

## **Plural Forms and Dynamic Capabilities in Cocoa Processors in Brazil**

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### **ABSTRACT**

Cocoa processing sector transformations raise questions about the way by which cocoa processors adapt their relationships with producers, that is, adopt different governance structures to guarantee their supply- including the use of plural forms. This study advances in the analysis of plural forms by incorporating a dynamic perspective. To this end, it is sought to answer the following question: how do dynamic capabilities influence the choice, by processing companies in Brazil, of plural forms for sourcing cocoa beans? We propose that the development of dynamic capabilities influences the perception of the degrees of asset specificity and uncertainty, leading to i. the use of plural or non- plural forms; and ii. the level of coordination involved in the transaction. Empirically, three illustrations of cocoa processors are examined. The results indicate that the greater the dynamic capabilities, the smaller the perceived uncertainty and, therefore, the less prevalent the use of plural forms. These findings may help understanding why plural forms prevail over time in some cases but not in others. Hence, we present a final proposition whereby the more dynamic capacities develop over time, the lower the prevalence of plural forms.

**Keywords:** plural forms; transaction cost; dynamic capabilities

## 1. INTRODUCTION

Cocoa cultivation drives the global production of chocolate, a market that shows great potential for growth, especially the sustainably-sourced chocolate segment (Instituto Arapyau & Sebrae, 2019). This type of cocoa requires adjustments to both how cocoa trees are managed and how cocoa supply chains are configured (Krauss, 2017, 2018), something that differentiates this production model from the conventional (bulk) cocoa market. It is especially in this context that the present study is inserted.

In particular, this study examines the manners by which companies that process cocoa beans structure themselves to source the product and ensure supply chains are kept flowing in view of the recent transformations this industry has been undergoing. Thus, unlike the various empirical studies that examine the organizational modes that govern a given transaction in a static fashion in light of transaction cost economics (TCE) (Williamson, 2000, 2008), this paper sought to incorporate a more dynamic perspective.

Moreover, this study (a) takes the same approach as more recent research work that acknowledges the existence of plural forms (Bradach & Eccles, 1989; Parmigiani, 2007), that is, the concomitant use of different organizational models to govern similar (or even identical) transactions, within the context of how cocoa beans are sourced, from a TCE perspective (Ménard et al., 2014; Raynaud et al., 2019); and (b) makes advances by incorporating not only combined transactional attributes (asset specificity and uncertainty), but also the dynamics of changes occurred in the cocoa industry

and the development of dynamic capabilities (De Lima et al., 2020; Helfat & Winter, 2011) that prove necessary to meet market demands.

Therefore, this study set out to answer the following research question: *how do dynamic capabilities influence the choice, by processing companies in Brazil, of plural forms for sourcing cocoa beans?* To this end, the research presents a view that integrates the TCE approach to explain plural forms – basically attributing them to the simultaneous perception of asset specificity and significant uncertainty (Ménard, 2013; Parmigiani, 2007; Schnaider et al., 2018) – and the theory of dynamic capabilities (Teece et al., 1997; Teece, 2007).

Empirically, a study was made of three cocoa processing companies (one of them anonymously, the other two being IBC and Luisa Abram) operating in the Brazilian market and representing the diversity of organizations that are part of such market. They have different sizes and use different strategic orientations and configurations to source cocoa beans.

The empirical findings show that dynamic capabilities do influence the use of plural forms. This study is intended to contribute to the understanding of the various organizational modes that govern transactions, as well as how they adapt to respond to consumer demands over time.

## **2. THEORETICAL FRAMEWORK AND ANALYTICALFRAMEWORK**

### **2.1. TCE, Plural Forms and Dynamic Capabilities**

Transaction cost economics (TCE) (Williamson, 2000) is an approach that took center stage (Macher & Richman, 2008) in studies that set out to determine the most efficient form of organization for a given transaction: spot market, hybrid forms or vertical integration. The efficient discriminating alignment hypothesis (Williamson, 1991, 2008) is the one that yields the greatest predictive power, by associating the level of asset specificity with a form of organization that is capable of achieving the most savings in terms of transaction costs. The more specific the investments are in relation to the transaction, the greater the propensity to vertically integrate such transaction (Williamson, 2002, 2008). Thus, presumably there is only one manner that is the most efficient to organize a given transaction.

However, there is a multiplicity of empirical cases (Ménard et al., 2014) in which what predominates is the concomitant use of different organizational modes to organize very similar or even identical transactions, that is, with the same level of asset specificity – the so-called plural forms (Bradach & Eccles, 1989; Ménard, 2013). Recent explanations of this phenomenon, including using TCE logic (Krzeminska, 2009; Ménard, 2013; Schnaider et al., 2018), have been proposed by acknowledging that it is the combination of medium levels of asset specificity and significant uncertainty<sup>1</sup> that would supposedly lead to plural forms (Schnaider et al., 2018). This situation is shown in Figure 1 below.

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Insert Figure 1 about here  
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<sup>1</sup> Concerning supply and demand, technological or measuring performance (Robertson & Gatignon, 1998; Schnaider et al., 2018).

