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Working with cooperatives, the company perspective: A case of the dairy industry

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Table of Contents

List of figures and tables

Final report

Appendix

Executive Summary

The notion of cooperation is known throughout history. In the food industry sector, this notion is most commonly expressed in individuals coming together and forming a cooperative. As a result many cooperatives can be seen worldwide in various levels of the supply chain, with the most common and significant ones at the producer level, the agricultural cooperatives. These are cooperatives of farmers coming together for benefits such as a greater bargaining power and access to the market. Much of the literature is dedicated to cooperatives, trying to examine how a cooperative works and its benefits towards its members. However, little is mentioned for their interaction with the next levels of the supply chain, such as processing companies. As there are few studies in the literature reporting that cooperatives struggle to meet companies' demands and are facing issues that may inevitable break apart a cooperative, the interaction between a cooperative and a processing company needs to be properly examined. Thus, the goal of this research was to examine the possibility of a business relationship between a cooperative and a processing company and determine the nature of this relationship. The scope of the research was restricted to the dairy industry sector, due to the uniqueness presented by each food industry sector, and because the first and most important types of cooperatives are considered to be dairy cooperatives. At first a literature review was carried out in order to find the criteria and demands of the companies and how well the cooperatives function to meet those demands. The most essential criteria turned out to be total cost, raw material quality, timing of delivery, supplier's financial stability, matching supplier CSR, innovation possibilities, and unique services. It was found, through the literature, that the more professional/business oriented is a cooperative, the more it can perform and meet a company's demands. Four types of cooperatives have been defined, namely traditional cooperatives, two types of entrepreneurial cooperatives and an investor owned firm. Lastly, a decision-making tool was made based on the literature findings, for companies to use to assess cooperatives of the derived typology. Data collection was carried out through semi-structured interviewing, in person or by phone. Seven interviews were carried out in total with personnel whose position includes evaluating suppliers, and have knowledge and/or experience with cooperatives. Through the interviews, the criteria listed were verified of their significance, with supplier financial stability less importance than originally expected and CSR being a criterion in need of redefining its meaning. In addition, sustainability is now considered as a criterion with significance. The general notion that the more business oriented and professional a cooperative is, the better it performs and meets a company's demands was verified. Appropriate optimization was carried out for the tool as well. This research may serve as a ground base for further research topics, either by examining the culture aspect of a cooperative, expanding to cooperatives of other industry sectors or even suppliers.

1. Introduction

Throughout humanity's history all around the world, the notion of individuals working together, in order to achieve a common goal, has been frequently observed (Zeuli, Cropp, 2004). This action of cooperation is considered a natural aspect of a people's community culture, as the occurring result is the improvement of the economy and the social life of the community (Chloupková, 2002).

This notion of collaboration has been frequently observed in businesses, where many members grouped up together to form a business organization that is owned by its members (Hanf, Pieniadz, 2007). Most of the time, this type of organization is called a cooperative and, as mentioned before, is the result of integration (Birchall, 2004). There are two types of integration, namely the vertical and horizontal integration (Birchall, 2004). Both are considered by researchers to be crucial, as both can function as key enablers of collaborative relationships in the food product chains, and thus both have gained the interest of academics (Hanf, Pieniadz, 2007; Royer, 2011). Between the two, however, the horizontal integration has the most attention (Hanf, Pieniadz, 2007). Among the types of horizontal cooperatives, based on industry sector, the most important and most successful types of cooperatives are the agricultural cooperatives, which is said to have started being formed since the industrial revolution (Birchall, 2004). Ever since, the amount of agricultural cooperatives has increased, but has drastically spiked during the last two decades (Hanf, Pieniadz, 2007).

At first, agricultural cooperatives were formed as a means for farmers to survive economically by having a higher bargaining power (Chloupková, 2002) and to achieve higher efficiency through economies of scale (Hanf, Pieniadz, 2007). Nowadays, with demand for high value agricultural products, higher domestic demand, and the necessity for farmers to access the food market (Birthal et al., 2007; Birchall, 2004; Briscoe, Ward, 2006; Benson, 2014), agricultural cooperatives are becoming the norm in the vast majority of the world's countries and have become more innovative through the use of advanced management structures (Ritossa, Bulgacov, 2009).

For instance, a large share of the agricultural production (40%) in Europe derives from agricultural cooperatives (Bijman et al., 2014), which represent around to 50% of the agricultural and food sector (Juliá-Igual et al, 2012). Other examples of countries with cooperatives are the United States (Lowe M., Gereffi G., 2009), Canada (Doyon M., 2002), New Zealand (Akoorie, Scott-Kennel, 1999). In addition, in many other developing countries such as Kenya (Ton et al, 2017) and Ethiopia (Lemma et al, 2008), many cooperatives are emerging.

Among the agricultural cooperatives, the dairy cooperatives are considered the first and most important ones to be formed (Mauget, Declerck, 1996). This is because milk is a product whose production is the main economic source for an immense amount of smallholder farmers worldwide (Sutikno et al, 2018). Additionally, dairy cooperatives enable product innovation and ensure welfare for its members, apart from profit assurance (Mauget, Declerck, 1996; Sutikno et al, 2018). Lastly, as milk is a perishable product, a certain amount of skills and services are required that farmers can only acquire or access through dairy cooperatives (Khalafalah, 2010).

