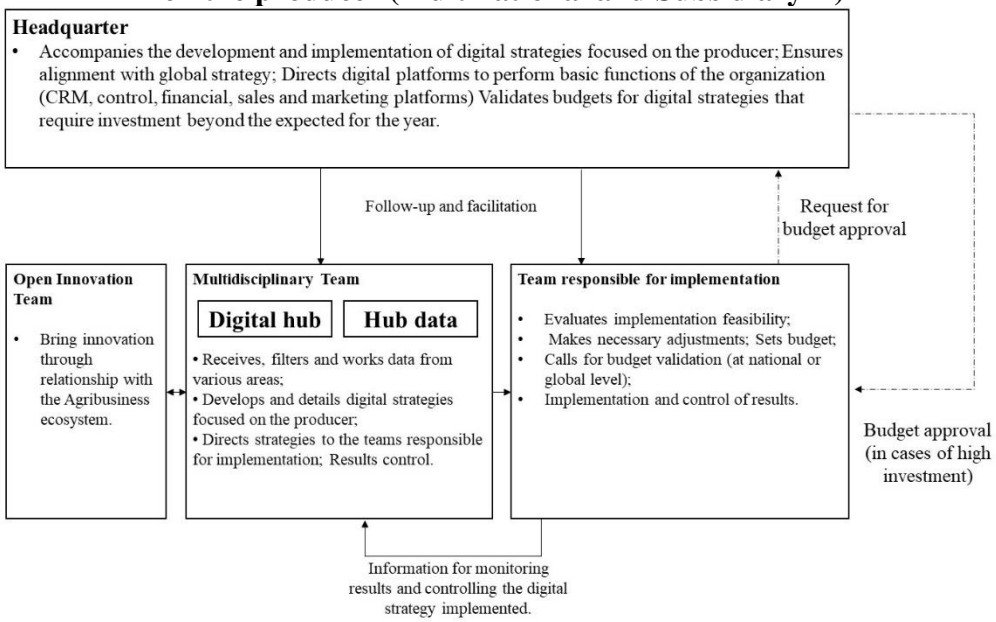
The CX area is divided into two squads: one focused on data and the other focused on digital actions. The data squad has five other sub-teams with the objective of collecting data from the field, creating the analyses that support the digital strategies and, finally, monitoring the progress of the producers' main indicators. The team is composed by an in-house manager which manages a team of twenty outsourced workforce. The main objective of having an outsourced workforce is to use its analytical capacity to optimize Multinational A resources.

The Open Innovation team, on the other hand, has an important role in the development of digital strategies focused on the producers, as it seeks innovations and digital solutions within the Brazilian ecosystem. The main goal of this team is to centralize and integrate existing digital solutions, in order to gain efficiency and agility in implementation and control of digital strategies. Often, the Marketing or Customer Experience area presents a digital strategy for the Open Innovation manager, so that area can look for the best partner for implementation. From this stage, the OI team partners with the CX teams in order to filter ideas, develop them and forward them to implementation (Figure 1).

When asked about their relationship with the headquarter in the past ten years, all interviewees stated that there was a significant change, especially in terms of communication and credibility. The possibility of communicating more frequently ensures closer monitoring of headquarter with the digital strategies implemented locally. Interviewees affirm that the content of interactions with the headquarter has also changed. Whether, in the past decade, the meetings aimed to ensure greater control of the subsidiary's operations, currently the headquarter interacts with the Brazilian subsidiary with the purpose of facilitating the implementation of strategies that arise locally, whether with tools, guidelines or alignment with global the global strategy. One of the reasons for this shift in the relationship is the availability of concrete data owned by the subsidiary. Therefore, the CX area uses the data squad to support all its strategic initiatives, using the interactions with the headquarter in a more strategic manner, presenting the data and discussing potential results and adjustments.

The engagement of headquarter with local digital strategies intensifies according to the level of impact on the company's core (R&D in chemicals and biological or actions with a high-risk content and investment). For all others types of digital strategy, the headquarters' involvement occurs with the purpose of monitoring and ensuring alignment with the global strategy. For example, for product innovations or startup acquisitions, the involvement and approval of the global team is intense; on the other hand, for partnerships with startups and marketing actions, the relationship has a much higher credibility level. In financial matters, there is a budget for the subsidiaries and operating areas. This budget is globally defined and segmented, therefore, there is autonomy to use it within the approved limit and objectives besides a close follow-up by the headquarter.