Worth mentioning is that this approach is essentially static. To the extent we were able to determine, there is a meager number of studies that incorporate change scenarios into this framework<sup>2</sup>.

One of the ways to address this limitation is the dynamic capabilities theory (Teece et al., 1997), which produces important insights related to the process by which organizations adapt to change or uncertain environments. To this end, it assumes that environments that are highly unstable or that are difficult to predict (Helfat & Winter, 2011; Zollo & Winter, 2002) necessitate taking into account not only an organization's heterogeneous resources and capabilities that are already available (Barney, 1991; Foss & Foss, 2004; Helfat & Peteraf, 2003), but also its capacity to respond to the changes that the market demands. This capacity, called dynamic capability, is what allows access to new resource configurations (Eisenhardt & Martin, 2000), in order to take advantage of opportunities in a manner that is sufficiently fast to ensure better returns compared to competitors (Teece, 2012). In other words, dynamic capabilities are those that transform an organization's operational capabilities in the face of a new competition scenario (De Lima et al., 2020).

## **2.2. Conceptual Framework: Integrating TCE and Dynamic Capabilities**

The way TCE and dynamic capabilities are integrated is shown in Figure 2. According to the TCE approach (Williamson, 2000, 2008) and to later studies that used it to explain plural forms (Krzeminska, 2009; Ménard, 2013; Parmigiani, 2007; Schnaider et al., 2018), in a given

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<sup>2</sup> There are exceptions, such as Langlois (1992, 2006), which rely on the accumulation of resources and capabilities to explain how the firm's boundaries change over time. Note that plural forms are not explicitly evaluated in these studies, which are limited to spot market, hybrid or vertical integration structures.

organizational environment and considering the behavioral assumptions opportunism and bounded rationality, transactional attributes<sup>3</sup> will determine the form of organization that will achieve the best savings in terms of transaction costs – be it plural, spot market, hybrid or vertical integration<sup>4</sup> (arrows marked 1 in Figure 2).

Depending on the choice of form, it will be possible to accumulate a distinct set of capabilities and in particular those dynamics related to the transaction in question or the organization of that link in the supply chain<sup>5</sup>. For instance, a transaction that is made via relational contracts will have the focal firm develop capabilities such as those related to finding partners or developing relationships, at widely varying degrees of intensity than it would otherwise obtain from the vertical integration of that same transaction. Furthermore, development of these capabilities is dependent on the focal firm's strategic orientation. This means that no capability or resource will be developed in such an intensity that extrapolates market average should they fail to create, strictly speaking, value for the firm according to its own strategy. To put it another way, resources and capabilities that are costly to obtain (Barney, 1991) will only be obtained if the benefits they bring to the organization (that is, value creation) exceed the costs associated with obtaining them (arrows marked 2 in Figure 2).

In this study of the cocoa market, dynamic capabilities will be examined based on the variable called relational capacity. The reasoning is that relational capacity (the ability to relate) with

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<sup>3</sup> This study opted not to include frequency because this variable produces ambiguous empirical results (Macher & Richman, 2008) and to follow the lead of Schnaider et al. (2018, 2022), who based their research on the combination of asset specificity and uncertainty to explain the existence of plural forms.

<sup>4</sup> The lower the level of uncertainty, the more predominant discriminating alignment will be. As the level of uncertainty increases, Schnaider et al (2018)'s model, shown in Figure 1, predominates.

<sup>5</sup> We called this concept "transaction-specific dynamic capabilities." The rationale is that there are "*governance inseparabilities*" (Argyres & Liebeskind, 1999) when acquiring and applying capabilities. However, the capabilities that are relevant to this study are those strictly concerning transactions for sourcing cocoa nuts.

producers is intended to coordinate them so that their production process and even their output is able to adjust to the new characteristics that consumers are demanding, hence ensuring the supply of cocoa beans meets these conditions. This relational capacity takes on the role of a dynamic capability since it directly affects how operational capability is reconfigured to source cocoa beans. Examples of this capability include technical training programs, technical support, support to obtain sustainable certifications, quality-based bonus programs, among others intended for a broad group of cocoa producers with whom the focal firm does not necessarily engage in transactions.

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Insert Figure 2 about here  
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However, the mere relationships the focal firm has with producers, whether or not they are suppliers for said firm, capacitate these producers and provide them with the structures to respond appropriately to new demands from the consumer market of cocoa products. Thus, this relational capacity exerts influence over the focal firm's perception as to transactional attributes (arrows 3 and 4 in Figure 2).