A lot of academic research has been conducted and will continue to be conducted, in order to examine why agricultural cooperatives, such as the dairy cooperatives, are beneficial for farmers and how these cooperatives should function. However, to the author's knowledge, there is limited to no research regarding why and how companies should collaborate or partner with cooperatives. Companies regularly evaluate potential partners based on certain chosen management perspectives or spectrums, such as the perspective of supply chain management or the one of quality management. Based on the chosen management perspective(s), companies formulate criteria that they use to evaluate and suppliers as potential suppliers. If the supplier fulfills the company's criteria, then there is the possibility of a partnership developing between the company and the supplier. For the whole supplier evaluation and selection process, there are even cases when decision-making tools can be used by companies, such as the ABC classification or the Buy, Ally or DIY matrix (Johnson, Whittington, Scholes, Angwin, Regner, 2018). Tools, such as these, offer speed, clarity, and efficiency for the whole process of dealing with a supplier. Despite all that, there isn't any relevant research on how companies could evaluate cooperatives as potential partners, nor a related decision-making tool. This issue gains more ground when one considers the fact that in most countries a large part of the supplier base consists of cooperatives, making the needs for evaluation criteria and a decision making tool a necessity for processing companies who are the immediate downstream partners for the suppliers, in the supply chain. This knowledge gap gains even more importance when research shows that cooperatives are starting to face challenges due to recent trends such as the availability of partners worldwide, the global vs local pressure starts to take hold, competition with multinational companies and advanced industrialization (Devendra, 2001; Feng et al, 2011; Johnson et al., 2018). At the same time, government interference through policies, potential support or not, and the stability of the actual cooperative that is based on trust and loyalty (Feng et al, 2011), make cooperatives likely unstable, like in Bangladesh where the cooperatives were highly dependent on government financial support and were having profit limitations (Khalafalah, 2010).

Thus, in a world where cooperatives are unstable and/or changing to new organizational forms, due to these issues (Feng et al, 2011) and there is limited research regarding the suitability of cooperatives as business collaborators from the perspective of a company, it is of high importance to examine this topic.

1.1 Central Research Question (CRQ)

For this study, the main general issue that will be tackled is the following:

Under what internal and external conditions are dairy cooperatives suitable business partners for a processing company? What type of business relationship should a company develop with a cooperative?

The Oxford dictionary definition for "*suitable*" is used, meaning something being right or appropriate for a particular person, purpose, or situation. Thus, in the context of this research, a suitable business partner means that the dairy cooperative is appropriate for a processing company to develop a business relationship with.

Due to the broadness of the types of agricultural cooperatives based on main product produced (e.g. milk, fruits, vegetables etc.), and their potential partners, the scope of the research has to be narrowed down. For this purpose, the dairy cooperatives were chosen, because they are the most significant, due to the fact that an imperative percentage of the milk produced in various countries worldwide originates from dairy cooperatives (Sutikno et al, 2018; Lerman, 2013). On the other hand, processing companies were chosen, because they are the immediate level after the dairy cooperatives in the supply chain, thus this is the supply chain level where the research and its derived decision-making tool are most needed.

1.2 Sub Research Questions

There are some sub-categorical questions, which will be answered through this research. This will be done with a literature review (Chapter 2, Theoretical background) and/or data collection (Chapters 3 and 4).

- Why is a cooperative different than an investor owned firm?
- What are the types of cooperatives that currently exist?
- Which management perspectives can be used to evaluate a cooperative as a business partner?

- Based on these management perspectives, what are the criteria that a processing company considers when partnering with a supplier?
- What are the possible types of business relationships that can be formed between a processing company and a supplier?
- What are the strengths and weaknesses of each type of cooperative, based on the selected management perspectives?
- How does the type of a cooperative influence the business relationship with the processing company and why does this influence occur?

1.3 Aim

As determined via the above central and sub research questions, the aim of this study is to examine the suitability of a dairy cooperative as a business partner for a dairy processing company and to determine what kind of business relationship should be developed between a dairy processing company and a dairy cooperative.

1.4 Objectives

- To clarify, through literature review, what the characteristics of a cooperative are.
- To review and list, through literature review, the different types of cooperatives.
- To determine, through literature review, the crucial management aspects, and their contingencies/criteria, which a company can use to evaluate and select a cooperative.
- To evaluate from the perspective of a company, based on those management aspects, each type of cooperative for its strengths and weaknesses as business partners.
- To design a decision making tool that provides recommendations about the possibility of a business relationship between a dairy processing company and a dairy cooperative, and the nature (weaker/closer) of this relationship.

2. Theoretical background

2.1 Cooperatives: definition and characteristics

"Why is a cooperative different than an investor owned firm?"

According to the International Cooperative Alliance (ICA) (2018) a cooperative is defined as "*an autonomous organization of people united voluntarily to meet their common economic, social, and cultural needs and aspirations through a jointly owned and democratically controlled enterprise*".

In other words, the difference from investor owned firms is that cooperatives are created, owned and controlled by members. Apart from that, the goal of cooperatives is to benefit its members and have different objectives than conventional companies (investor – owned firms, IOF). While in IOFs return of investment is the main focus, in cooperatives the focus is on providing services and benefits, such as certain products, to their members (Soboh, Oude Lansink, Van Dijk, 2011).

Apart from the above, cooperatives, in general, are characterized by a certain array of principles which are, based on the ICA:

1. Voluntary and Open Membership: *Cooperatives are voluntary organizations, open to all persons able to use their services and willing to accept the responsibilities of membership, without gender, social, racial, political or religious discrimination.*
2. Democratic Member Control*: Cooperatives are democratic organizations controlled by their members, who actively participate in setting their policies and making decisions. Men and women serving as elected representatives are accountable to the membership. In primary cooperatives members have equal voting rights (one member, one vote) and co-operatives at other levels are also organized in a democratic manner.*
3. Member Economic Participation*: Members contribute equitably to, and democratically control, the capital of their cooperative. At least part of that capital is usually the common property of the cooperative. Members usually receive limited compensation, if any, on capital subscribed as a condition of membership. Members allocate surpluses for any or all of the following purposes: developing their cooperative, possibly by setting up reserves, part of which at least would be indivisible; benefiting members in proportion to their transactions with the cooperative; and supporting other activities approved by the membership.*

4. Autonomy and Independence*: Cooperatives are autonomous, self-help organizations controlled by their members. If they enter into agreements with other organizations, including governments, or raise capital from external sources, they do so on terms that ensure democratic control by their members and maintain their cooperative autonomy.*
5. Education, Training and Information*: Co-operatives provide education and training for their members, elected representatives, managers, and employees so they can contribute effectively to the development of their co-operatives. They inform the general public - particularly young people and opinion leaders - about the nature and benefits of co-operation.*
6. Cooperation among Co-operatives*: Cooperatives serve their members most effectively and strengthen the cooperative movement by working together through local, national, regional and international structures.*
7. Concern for Community*: Cooperatives work for the sustainable development of their communities through policies approved by their members.*