**Figure 1 – Process of elaboration and implementation of digital strategies with a focus on the producer (Multinational and Subsidiary A)**




Source: The author.

In terms of technology, local adaptations are the most rigid, as the subsidiary uses global software determined by headquarter. However, there is flexibility to use national tools when the subsidiary needs to respond locally and rapidly. Technologies embedded in Multinational A services for producers are evaluated by the CX and OI areas and generally do not require approval from the headquarter, except in the case of mergers, acquisitions and large investments. Human capital is the asset with the greatest autonomy, as, within the headcount and budget planned by headquarter, the subsidiary is free to propose new models – which is the case of the outsourced squad for data analysis. (Please check Figure 1, at the end of this paper.)

Despite being a Brazilian subsidiary that is a reference in terms of customer experience and digital strategies focused on the producer, the local unit in question showcases some challenges in this process. The main ones are: (1) the deployment of data into effective actions and (2) the engagement of the sales team in publicizing, implementing and helping the producer to use and understand the digital solutions. The first challenge relates to the data team's lack of involvement with the reality of the field, so that, many times, the team is unable to transform data into action, that is, put into practice innovative solutions based on the extensive volume of information processed daily. The second challenge relates to the implementation of digital strategies focused on the producer. No matter how perfectly the strategy is designed, if there is no understanding or knowledge of it by the producer, it will not be effective.

Finally, interviewees state that the innovation and autonomy network of the Brazilian subsidiary in the Crop Protection Products segment is much more developed when compared to the Pharmaceutical and Consumer divisions. This phenomenon is justified by the importance of the agribusiness sector in Brazil and by its rich innovation ecosystem.

## 5. CASE REPORT – SUBSIDIARY B

In recent years, Multinational B has been changing its strategy and organizational structure to remain competitive in the context of agribusiness' digital acceleration, ensuring that areas are integrated. Multinational B has migrated its strategy from product centered to service centered. Although the company has always considered the customer as the center of its strategy, the digitization of the farmer's activities changes the way this theory is implemented. Nowadays, the company holds the power to deepen its knowledge about the producer's reality through the data collected by the machines. This data enables the company to understand and predict the needs of each customer segment and then offer solutions with greater impact. To meet this digital and service centered strategy, the organizational structure was globally revised and changed in the past year. The Brazilian subsidiary, due to its location, was free to suggest improvements in its local structure, accordingly to its needs and strategies.

The subsidiary of Multinational B in Brazil has a team called Value Generation and Customer Experience (VGCE). It is a new area created only in Brazil and which concentrates digital strategies focused on the farmer. The team perform based on three pillars: technology, production cycle and production system.

The digital strategies focused on the producer start on this team with the information about the producers and the agricultural market. The team receives quantitative and qualitative information from other company's teams, mainly from the Engineering team, the Technology Innovation Center, the Operation Center, the Innovation Council and from an outsourced company tied to the headquarter (which conducts surveys with producers). The VGCE team, then, analyzes the information received and use it to manage the global customer experience process. In parallel, the team develops innovative digital strategies focused on the producer. These new initiatives require concrete arguments based on data and projections of financial and non-financial results, in order to be implemented (Figure 2. Please check it at the end of this paper).

As the digital strategy of subsidiary B consists of digitizing solutions, its monitoring is closely related to the company's final product, in this case, the agricultural machinery. Therefore, the R&D and Engineering teams are involved in the process of developing, implementing and monitoring the digital strategies.