The greater this relational capacity, the better the relationship the processor will have with producers in general (and not necessarily just those with whom it engages in transactions) and hence perception of uncertainty will be lower, whether with respect to supply, technological or even performance uncertainty (arrow marked 3 in Figure 2). This would occur mainly due to the informational effect of relational capacities. The more developed these capacities are, the information, and with better quality, the focal firm will be able to obtain, allowing it to reduce its perception of uncertainty. As an example, one could infer that producers that rely on assistance



programs funded by the company will provide more information for better planning of acquired volumes (supply uncertainty), give the company priority in the event of market competition for beans (keeping prices constant – supply uncertainty) or have fewer reasons to deceive it (performance uncertainty). That is because the lower the level of (if asset specificity is kept constant, especially for medium levels of specificity), the weaker the propensity to use plural forms should be. Thus, this study proposes as follows:

*Proposition 1: The greater the relational capacity, the lower the perception of uncertainty will be and thus the less likely plural forms will be adopted.*

Furthermore, relational capacity is able to influence the perception of how specific an asset is (arrow 4 in Figure 2). Williamson (1985, 1991, 2008) argues that what characterizes transactions involving low asset specificity is how easily the agents involved in it can be replaced. In the case of cocoa beans, the greater the relational capacity, the less dependent on specific producers the processing firm will be, since it is capable of building up good relationships with a large number of producers, including those it never engaged in transactions with. Accordingly, in the event of an issue with the agreement or of a shortage of products in the market, replacing producers will prove a less complex task. In other words, the greater the relational capacity, the greater the capacity to reconfigure the group of suppliers will be and consequently the effects of any issues with an agreement will tend to be minimized. Applying this logic, companies can rely on forms of organization that are less complex or even have a lower degree of coordination as they develop relational capacities, even if the product should have some degree of differentiation (for example, fine fermented cocoa). It is for these reasons that we propose:

*Proposition 2: The greater the relational capacity, the lower asset specificity perception will be and hence the lower the level of coordination.*

In summary, the conceptual model shown in Figure 2 explores the capacity a firm has to adapt to changes recently seen in the market over the choice of governance structures in general and from plural forms in particular. The greater this capacity, the less often plural forms should predominate and the lower the level coordination involved in the transaction should be, whether or not by plural forms.

### **3. METHODOLOGY**

This research is a qualitative study based on the experience of three cocoa processing companies in the Brazilian market.

#### **3.1. Research Universe**

The cocoa nib processing sector in Brazil is dominated by three major multinationals that account for 95% of the volume processed in the country. This is a sector that has been undergoing transformations common to food companies in general, as demand for sustainably-sourced products rises (Penker, 2006). In this context, processing companies have been trying to develop mechanisms that will guarantee a sustainable source of cocoa beans with specific characteristics and whose supply is still low compared to conventional cocoa (Instituto Arapyau & Sebrae, 2019).

Additionally, this is an interesting sector to attain the present research's goals, since there are processing companies that utilize plural forms to obtain these beans (Ménard et al., 2014).

The study considered three processing companies operating in the Brazilian market and which possess characteristics that while distinct from each other are important in that they converge into the theoretical replication of this research and illustrate the relations shown in the proposed model (Eisenhardt & Graebner, 2007). Two of those companies are smaller in size and oriented towards the cocoa and special chocolate market. The third (“Company A”) is a large multinational and one of the world’s leading cocoa processors that serves major chocolate producers in Brazil.

Furthermore, two out of the three companies in this study buy more than one type of cocoa, which allows for a broader analysis scope that includes six rather than only three transactions for discussion. Moreover, since a single company includes different transactions, it made it possible to hold a series of constant variables, including strategic orientation, culture and even decision-making capacity, thus enabling a more specific analysis of the variables of interest.

### **3.2. Data Collection**

Data was collected by means of interviews held in 2022 using Google Meet and Zoom. Interviews lasted on average 1 hour and 30 minutes.

Questions were organized in the form of a semi-structured<sup>6</sup> script based on the studies by Ménard et al. (2014) and Schnaider (2015), but adapted to include the companies’ relational capacities and strategic orientation along with the conditions in the cocoa industry. This script consisted of 21 questions split into five major subjects: (a) overall characteristics of the company and how it sources cocoa, (b) asset specificity; (c) supply and demand, technological, performance and

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<sup>6</sup> The script can be made available by request to the authors.

organizational uncertainty; (d) strategic orientation or perception of new market demands; (e) relational and coordination capacity with producers.

Respondents hold positions of leadership in several different departments at those companies. Furthermore, additional information was collected by email or in supplemental interviews.

Lastly, to build up on the interviews, fill in gaps and confirm information, the data was contrasted with information from secondary and public sources, such as reports prepared by cooperatives, NGOs, research centers, Brazilian and international organizations from the cocoa industry.

### **3.3. Data Analysis and Coding Variables**

The study utilized the following variables: asset specificity, supply uncertainty, performance uncertainty, organizational uncertainty, technological uncertainty and relational capacity. Strategic orientation was included as a control variable only, and captured based on the company's perception of consumer market demands.

Variables were written in codes according to their intensity, as captured in the interviews, using the ratings defined by Ménard et al. (2022), with + meaning low, ++ medium and +++ high. Low specificity cocoa is conventional cocoa which does not employ special management or post-harvest techniques. Medium specificity happens when cocoa holds a certification or is traceable. Lastly, high specificity is attributed to cocoa that is sustainable and employs particular drying and fermentation techniques that result in high-quality beans.