However, in order to account for a range of practices, such as open or closed membership and voting practices, there are three basic and flexible principles, proposed by Dunn in 1988. These principles are the following:

1. The User-Owner Principle: *Those who own and finance the cooperative are those who use the cooperative.*
2. The User-Control Principle: *Those who control the cooperative are those who use the cooperative.*
3. The User-Benefits Principle: *The cooperative's sole purpose is to provide and distribute benefits to its users on the basis of their use.*

For the same reason as Bijman et al, 2012, which is to cover an array of practices, frequent in new cooperatives, in this research the cooperatives will be assumed to have the three basic principles of Dunn (1988)

Another form of collaboration is the "Producer Organization" (PO) organization model. These producer organizations are defined as "*formal rural organizations whose members are smallholder farmers who organize themselves with the objective of improving farm income through improved production, marketing, and local processing activities*" (Maijers, Nalla, Commandeur, 2016). Although they are share similarities in many functions, such as the achievement of a greater bargaining power (Maijers et al., 2016), they are not the same with cooperatives. In fact, cooperatives can be a part of a PO, or a PO can have a cooperative, which

is also legally recognized (European Commission, 2018; Khalid, 2011). Lastly, the European Commission (2018) acknowledges that POs are a starting step of cooperatives and, thus, POs can evolve into cooperatives, a notion that was also observed by Wijnands, Bijman and Tramnitzke (2017). Because of what was said in this paragraph, POs will not be included into the scope of this research.

2.2 Types of cooperatives

"What are the types of cooperatives that currently exist?"

There are many methods in the literature through which types of cooperatives can be distinguished (Bijman et al, 2012), for instance the one of Van Bekkum (2001), who distinguishes cooperatives into 4 types based on strategy emphasis and structure (see Appendix Figure 1).

For the scope of this research three typologies will be discussed. The first being based on primary function, the second based on ownership rights structure, and the third based on members' involvement in their patron and investor roles. The first two typologies will be explained in the next pages (Sections 2.2.1 and 2.2.2), while the third typology will be discussed later in the Chapter 2 (Section 2.7.4).

2.2.1 Typology based on primary function

By a cooperative's primary function is meant what its core business activity or activities include. Based on this typology, cooperatives can be distinguished into (Zeuli et al., 2004):

- **Production cooperatives**, which aims for collective production.
- **Marketing cooperatives**, meant to market the products of their members. A common example of a marketing cooperative is the bargaining cooperative, whose purpose is to secure better prices for the products of its members.
- **Purchasing cooperatives**, whose goal is to provide supplies for its members, on competitive prices.
- **Consumer cooperatives**, which help consumers acquire products at better prices.
- **Service cooperatives**, which provide a variety of services to its members.

Note that the functions of each type of cooperative may vary from one industry sector to the other. In the agriculture/food industry sector, there are mainly two types discussed in the literature, namely production and marketing cooperatives (Zeuli et al., 2004, Bijman et al, 2012).

On one hand, **agricultural marketing cooperatives** (sometimes mentioned as agricultural service cooperatives as well) have the purpose of providing greater bargaining power and control for the produce's selling, reducing of the costs of said marketing, and obtaining agricultural inputs, such as seeds and fertilizers. An agricultural marketing cooperative is owned and operated by a group the members, but the members act and produce separately than the cooperative (Tefera 2008; Lerman 2013; Smith 2013). This type of cooperative is now considered the most common worldwide and can be mostly found in developed countries such as Western Europe, North America, Japan, South-East Asia (Bijman et al., 2012; Hagedorn, 2014; Lerman, 2013; Smith 2013).

Agricultural marketing cooperatives can be further distinguished into two types or "*two extremes*", as Zeuli et al. (2004) mention them. The first type or extreme is the **bargaining cooperative**, whose only function is to collect and sell the products of the members (Zeuli et al., 2004; Burt, 2016). The other is the **manufacturing or processing cooperative**, whose functions also include other activities such as processing, packaging and labeling, distributing, and storing of products (Zeuli et al., 2004; Burt, 2016). Processing cooperatives are often considered the result of expansion through vertical integration (Burt, 2016; Lerman 2013). In the dairy industry sector, the most common marketing cooperative is the bargaining cooperative (Zeuli et al., 2004)

On the other hand, **agricultural production cooperatives** are not limited to providing. In these cooperatives, the members pool their resources and focus input and output marketing, provision of credit and/or joint use of machinery equipment (Hagedorn, 2014; Mohammadi, et al. 2011). Such type of cooperatives can be found in Central and Eastern Europe (including Russia), Asia, scarcely in USA (Hagedorn, 2014; Wolz, Kopsidis, Reinsberg, 2010; Chloupkova 2002; Wolz and Duong, 2009; Smith, 2013). There is a debate however from Chloupkova (2002), that these types of cooperatives are not "*true cooperatives*", because in many cases such as Russia, there is forced membership, a fact which does not obey the principles of the ICA.

The structural difference between the two types of cooperatives can also be seen in Figure 1.