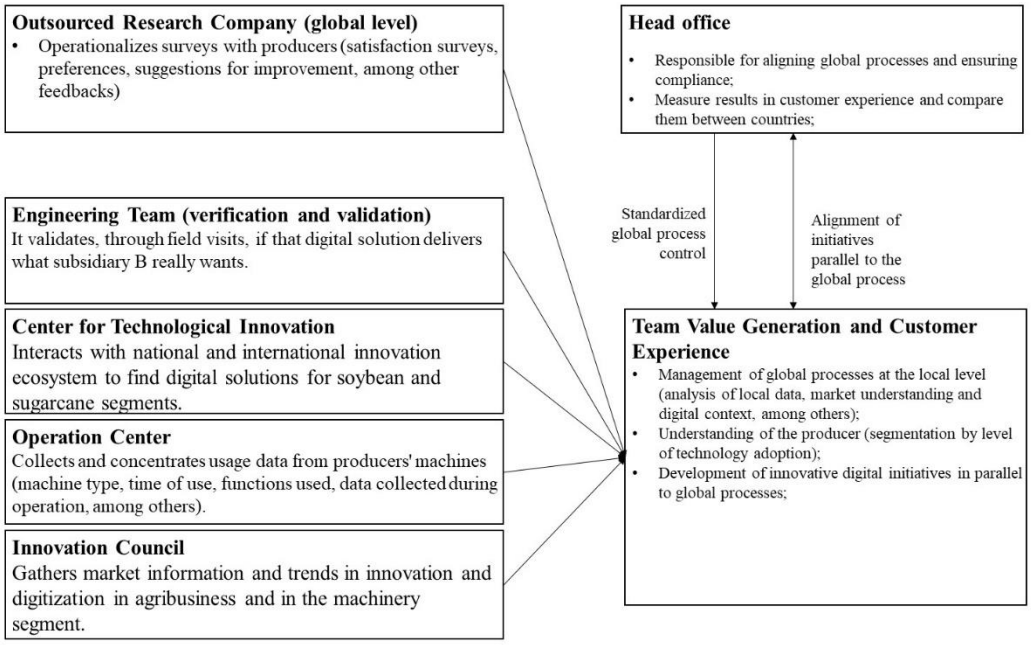
The Innovation and Technology Center (ITC) in Brazil is composed of seven people and is part of a global structure that aims to seek innovative solutions within the ecosystem. The team interacts with ITCs in Europe, China and the US to pursue partnerships with startups and innovation hubs, as well as national and multinational technology companies.

The Operation Center takes care of a platform that consolidates the information collected from the machines. This data is available, whenever authorized by the producer, to the VGCE team in order to a better understanding of the producer's behavior. These processed data is also used by the Multinational B partners (such as agricultural inputs industry, services companies, seed companies among others) and to the subsidiary B sales teams and dealerships with the purpose of supporting the producer in the analysis and usage of the data. This platform is also Multinational B's digital channel to provide integrated solutions for farmers, such as the digital services from partners.

Subsidiary B needed to reconfigure internal assets in order to achieve Multinational B's global objective. The main modification was in terms of structure, with the reformulation of the VGCE team. In terms of financial assets, interviewees pointed out the existence of an annual budget for subsidiary B, which unfolds within the local unit's areas. In case of implementation of global processes within the stipulated budget, there is not an approval requirement by the headquarter. For technological assets, there was no demand for reconfiguration. Subsidiary B uses the software determined by headquarter.

Headquarters track the entire process of development and implementation of digital strategies focused on the producer. The Multinational B is pursuing an increase on its agility for digital initiatives, while seeking to maintain standardization of global processes. There is lower autonomy for spontaneous processes, but higher levels of control of international processes due to greater standardization of success indicators around the world. Headquarter maintains a close relationship with the managers of the VGCE team, in order to track the evolution and quality of global processes, as well as to validate new digital initiatives that may arise locally. (Figure 2).

**Figure 2 – Simplified digital strategy development process (digitization of solutions) of Subsidiary B**




Source: The author.

Despite the inflexibility in global processes defined by headquarter, when the subsidiary manages to propose an initiative elaborated based on concrete data, there are few barriers imposed by headquarter, if implemented in parallel with remaining activities. According to the interviewees, the multinational has realized the importance of turning the global processes more flexible, mainly because of the national companies that respond faster to market demands.

The interviewees mention an increase in autonomy levels for local strategic decisions, mainly in the past eight to five years. They also indicate greater credibility of the Brazilian subsidiary with its headquarters, having as counterpart the delivery of results. Thus, headquarter has been increasingly seen as a support entity rather than a distant controller. The manager of the Value Generation and Customer Experience team states that there are five main reasons for such a high gain in autonomy in such a short time. They are: (1) the cultural and process integration

program; (2) increase of local knowledge; (3) obtained results; (4) frequent communication and (5) arguments based on data.