With respect to uncertainties, the classification took into account whether a company needs to take measures to soften the impact associated with each type of uncertainty. This way, when no such measures were found, uncertainty was considered to be low; the implementation of these measures to some degree (a clause in an agreement to ensure quality beans, for example), but without the risk of disruption to the supply chain corresponded to medium uncertainty; and high uncertainty was found when the company requires actions to navigate uncertainties (expanding supplier network, financial penalties for failing to meet quality requirements) and was found to be susceptible to disruption.

Relational capacity was considered to be (a) low when structured by means of standardized and broad actions, (b) medium when relationships with a player along the chain are present in such a way that exceed the actions found in the low rating, and (c) high when actions involve several players along the chain to create solutions that are specific and customized to a particular reality.

## **4. RESULTS AND DISCUSSION**

### **4.1. Empirical Illustrations that Do Not Involve the Use of Plural Forms**

#### **4.1.1. IBC and its strategic orientation**

Indústria Brasileira de Cacau (IBC, lit. the “Brazilian Industry of Cocoa”) is a family business that for 90 years has been operating in the chocolate industry. IBC accounts for 12% of sales in the domestic market. Its customers range from franchise chains to companies in the fine chocolate segment.

IBC is geared towards offering a quality product based on best social and environmental practices that are necessary for a sustainable cocoa chain. To this end, the company uses only Brazilian beans

and prizes building relationships among different players along the chain to enable transparency across the entire production process. This way, its **strategic orientation** is meant to meet a specific special chocolate market.

Its two industrial plants are located in the Brazilian states of São Paulo and Pará, with a processing volume of 1,700 metric tons/month. Odra, a subsidiary of IBC's, was established in Pará to reduce logistics costs (domestic and external markets), as it is located closer to producers in the Amazon region, and this way allow 100% of the nuts used in the production chain to be traceable.

#### **4.1.2. Types of Cocoa and asset specificity**

IBC sources three different types of cocoa: conventional or bulk (85% of total sourced), special fine fermented (12%) and organic (3%). Given that sustainability is a requirement for the beans processed by the company, even conventional cocoa is traceable. Thus, one peculiar characteristic IBC has is that it offers a product called **conventional**, but which possesses a competitive advantage over other conventional products found in the market. According to the respondent, "Our bulk cocoa is 100% traceable" (IBC1). That is, despite being sold at conventional prices, it **has medium specificity** due to the cocoa being traceable.

**Special fine fermented** cocoa has superior quality due to special management and post-harvest processes – the way it is stored, fermented, dried and roasted (Santander Muñoz et al., 2020). Owing to its **high specificity**, special fine fermented cocoa demands more complex processes compared to conventional cocoa and consequently is sold at higher prices.

**Organic** cocoa also necessitates non-trivial processes since growing it entails a series of requirements relating to certification, which is issued by an independent company, IBD

Certificações. One prerequisite to be granted certification is soil detoxification, which may require one to three years for convertibility (QIMA IBD, 2022). Organic cocoa's **high specificity** is something that is highly appreciated by the external market, which accounts for 97% of IBC's sales for this type of cocoa.

#### **4.1.3 Relational capacity**

Most beans that IBC processes come from the Amazon region, grown without deforestation and in favorable climate conditions. Nevertheless, the financial fragility of producers is a critical factor as it compromises the sourcing of equipment, techniques and certifications needed for cultivation. In the respondent's words: "the greatest challenge is professionalizing the field" (IBC1).

For all types of cocoa, IBC coordinates actions to foster producers with the help of cooperatives and organizations such as Instituto de Manejo e Certificação Florestal e Agrícola (Imaflora, lit. "Institute for Forest and Agricultural Management and Certification") and other NGOs acting as intermediaries. In parallel, IBC establishes greater contact with local communities to identify needs and have other important players involved, such as local leaders and certification companies.

For producers that are members of cooperatives, this coordination involves also technical, relational and commercial preparation provided by the cooperative, which plays an important role in connecting different producers and IBC, in addition to ensuring nib quality is uniform across all cooperative members.

Conversely, for producers that are not part of cooperatives, especially those situated in more remote areas, IBC has a project in place that involves organizing work groups and mapping out areas using a geolocation software program.

In the case of certified cocoa beans, the company monitors the certification process from the very beginning when pre-certification is requested through to compliance with requirements for sourcing them.

All these actions make it possible to trace all beans acquired. This is not a simple mission, given the sheer geographical size of these areas and how spread out production is.

Therefore, **for conventional cocoa, relational capacity** is considered to be **medium**, since it consists of actions that are characteristic of support and sustainability programs, in addition to partnerships with intermediaries. As for **special fine fermented** and **organic** cocoa, relationships surpass those found in relation to conventional cocoa, since they require coordination of other players to make the certification process feasible, something that requires longer term monitoring. In this regard, **relational capacity is considered to be high.**

#### **4.1.4. Uncertainty**

The company relies on a strategy that stores cocoa beans to guarantee the production from a given period of time. Additionally, relationships in the chain provide the company with information that allows it to foresee problems more clearly and adjust procurement volumes. Thus, **supply uncertainty is perceived as being low.**



**Performance uncertainty is also perceived as being low**, given that the solid relationship with producers, cooperatives and intermediaries resulted in mutual trust when negotiating and guarantee that cocoa beans will be delivered.