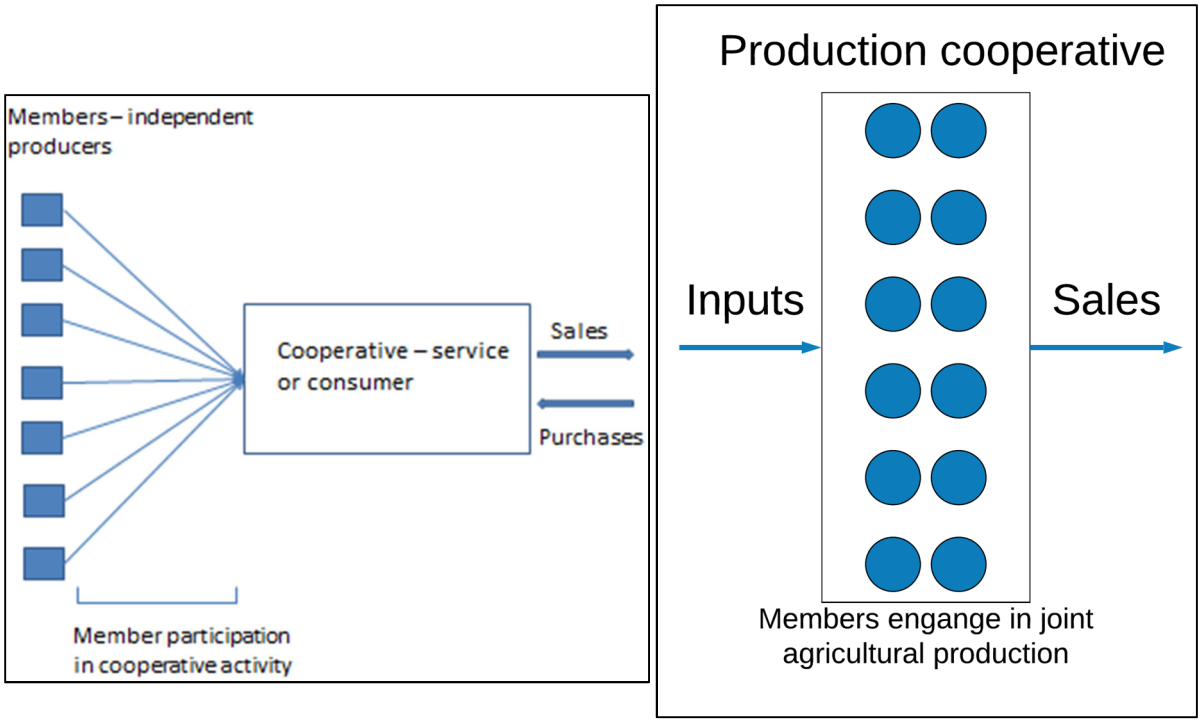

Figure 1: Structural difference between agricultural marketing/service cooperatives (left) and agricultural production cooperative (right). Source: Lerman (2013)

It can be seen that a complexity rises when considering the two types of cooperatives. On one side, agricultural marketing cooperatives are the most common nowadays but the farmers act separately than the cooperative, thus implementing farmer improvement is more complex, because the cooperative does not have direct control. On the other side, agricultural production cooperatives are not so common, especially in developed countries, but here farmer improvement is better, due to the fact that cooperatives have greater control of the farmers. In this research the default traditional cooperative is going to be assumed to be an agricultural bargaining cooperative, for the fact that in the dairy industry sector bargaining cooperatives are the most common (Zeuli et al., 2004). This cooperative still obeys Dunn's three principles of section 2.1, and its primary function is only to collect and sell milk of its members. From that point and forward, a cooperative can evolve into another form of marketing cooperative, such as a processing cooperative. This way, a simpler and better perspective can be acquired for cooperatives, and a clearer message about the cooperatives' standing in whole can be acquired from the companies' perspective.

2.2.2 Ownership-rights structure typology

Due to the emergence of new organizational structure types of cooperatives (Feng et al, 2011; Chaddad and Cook, 2004), Chaddad and Cook have introduced in 2004 a new distinction of

cooperatives based on ownership rights of the three main economic agents of a cooperative, the members, the patrons and the investors, resulting in 7 different types of cooperatives, as shown in Figure 2. Through this distinction, new types of cooperative structure can be identified and categorized, traditional structure types remain well described, while limitations through government interference and/or investment limitations are accounted (Chaddad and Cook, 2004).