The first reason is the program in which the headquarter invests in subsidiaries' managers, taking them to work at the headquarter office with the purpose of internalizing and understanding the global culture and processes. The second reason is the subsidiary's ability to demonstrate to the parent company greater technical knowledge of the local reality and the internal processes of the Multinacional B itself. This dual knowledge leads to greater results showcased in sales, which is the third reason indicated. A fourth topic is the increase of communication level between global and local managers, which can reach daily rates at certain times. Finally, technology allows local managers to support their arguments more objectively, with a wide base of local data generated by artificial intelligence.

Even with a well-structured and globally aligned process, there are still barriers to be overcome in the process of elaborating and implementing digital strategies focused on producers. The main challenge reported is the lack of understanding of the digital solutions by the producer. Subsidiary B understands its different producers' profiles in terms of digital adoption, however there are still major challenges in presenting, monitoring and measuring digital strategies.

## 6. DISCUSSION

Both Multinationals A and B have identified the need to respond more rapidly and efficiently to farmers' demands. Both have undergone a reshaping process in the last two years with the purpose of turning the organizational structure more flexible and creating areas to develop strategies specifically aimed at the farmer.

The next section will discuss the convergences and divergences of the studied subsidiaries for the three propositions presented in this study.

### 6.1. Proposition 1: subsidiaries can have greater autonomy to develop producer-focused digital strategies

Subsidiaries reported greater autonomy to develop local strategies based on collected data in the field. With this autonomy increase, there is also an increase of communication and credibility on the subsidiary by the headquarter. The data analysis and processing areas have proven to be highly relevant for both multinationals. This team provides subsidies for the subsidiary to prove its local knowledge, justify its strategic decisions and, thus, claim greater autonomy. There is clearly a new role played by the headquarters based on monitoring and guiding activities.

There is a new type of HQ-subsidiary relationship: it is fueled by data and high communication levels along with a close headquarter monitoring and guiding role. This equation culminates in a relationship which provides elevated credibility and autonomy. The most significant topic of divergence between the subsidiaries is related to the different types of digital strategies and multinationals core activities. The Multinational B presents a more rigid global processes that demand greater involvement from headquarter. It happens due to its several digital strategies directly linked to its final product. On the other hand, with the modification of the strategy from a product centered to a service centered, the Multinational B starts to own a similar autonomy level as the Multinational A, in terms digital strategies for client engagement.

### 6.2. Proposition 2: subsidiaries can have greater autonomy to reconfigure internal assets when developing producer-focused digital strategies

In both subsidiaries studied, internal assets modifications were required for product-focused digital strategies to be well developed and implemented with agility. The autonomy to reconfigure these assets was greater in the organizational structure and interactions with the ecosystem. Both subsidiaries are still undergoing organizational restructuring of local areas in terms of activities and results.

Through the interviewees' statements, it is possible to conclude that there is financial autonomy for physical capital and infrastructure, as long as it is within the budget defined annually by the headquarter, along with the subsidiary's leaders. The autonomy for technologies, on the other hand, is superior to the financial one. It was mentioned that the headquarter determines all software and systems to be used. When there is a specific demand for local actions in Brazil, the headquarter directs the possible suppliers to the subsidiary A, since it can access the best ones on a global scale. However, there is a certain flexibility to decline a global supplier when the local demand requires agility and personalization.

There are significant differences between the companies, especially regarding the strategy for obtaining SMACIT resources. Multinational A has adopted a contracting position and created an outsourced team focused on the analysis of complex data. Thus, depending on the strategy to be developed, the subsidiary can choose people from the outsourced team and compose specific teams for each ideation. It is possible to use the expertise of a large team, optimizing the subsidiary's internal resources.

Multinational B, on the other hand, due to the fact that it has digital strategies focused on the producer almost entirely tied to machines, it needs to have a highly qualified internal team to understand the generated data, analyze it and support the farmers and local teams to use it.