**Technological and organizational uncertainties were not identified,,** because the main source of organizational uncertainty is related to policies on cocoa importing, something which the company does not engage in. As seen, all cocoa is traceable and sourced from the Amazon region. Furthermore, the company does not perceive significant technological changes.

#### **4.1.5. Sourcing**

All types of cocoa are sourced from producers or cooperatives external to the firm. However, agreements will vary depending on the type of cocoa, regardless of the player with which the company is making the transaction (producers, intermediaries or cooperatives). Conventional cocoa (which in reality is traceable) is entirely sourced based on agreements the company calls “standard,” that is, sales agreements that do not leave much room for negotiation and are established according to market prices. The two other types of cocoa – organic and fine – necessitate production management specificities. Because of this, they are sourced through agreements that are called “special,” entered into with producers or cooperatives. IBC gets more closely involved in these types of agreements, acting as coordinator of a process whereby information is exchanged, from one party regarding product origin, and from the other regarding production purpose. Not only that, price premiums are negotiated on a more individual basis, and IBC provides technical support to enable production, often over the long term. What can be seen is that no matter the case the company always uses the same type of agreement for each type of

cocoa being sourced, relying on more complex agreements for those types of cocoa that require special management, that is, that have higher levels of asset specificity.

#### **4.2.1. Luisa Abram and its strategic orientation**

The company behind bean-to-bar chocolate started in 2014 after researching and understanding the cocoa chain – from planting through to consumer market. Accordingly, its goal is to make chocolate using a specific type of cocoa that genuinely represents the potential Brazilian materials have and guarantees producers will be appreciated. This means **its strategic orientation** fits in line with the demands from the special chocolate segment.

The company buys cocoa beans from Amazon region producers who use a specific fermentation process developed by the company itself. Cocoa beans are processed in São Paulo, where Luisa Abram has a plant that processed a volume of 6 metric tons in 2021.

#### **4.2.2. Types of Cocoa and asset specificity**

Luisa Abram sources only one type of cocoa, raw cocoa, though from different sources. Raw cocoa originates from Amazon region forests and has characteristic tastes and aromas that vary from region to region or source to source, each one requiring particular fermentation and drying processes. This calls for specific investments to develop each one of the sources. Riverside settlements in the Amazon regions are troubled by difficulties intrinsic to these regions and are unable to utilize the same production methods that other locations use, such as those in Bahia.

Therefore, to capacitate them to join the supply chain, the company must carry out an immersion study to understand producers' realities and the genetic conditions of cocoa trees. Based on this

study the company conducts tests and surveys to define the process and the guidelines for proper fermentation and to train producers according to the company's own processes. These actions lend these cocoa beans a unique flavor and aroma. Considering the peculiar characteristics of cocoa beans used to supply the company's production chain, its **specificity is considered to be high**.

#### **4.2.3. Relational capacity**

Cocoa trees grown in the Amazon rain forest are inserted in an environment that is conducive to production. But since these locations are difficult to access and lack infrastructure, establishing conditions that are appropriate for cultivating and managing cocoa beans becomes a necessity. The company visits all producers to learn the situation the communities are experiencing, their main difficulties, logistics conditions and other factors that may compromise cultivation sustainability. Each region has its own particularities, hence "the relationship varies from source to source" (LA1). The company then works with producers on improving harvesting, management, fermentation and drying processes. In some locations, existing cooperatives are used as a base of support or a new one is created according to the producers' needs.

The relationship of trust maintained with producers and cooperatives is the result of years' worth of visits, support and appreciation for their roles in the chain. At one of the sources, it took five years from development until the chocolate was finally sold. Thus, the process requires a long time until all required specificities are met and the infrastructure is available to producers.

A good example of how to strengthen this relational capability is the support the company provides to producers in terms of logistics, even when it is third parties that are buying. That is, realizing how difficult it is for producers to access modes of transportation to distribute production, the

company helps them ship cocoa beans to other buyers: “if there’s anything we can help with, we will. This strengthens the ties among all players in the chain. All for one, one for all” (LA1).

This coordination of various players along the chain in order to complete all stages necessary to develop a source over time, in addition to those routinely related to sustainability programs (visits and technical support), demonstrate that the company’s **relational capability is high**.

#### **4.2.4. Uncertainty**

There is a consistency between production capacity and supply of cocoa beans. Therefore, there is **no perceived supply uncertainty**. This is possibly the result of obtaining information related to productivity and management from producers, the outcome of actions taken by the company for cocoa producers as explained in the section above. An increased production forecast is contingent on the development of new sources and investments to improve management practices to increase productivity.