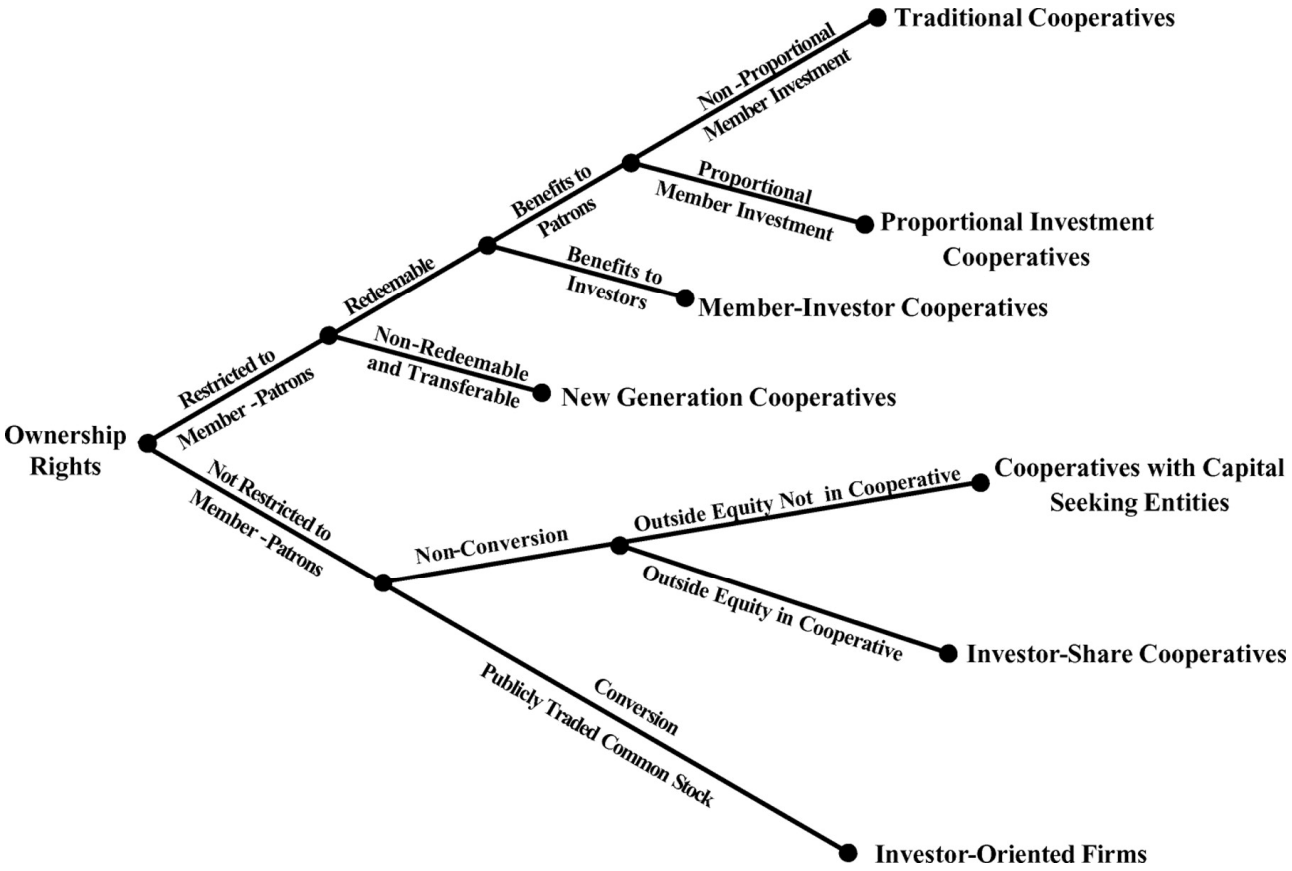

Figure 2: Types of cooperatives based on ownership rights (Chaddad and Cook, 2004)

As shown in Figure 2, the types of cooperatives that Chaddad and Cook proposed, based on ownership rights are the following:

- **Traditional cooperatives**, where ownership rights are limited to members and patrons, residual return rights are non-transferable, non-appreciable and redeemable, while benefits are distributed between the cooperatives members in proportion to patronage. This type of cooperative is subject to government and investment constraints.
- **Proportional Investment cooperatives**, where ownership rights are limited to members, nontransferable, whose rights are non-appreciable and redeemable. However, members

are expected to invest in the cooperative in proportion to patronage. Returns to members are distributed in proportion to shareholdings in addition to patronage.

- **Member – investor cooperatives**, where ownership rights are restricted to member and patrons, non-transferable and redeemable, and returns to members are distributed in proportion to shareholdings rather than patronage.
- **New Generation cooperatives**, where ownership rights are in the form of tradable and appreciable delivery rights, which are restricted to current member-patrons. These member-patrons are required to acquire delivery rights on the basis of expected patronage so that usage and capital investment are perfectly aligned.
- **Cooperatives with capital seeking entities**, where ownership rights are not restricted to member-patrons and the cooperatives may acquire risk capital from exterior investors with capital seeking entities, such as a strategic alliance, a publicly held subsidiary, or a trust company.
- **Investor – Share Cooperatives**, where ownership rights are not restricted to member-patrons and the cooperatives may acquire risk capital from exterior investors with capital seeking entities. The difference from the previous type is that the ownership rights of the exterior investor differs from the ownership rights of the members-patrons of the cooperative, thus may bear different risks, returns of investment, control, tradability and redeemability.
- **Investor – Oriented firms**, which are cooperatives that, as an exit strategy, have chosen to stop operation as a user-owned and controlled organization. These cooperatives are able to acquire risk capital from non-member sources.

The main differences between the lower branch (investor oriented, investor – share, capital seeking cooperatives) and the higher branch is that in the former, the ownership rights are not restricted to member-patrons, and that members may have to share profits and eventually control rights with outside investors who are not necessarily patrons of the cooperative and thus may have diverging interests. This may lead to conflicting goals between maximizing returns to investors and member-patrons may occur as a result (Chaddad, Cook, 2004).

With this distinction, traditional cooperatives and investor owned describe the conventional types of cooperatives existing so far, while the other 5 types are applicable to new or reformed cooperatives. For instance, US cooperatives (CoBank, Land O' Lakes) can now be described as proportional investment cooperatives or others as cooperatives with capital seeking entities (Dairy Farmers of America), cooperatives such as Campina Melkunie can be described as member-investor cooperatives, New Generation cooperatives (NGC) for cooperatives under the

Tatua Cooperative Dairy Company in New Zealand or cooperatives in France as investor-share cooperatives (Chaddad and Cook, 2004).

A limitation of this typology is that it originally addresses marketing cooperatives that may attempt to vertically expand into other activities e.g. processing, thus financial constraints will most likely occur (Chaddad and Cook, 2004). However, if agricultural marketing cooperatives need to adapt and be able to overcome their challenges and meet a company's demands, they will need financial investment. Hence, the issue of financial constraints will occur. This is the reason why Chaddad and Cook's typology (2004) is considered.

2.3 Management perspectives

"Which management perspectives can be used to evaluate a cooperative as a business partner?"

When discussing supplier decision-making, there are mainly two management perspectives discussed in the literature, through which perspectives a company can evaluate a cooperative. The first being Quality Management (or more appropriately Total Quality Management, TQM) and the other Supply Chain Management (SCM). These two perspectives nowadays act as umbrella managerial fields that include various aspects of other management fields, such as relationship management (Fawcett et al., 2007; Harland, 1996; Talluri and Narasimhan, 2004), order fulfillment or inventory management (Fawcett et al., 2007; Foster, 2008; Matopoulos et al., 2007), innovation management (Fawcett et al., 2007; Matopoulos. et al., 2007), quality management (Foster S. T. 2008; Luning et al., 2002), strategic management (Talluri and Narasimhan, 2004), operations management (Foster 2008), logistics management (Mentzer et al., 2001).

Total Quality Management (TQM) is defined as "*the assembly and management of all activities aimed at the production of quality by organizations of various kinds*" (FAO, 2018). It combines commitment, discipline and a cross-organizational effort (Liboreiro, 2013). Total Quality Management is a complex model of thinking in business management to improve organizational performance and quality (Javier et al., 1995). It is complex, because it involves many different management perspectives for an effective quality management, such as innovation management, strategic management and operations management. This model of thinking is the result of the pressure on the food industry from the demand of high sensory quality and safe products with an appropriate shelf-life (Luning et al., 2002). Total Quality Management (TQM) is essential for food products that are perishable, such as milk. Only through proper managerial systems that utilize certain skills and services, can these products survive

throughout the supply chain and reach the end-consumer. It is for this purpose that cooperatives or partnering with cooperatives is mainly considered (Khalafalah, 2010).