### 6.3 Proposition 3: Subsidiaries can have greater autonomy to implement producer-focused digital strategies through partnerships with the ecosystem

Local managers from both Multinationals A and B state that they have local strategies focused on offering integrated solutions to the farmer and covering his entire production process. In contrast, both mentioned the need for a stronger local network to provide all the solutions demanded by the local farmer. Both declare that it is impossible and out of their strategies to internalize all the technologies and solutions they would like to offer to their customers. Therefore, subsidiaries A and B have invested heavily in creating innovation networks in agribusiness. Both are owners of online platforms where the producer can choose the services he wants and needs.

There are, however, differences in the network's models of the two multinationals. Multinational B has a global structure, with innovation centers in strategic countries, which exchange information among themselves, in addition to seeking local partners. On the other hand, Multinational A started a team in Brazil that seeks solutions in partnership with the ecosystem. This area was recently recognized by its global structure and became active throughout Latin America.

In any case, there are very similar difficulties between the two companies during the process of implementing these digital strategies focused on the farmer. Both report the difficulty in measuring the success of these strategies, as well as ensuring that such strategies are implemented as conceived by the ideation teams. Both fear having an excellent digital strategy, but not implemented ideally due to misunderstanding of the customer which culminates in non-adoption.

## 7. FINAL CONSIDERATIONS AND CONTRIBUTIONS

This study pursued to understand the HQ-subsidiary relationship within the digitalization context, specifically, the subsidiary autonomy for elaboration and implementation of digital strategies for the final consumer. Through three propositions, it sought to understand the relationship between headquarters and subsidiary during the development process of Digital Strategies and its necessary criteria: autonomy, internal reconfigurations and partnerships with the innovation and digital ecosystem.

The paper studied two Brazilian subsidiaries of agribusiness multinationals: a fabricant of agricultural inputs and a producer of agricultural machinery. Within the current context, both identified a need to increase the flexibility of the organizational structure to meet local demands with agility and digital integration. To this end, both have gone through internal adjustments and established partnerships with the local and global ecosystem.

Although the authors Finnegan & Longaigh (2002) and Sambharya et al. (2005) state that technology increases control by headquarter, it is possible to state, through this study, that technology allows them to go far beyond control. This study complements the theories of J. Birkinshaw et al. (2015), J. M. Birkinshaw & Morrison (1995), Meyer & Li (2020), Rugman et al. (2011), and Bartlett & Ghoshal (1986), as it presents a new role of global relevance for the subsidiary. When subsidiaries are strategic, technology can intensify communication and credibility, so that the local unit owns greater autonomy and demands less control. Both headquarters of the studied companies have had the role of guiding and facilitating producer-focused digital strategies.

Therefore, there are four results presented by this study: (1) there is a tendency to integrate digital strategies with a focus on the producer, increasing relevance in services; (2) agribusiness subsidiaries can become exporters of innovation when it comes to customer experience; (3) subsidiaries can have a new role: technologies intermediaries for the field and (4) there is a new form of relationship between headquarter and subsidiary, based on credibility and control: while technology intensifies control and communication, it favors credibility and autonomy. There is also a common challenge: to unfold digital strategies into actions that show tangible results.

Based on these conclusions, the study can contribute both to the academy and to the practice of managers. The main academic contribution is a development of one of Meyer & Li's (2020) proposals which questions the technological paradigm shifts of the subsidiary scope. This study shows a changing in the subsidiary scope due to the digital economy, mainly in teams creating digital solutions to the final consumer. There is a new type of HQ-subsidiary relationship between in which digital tools allow not only greater control by the headquarter, but also greater communication, monitoring and support of local strategies through data, which increases autonomy. There appears to be even a new role of for the subsidiary in terms of local impact: it can be a mediator between market innovations and final customers' needs. This new role can revolutionize the local economy, since new technologies help the final customer – in this case, the farmer –, so that he can increase his productivity.

As a contribution to managers, the study suggests the opportunity to subsidiary's leaders develop data analytics areas in order to sustain local strategies with solid information and gain voice within the global structure. Besides the usage of data, local subsidiaries can gather clients' qualitative information, combine with data and other partners from the local ecosystem. This integration of information generates valuable insights for local managing.

New studies on the subject can address changes in organizational structure: which are the most efficient, problems that may occur and necessary synergies. There is the possibility of extending

the theme, better understanding the barriers to an assertive implementation of digital strategies with end customers.

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