**Performance uncertainty**, which indicates the difficulty in receiving materials that feature the necessary characteristics, **is low** given the company’s development and training of producers and cooperatives. Last, the **technological and organizational uncertainties** were not found to be important factors in the supply of materials.

#### **4.2.5. Sourcing**

All cocoa is sourced from producers or cooperatives external to the firm. However, depending on the source, agreements will be entered into with producers or with cooperatives. Regardless of the player with which the company is making the transaction, the agreement is always the same and is

very similar to IBC's "special" agreement, in which the company offers to pay a premium for cocoa specificity and gets involved with producers to help them with a production process that requires special processes. These more complex agreements are based on the specificity of assets involved in the sourcing of special cocoa beans.

#### **4.3. Experience Involving the Use of Plural Forms - "Company A" and Its Strategic Orientation**

"Company A" employs more than 10,000 people in dozens of different countries and is part of a group consisting of the world's leading cocoa processors. The group has been in the cocoa and chocolate business for more than 150 years. In Brazil, its processing plants are located near regions with great concentration of cocoa nib producers to facilitate logistics.

Its main customers are major companies in the food industry, which require large volumes of cocoa products. Most of its consumers (chocolate companies) are still geared towards conventional cocoa, although consumer awareness regarding sustainable products has grown enough to carve out a niche in the market for these major chocolate producers. This can be justified by the fact that the Brazilian market is still wary of paying more for a sustainable product, something that would not happen in Europe or the US, for example. Therefore, "Company A" needs a strategy that is capable of reconciling demand for sustainable products and conventional product sales. For this reason, its **strategic orientation** is geared towards meeting the demand from major chocolate producers.

##### **4.3.1. Types of Cocoa and asset specificity**

"Company A" sources conventional and sustainable cocoa certified by independent companies. **Conventional cocoa** is the market standard and thus has **low specificity**. **Sustainable cocoa** on the

other hand has to meet management and quality requirements and therefore is considered to be of **medium specificity**.

#### **4.3.2. Relational capacity**

“Company A” has a sustainability program in place that offers some services and facilities to producers. Cocoa beans grown as part of this program are called **sustainable cocoa**. Therefore, they allow producers to charge a sustainability premium when they sell it to “Company A.”

One common practice seen is that the same producer may join more than one sustainability program at the same time. This means that while “Company A” offers services and training as part of its own sustainability program, producers are not required to sell their products to “Company A” only or to join this program if it decides it wants to do business with “Company A.” All that is required of producers is meeting quality and management standards. Supplier rotation is greater among small producers that make sales fundamentally by virtue of offering better prices.

Another action that strengthens the relationship “Company A” has with conventional cocoa producers is a project that produces high-productivity cocoa seed sprouts sold at cost (20% of market price) so more producers are able to buy them. Ultimately, “the problem with cocoa currently really is the financial aspect, the investment” (EmpA1). Therefore, in addition to offering better prices to producers, “Company A” also benefits from the outcome of the project as it collaborates to cocoa chain’s sustainability: “growing more cocoa means we’ll produce more and meet our demand” (EmpA2). These seed sprouts are available to all producers who show an interest, not just those that are part of the company’s sustainability program.

Relational capacity in this case is associated with the connection with producers, which is the result of the sustainability program and seed sprout program. Since there are no partnerships with other players, **its relational capability is classified as low.**

#### **4.3.3. Uncertainty**

There is a scarcity of cocoa beans in the domestic market. The issue is that processed cocoa is sold to the industry before it can even be obtained for processing. That is, **supply uncertainty is high.** One way to deal with such scarcity is through imports, which are regulated by the Ministry of Agriculture, Livestock and Food Supply, and are allowed only at amounts corresponding to the deficit found between demand forecasts and domestic market yields. However, cocoa crop yields are hard to predict, and adjustments are made slowly. Consequently, processors do not know if importing will be allowed and at what volume. Thus, **organizational uncertainty is high** “because there are plenty of complexities involved in importing cocoa; there are fiscal matters, risk and loss of tax benefits” (EmpA2).

As for **performance uncertainty**, it was shown to be high in the case of conventional cocoa, as most of it is sold by intermediaries that may combine low and high quality cocoa together, since the main factor is pricing. For **sustainable cocoa, performance uncertainty is medium**, since the risk of not getting the desired quality is offset by certification requirements and by sustainable practices from programs. Technological uncertainty was not found to be a critical factor in cocoa nib supply for the company.

#### **4.3.4. Sourcing**

“Company A” sources both types of cocoa through a combination of different types of agreements. The first type, called “made-to-order,” producers deliver the beans to the company, which keeps them stored in its facilities and without a prior price being set. In view of price fluctuation, producers will wait for the time they understand is the best, and only then request that prices be set. While there is a maximum time limit for closing a deal, producers enjoy the benefit of not requiring a site for storage and of being allowed to wait until prices are at their highest to receive payment. This type of procurement accounts for a low percentage of sourcing.