TQM is based on four management functions, which are the planning, organizing, leading, controlling functions. These functions are translated to quality planning, quality control, quality assurance and quality improvement. All of these functions at one point include supplier related decision-making, either long-term or short-term. As mentioned before, in order to more achieve a higher quality, TQM acknowledges that collaboration across organizations is critical (Luning et al., 2002). Collaboration is emphasized more for TQM's aspect of quality assurance, where it is acknowledged that quality and safety control is required in every step of the food product's chain (Trienekens and Zuurbier, 2008). This is the reason that companies are shifting from transactional relationships to closer ones with suppliers and embark on joint activities and cooperation. Thus, suppliers are being evaluated by the companies not only as simple transactional contacts, but also for the possibility of a closer partnership, should the companies' chosen evaluation criteria be satisfied. Unfortunately, there is always the scenario where the advantages of a close, or even a transactional, relationship with a supplier to be greatly countered by risks, such as greater costs or order fulfillment inefficiencies (Luning et al., 2002).

Supply Chain Management (SCM) is defined as: "*The design and management of seamless, value-added processes across organizational boundaries to meet the real needs of the end-customer*" (Fawcett et al., 2007). As per said in the introduction, cooperatives have gained more importance recently due to trends such as the availability of partners around the globe, demand for high value agricultural products and new means of innovation (Birthal et al., 2007; Birchall, 2004; Briscoe, Ward, 2006; Benson, 2014). These trends are some of the drivers that leads companies to optimize the supply chains that they are part of (Fawcett et al., 2007). Other drivers to supply chain optimization include pressure for more efficient product flows in the supply chain, dealing with new quality and safety standards, policies and legislation, and a plethora of new potential partnerships. Hence, SCM is a crucial management perspective for a company, as it is constantly seeking, evaluating and re-evaluating business partners in this new global market (Fawcett et al., 2007). In SCM, there is also the changing rationale from many suppliers with transactional relationships to a limited number of suppliers with a closer collaborative relationship, in order to achieve competitive advantages derived from collaboration (Fawcett et al., 2007; Mentzer et al., 2001).

2.4 Contingencies of a processing company

"Based on these management perspectives, what are the criteria that a processing company considers when partnering with a supplier?"

By cross-referencing the two management perspectives, a number of criteria occur, each with a different level of importance. As a first step of the contingency analysis, the level of importance, given to each criterion, is based on the importance given to these criteria by the studied literature. Here, importance means how much attention companies pay to these criteria, and how great the effect will be in the possibility and nature of a business relationship. The higher the level of importance, the more this contingency/criterion will positively or negatively affect the possibility and the nature of the business relationship between the processing company and a supplier. It should be noted that a contingency's level of importance is relative and may show variance depending on a company's policies or needs or even per supplier decision, as most of the times a supplier selection is a trade-off between multiple supplier criteria (Agarwal, Vijayvargy, 2011). The contingencies are the following:

1. **Total cost (high importance)**: A large percentage (60%) of a finished products costs comes from supply costs, such as material acquisition costs. Material acquisition costs do not only include practical material price costs, but also quality costs (e.g. inspection costs, material quality failure costs), delivery costs and costs related to the formation and managing a relationship (e.g. contracts, personnel) (Fawcett et al., 2007; Luning et al., 2002; Ho, Xu, Dey, 2009). Companies, in general, look for suppliers with the lowest total cost possible (Fawcett et al., 2007). Lastly, as mentioned before, costs are risks that may greatly obstruct the possibility and the nature of the business relationship with a supplier, as it can negate potential relationship occurring advantages. An example of the effect on the nature of the relationship is whether it's a one-time purchase or an on-going purchasing period, with the first based on a weak transactional tie, the latter with the possibility to be based on a closer relationship (Fawcett et al., 2007). Although it is of high importance, it is not considered as high as the quality criterion, contradicting the traditional cost-approach Ho et al. (2009).
2. **Raw material quality (high importance)**: The most discussed criterion for decision makers according to a criteria review research done by Ho et al. (2009). In fact, Mentzer et al.

(2001) states that a defect-free product is not considered anymore as a competitive advantage, but rather as a requirement in the market. Specifically for the food industry, the quality of an end food product is significantly dependent on the supplied material's quality, and it is even more critical when it comes to fresh-food end products such as milk (Luning et al., 2002). There are various factors that may influence the quality of the material, and consequently the quality of the end product. These factors can be storage and transport conditions, differences in materials' origin, conditions of practices such as animal breeding, choice of breed, feeding and housing of animals (Luning et al., 2002). As a result, materials (e.g. milk) from different suppliers or even from suppliers within a single group, like a cooperative, will have a variation in quality, which can greatly affect the quality of the end-product. A frequent phenomenon is large heterogeneity of incoming materials, which leads to hardships when implementing quality control, while also bearing a high risk of a low amount of a negative quality factor (e.g. off-flavor or bacteria) to make the end-product undesired or unsafe (Luning et al., 2002; Sraïri et al., 2009). Thus, companies aim to look for and partner with suppliers with the reputation of highest level of quality possible for materials and of a satisfying level of quality assurance on their part. It is possible for the quality evaluation process to be sped up if the suppliers have appropriate certifications to prove a certain level of quality and/or quality assurance (Fawcett et al. 2007; Luning et al., 2002).

3. **Appropriate timing of delivery (high importance)**: According to the research of Ho et al. (2009), it is the next criterion in importance from quality. Usually associated with appropriateness, timing, conditions, efficiency, reliability, lead time and on time (Ho et al., 2009). In food supply chains, the timing of deliveries is critical. This is because deviations from expected delivery times can have an effect on the operations of the company and the quality of the end-product. Generally, what is desired by companies is fast order cycle times and on-time delivery of materials, in order to be cost-efficient and to negate as much quality variation as possible from transportation quality factors (Fawcett et al. 2007; Luning et al., 2002). This is the second most considered criterion based on Ho et al. (2009).
4. **Supplier's financial stability (high importance)**: Financial instability is detrimental for a supplier's total performance. Not only can it hinder delivery times, selling material volume and its quality, and future innovation attempts, but it can also be problematic to the very existence of the supplier. Companies always tend to avoid suppliers who have financial instabilities, as their aim is to secure continuous supplying for cost efficiency

reasons (Fawcett et al. 2007; Hong, Park, Jang, Rho, 2005; Kahraman, Cebeci, Ulukan, 2003).

5. **Innovation possibilities (medium importance)**: As mentioned before, companies are driven by the need to acquire sustainable competitive advantages and by consumer demands to innovate and create products of higher quality and with new functions (e.g. health advantages). However, a critical risk factor for new product development is the possibility of the company's supplier base to respond to the new requirements derived from new product concepts. Thus, not only for quality development, but for the overall higher success chance of new food products, collaboration is essential between the processing companies and the supplier base (Fawcett et al. 2007; Luning et al., 2002; Wagner and Hoegl 2006). Such forms of this collaboration is the Early Supplier Involvement (ESI), and the transformation of company quality systems to chain quality systems. In order to make such collaboration attempts successful, business relationships need to be made with suppliers who have the capabilities, such as technical expertise, to achieve flexibility and adapt to innovation demands. The nature of these relationships tends to be long-term, in order to ensure the successful cooperation (Fawcett et al. 2007; Wagner et al., 2006).
6. **Matching supplier CSR (medium importance)**: Nowadays, quality is also associated with extrinsic attributes, such as the product's environmental impact, or its contribution to the overall sustainability concept (Luning et al., 2002). This phenomenon created new consumer demands and macro-environment pressures, such as from legal, political entities (Fawcett et al. 2007; Luning et al., 2002; Andersen and Skjoett-Larsen, 2009). This lead companies to change their policies and adopt new concepts in their CSR, such as the ensuring of sustainability (as in social, economic and environmental sustainability) and the achievement of premium quality food products (Luning et al., 2002; Andersen et al., 2009). In fact many companies, especially multinational ones, have implemented CSR related annual reports, such as environmental reports and voluntary codes of conduct (Andersen et al., 2009). However, policies and CSRs may vary from company to company, supplier to supplier and company to supplier. Based on the discussion that now CSR is now also extending to other levels of the supply chain, there may be companies that, in order to fulfil their CSR policies, they need to forge partnerships with certain suppliers who share the same ideologies (Fawcett et al. 2007; Luning et al., 2002; Andersen et al., 2009; Maloni, Brown, 2006).
7. **Services (low importance)**: There are occasions that certain suppliers may have special services. Example of such services are fast response on complaints or purchase-market

information. In the spirit that these special services can function as value-added activities, thus adding extra value to the supplier's selling product or even to the end product, then certain companies may consider this an important attribute for a supplier (Fawcett et al. 2007).

2.5 Translating the contingencies into company demands

Through the previous section (2.6), the criteria a processing company uses to evaluate a supplier were listed. These criteria translate into demands or standards that a company has for when evaluating suppliers. In order to meet those demands, the supplier, be that a cooperative or an investor-owned firm, has to have certain resources and capabilities (Talluri and Narasimhan, 2004). In this section, a discussion of these resources and capabilities is done.

Starting from quality, a supplier needs to be able to guarantee a safe product at minimum or a high/premium quality at best (Fawcett et al., 2007; Luning et al., 2002). To accomplish this task, the supplier needs at first to have the mindset of achieving a certain level of quality, be that a safe product or higher quality. Then, depending on the aimed quality, proper resources such as technological equipment (e.g. silos, production related equipment), or input resources such as certain animal breeds and feeds, in case of animal production. It may also require to have certain knowledge of quality concepts or practices related to the production (e.g. milking practices to produce milk) (Luning et al., 2002; Kanchana, Helo, Phusavat, 2007; Kahraman et al., 2003). Adding to all the previous, is the importance of proper quality management personnel or practices, when the production of the supplier's selling material becomes more complex or higher quality standards need to be fulfilled. There are cases where the company can consider a capability or resource the supplier's acquisition of certain quality certifications, which ensure the quality reputation of the supplier to its clients and speed up the process of quality evaluation (Luning et al., 2002).

For total costs, a reminder is needed that a processing company will never consider to partner with a supplier if the total costs offset the advantages of said partnership (Fawcett et al., 2007). Thus, it is of importance for the supplier to actively lower the total costs of the relationship from his part as well. Total costs reduction also involves indirect costs such as assuring the agreed quality, to minimize quality related costs such as inspection or failure costs, and assuring delivery is done under proper criteria, namely agreed timing and volume (Fawcett et al., 2007; Ho et al., 2009). In addition, the supplier needs personnel who have at least an understanding of negotiations in material pricing, in order to be able to form relationships with a company under fair trade. The more closer and complex the potential relationship becomes or can become, the

more proper relationship management practices and managers with relevant knowledge are needed, in order to ensure the relationship is properly managed and benefits for both parties are occurring (Fawcett et al., 2007; Johnson et al., 2018; Ho et al., 2009).

The concept of innovation is a complex one. Examples of the resulting complexity is diversity of products, new product requirements, and new means of production. When a company evaluates and selects a supplier in regards to innovation, the demands are linked with the degree of flexibility that the supplier has. This flexibility characteristic can be achieved with proper resources, such as technological equipment and/or proper (managerial) personnel, and capabilities, including proper knowledge of innovation or deep knowledge of the to-be-innovated product (Johnson et al., 2018; Fawcett et al., 2007; Kanchana et al., 2007; Kahraman et al., 2003). All of these resources and capabilities require at some point financial investment, so the supplier needs to be willing and able to invest and undertake such innovation actions. The importance of the willingness of the supplier to innovate and of the proper managerial personnel is even higher in the scenario of collaborative innovation between the supplier and a next level of the supply chain partner, such as a processing company (Johnson et al., 2018; Fawcett et al., 2007; Wagner et al., 2006).

Assuming the client of the supplier (e.g. processing company) does not have the resources (trucks) to collect the milk itself, the supplier needs be able to supply the milk to the client himself. This means that the supplier needs to have the proper equipment to gather and distribute their product (e.g. trucks), while doing so in agreed time schedules and volumes (Fawcett et al., 2007). Regardless of the possibility of the client collecting the milk from the supplier, the supplier may still need to be able to gather its product and store it at collection centers, especially in the scenario of multiple areas of production with significant distance from each other. Thus proper equipment (e.g. trucks) and structure (e.g. silos, warehouses) resources are needed. Apart from the fact that resources and capabilities related to storage conditions are crucial, as stated previously, proper inventory management practices and personnel may be needed, in case complexity rises in managing inventory due to inventory reaching a certain critical size (Fawcett et al., 2007; Sraïri et al., 2009; Ho et al. 2009).