The predominating type to source the majority of cocoa is called “futures.” In this case, volumes and prices are set beforehand. Payment is made as an advance, and the cocoa beans are shipped periodically on dates agreed in advance. The agreement is negotiated based on credit analysis and on compliance with criteria that proves a vendor is trustworthy and reputable. This takes place especially in procurement from intermediaries, and is justified by the fact they have better financial and structural capacity to meet procurement prerequisites. Therefore, plural forms were found to occur in these transactions.

#### **4.4. A Comparative Analysis: Lessons drawn from the empirical illustrations**

The table below shows the codes for each variable of interest and a summary of empirical findings for the three cases described above. Based on this table, it is possible to contrast propositions  $P_1$  and  $P_2$  in the cases that involve or do not involve plural forms, as will be described below.

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Insert Table 1 about here

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#### 4.4.1. Non-plural forms – IBC and Luisa Abram

Relational capacity, grounded on sustainability program actions together with partnerships with various players along the chain, is especially important to ensure the production chain is kept afloat because there are no formal loyalty agreements to guarantee a constant and long-term supply. These actions culminate in informational effects that cause a diminished perception of uncertainty, especially with respect to supply and performance. This would explain why plural forms are less likely to be adopted, since relational capacity establishes conditions for different types of procurement with cocoa producers that are important to solidify the supply chain.

Therefore, the cases of IBC and Luisa Abram show **evidence that favors Proposition 1**, in that relational capacity intensity works by reducing uncertainty perception, and thus the greater the relational capacity, the less likely that plural forms will be adopted.

As a matter of fact, both companies utilize hybrid forms. This finding can be explained by the fact relational capacity also affects asset specificity perception. In IBC's case, this occurs even with conventional cocoa, which, despite being categorized as such, is traceable and therefore has greater specificity than standard conventional cocoa found in the market – even if IBC perceives it as merely conventional.

The cocoa beans used by Luisa Abram have a high level of specificity, in the same manner as IBC's fermented and organic products. Given how highly specific these assets are, vertical integration would be expected instead of the hybrid forms they actually adopt. However, the companies develop relational capabilities that lessen asset specificity perception in a manner that other, less coordinated structures are seen as more beneficial alternatives. Thus, these cases show **evidence**

**that favors Proposition 2** – the greater the relational capacity, the lower asset specificity perception will be and thus the lower the level coordination involved in the transaction will be also.

#### **4.4.2. Plural fForms – “Company A”**

The plural forms expected to be found in highly uncertain scenarios and with medium asset specificity (Schnaider et al., 2018) were observed in the case of “Company A” for sustainable cocoa (center region of the Integrating Model in Figure 1) and for conventional cocoa (boundary region designated for plural forms in which specificity is lower, near  $K_1$ ). This corroborates the model by Schnaider et al. (2018).

Relational capacity as observed in both of the cases for “Company A” was not sufficient to reduce uncertainty perception to the point of justifying non-plural forms. Thus, **what was observed in “Company A” was the opposite of Proposition 1**, that is, the lower the relational capacity, the stronger the uncertainty perception will be and consequently the more likely plural forms will be adopted.

## **5. CONCLUSIONS**

This study set out to determine the impact dynamic capabilities have on the use of plural forms in Brazil’s cocoa processing sector. This is a market that is currently undergoing transformations as consumers have come to increasingly demand sustainable products, something that requires the production chain to make adjustments that reflect these new demands.

Placed in this context, the main contribution of this study is that it incorporates a dynamic perspective to more recent research work that relied on ECT to explain the use of plural forms. As

found in the cases described above, there is evidence that dynamic capabilities do influence how transactional attribute levels are perceived, hence altering efficient decision-making. In the empirical universe presented above, especially those cases involving medium asset specificity and considerable uncertainty, what was observed is that the greater the dynamic capabilities, the lower the perceived uncertainties will be and, thus, the less often plural forms will be adopted (P<sub>1</sub>). Moreover, the greater these capabilities, the lower the perception of asset specificity since they facilitate the replacement of transactional partners. Therefore, the level of coordination involved in the transaction – whether or not through plural forms – will also be lower (P<sub>2</sub>).

These findings raise questions concerning the use of plural forms over time as markets evolve and new capabilities are developed. In the case of “Company A” as a counterpoint to the others, one could concede that this company reflects the stages its peers found themselves in some time in the past, in which their relational capabilities had not been developed. Accordingly, as companies develop dynamic capabilities, the more they will be able to work on perceiving transaction attributes and, consequently, the more likely they will be to use non-plural governance structures over time. This idea introduces a third proposition, one that can be explored in future studies:

*Proposition 3: The more developed the dynamic capabilities are, the less often plural forms will be adopted over time.*

Evidently, this is a complex matter as it also dependent on company strategies and on the speed at which changes take place. Nevertheless, what can be assumed based on the findings in this study is that both transactional attributes and dynamic capabilities could explain why plural forms

predominate over time in some cases but not in others, whether in the same firm or across different industries. These are subjects that could be the topic of research in future studies.

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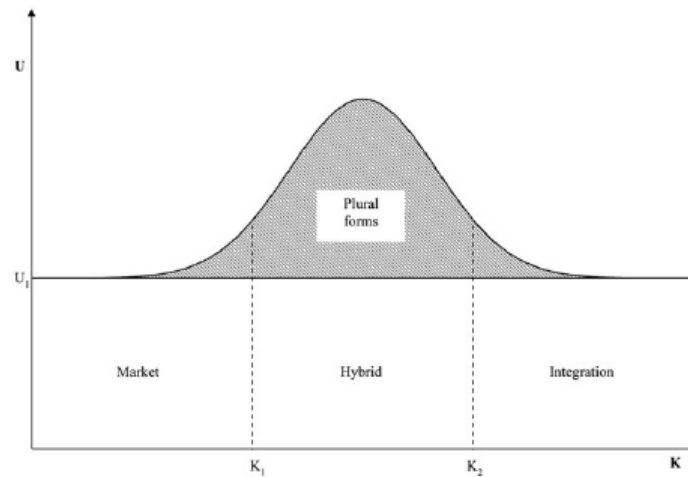
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## **FIGURE1**

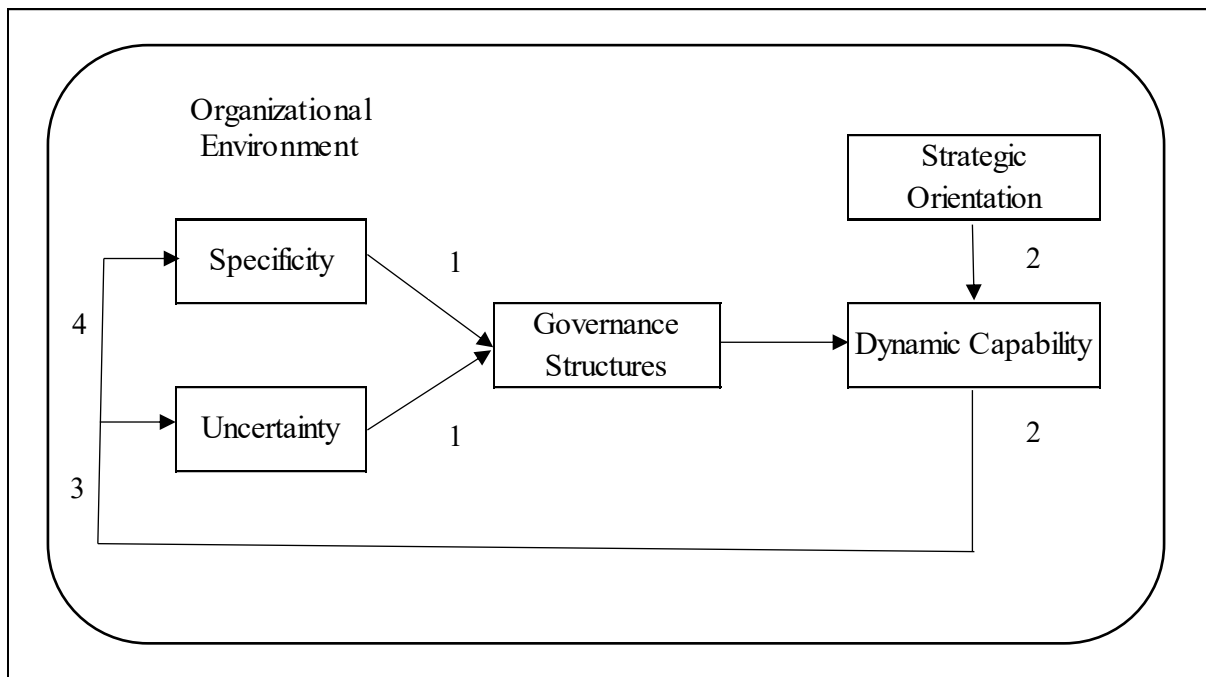
Integrative Model of Transactional Attributes



Source: Schnaider et al. (2018, p. 654)

**FIGURE 2**

### Dynamic Capability in Governance Structures – Integrative Model



Source: The authors (2022)

**TABLE 1**

Summary of variables evaluated in the three empirical illustrations

	IBC			Luisa Abram	“Company A”	
	Conventional	Fermented	Organic	Fine/Origin	Conventional	Sustainable
Sourced from	Spot Market	Hybrid	Hybrid	Hybrid	Plural Forms	Plural Forms
% of Total Purchased	85%	12%	3%	100%	87%	13%
Asset Specificity	++	+++	+++	+++	+	++
Supply Uncertainty	+	+	+	+	+++	+++
Performance Uncertainty	+	+	+	+	+++	++
Technological Uncertainty	-	-	-	-	-	-
Organizational Uncertainty	-	-	-	-	+++	+++
Relational Capacity	++	+++	+++	+++	+	+
Strategic Orientation	Special Market			Special Market	Major Companies in the Conventional Market	

Source: The authors, based on the data collected.