To ensure financial stability doesn’t require any specific resources and capabilities at first. However, the more complex the production and supplying, the more investments are needed to be made and, thus, the more the need for proper financial related management practices and proper managerial personnel are needed (Fawcett et al., 2007; Johnson et al., 2018; Kanchana et al., 2007).

When it comes to matching CSR, not only does a supplier need to have the appropriate organizational culture that complies with the CSR, but on some occasions the proper managerial practices, mostly strategy related, need to be adopted as well. Think of environmental sustainability, where not only does the company's strategy, leadership, and personnel need to acknowledge sustainability as important, but the proper management in production is needed to minimize the product's environmental impact (Johnson et al., 2018; Kanchana et al., 2007; Andersen et al., 2009; Maloni, Brown, 2006).

Lastly, if the opportunity for unique services occurs, then suppliers need to have the certain resources, such as technological equipment, personnel with relevant knowledge, but also to adopt the proper management practices to utilize this service. For instance, a supplier offers material related information-sharing services, it needs the proper equipment to utilize information sharing (e.g. an Enterprise Resource Planning system, ERP), the proper managerial personnel who is knowledgeable of information-sharing and management of information Fawcett et al., 2007).

Concluding, one can see that a supplier needs at least certain resources and capabilities such as technological equipment (e.g. trucks, collection centers, production equipment), knowledge of the product and its characteristics, and simple understanding of material pricing, negotiations, quality are needed. The more complex the production becomes, like when production volumes pass certain volume, and innovation possibilities and CSR are considered, and the more complex and closer the relationship becomes with the partnering company, the more advanced resources are needed, investments need to be made, and management practices with related managerial knowledge and personnel is needed for the supplier.

2.6 Typology of business relationships

"What are the possible types of business relationships that can be formed between a processing company and a supplier?"

When the demands of a processing company's are met, there is the possibility of a business relationship to be formed. A business relationship is defined as:

An association between individuals or companies entered into for commercial purposes and sometimes formalized with legal contracts or agreements (Business Directory, 2018).

Since, in the processes of supplier evaluation and selection, the core management perspective is considered to be Supply Chain Management (SCM) due to SCM's emphasis on those two processes, and since relationships management can be considered as a core task in SCM, a

typology derived from SCM is adopted for this research (Kilbourn 2015). This typology can be seen in Figure 3 and is based on resource intensity, meaning how many resources are used for this relationship and closeness (Fawcett, School, Magnan, Mccarter, 2005; Kilbourn 2015).

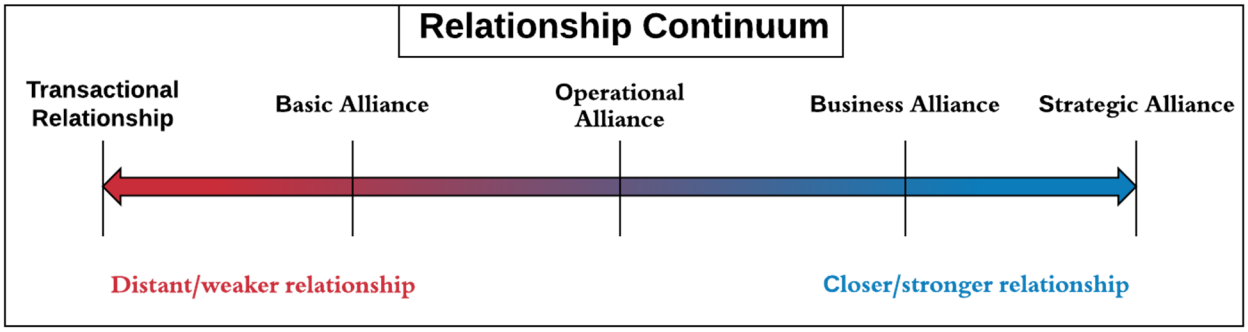

Figure 3: Relationship continuum. Source: Fawcett et al., 2007

As seen from Figure 3, the potential relationship types are (Fawcett, et al., 2005):

1. **Transactional Relationship**, characterized as a not formalized relationship. Each transaction is made independently at an arm's length distance.
2. **Basic Alliance**, which is a tactical relationship designed in order to establish a basic level of trust, honest, and open communication.
3. **Operational Alliance**, characterized by frequent communication regarding capacity and demand, with join problem solving.
4. **Business Alliance**, characterized by greater mutual dependence between the parties involved, and with specialized processes, unique products, and services.
5. **Strategic Alliance**, a long-term trusting relationship that involves shared commitment and resources, in order to deal with strategic issues.

In this way, the two extreme forms of a business relationship are included. Transactional relationship refers to a distant and weak relationship, while strategic alliance refers to a close collaboration between the two parties involved. In addition, various levels of closeness and collaboration can be explain through the definitions of basic, operational and business alliances (Fawcett et al., 2005; Kilbourn 2015).

2.7 Strengths and weaknesses of the cooperative types

"What are the strengths and weaknesses of each type of cooperative, based on the selected management perspectives?"

2.7.1 Traditional cooperatives' standing based on the literature

At first, every cooperative seems a beneficial partner for a company. The reason for this is that cooperatives create dense networks of suppliers (farmers) who are connected with strong ties (Lazzarini et al., 2001). These strong ties are characterized as repeated, affective relational exchanges. The resulting dense networks lead to the enabling of cooperation, instead of competition, among the suppliers themselves, as well as collaboration between the suppliers with a partnering company (Lazzarini et al., 2001). If these networks are properly utilized by the cooperatives and by the partnering companies, then better terms of trade can be negotiated and achieved, leading to lower prices for the end-product and a higher total chain value (Lazzarini et al., 2008; Schulze-Ehlers et al., 2010; Burt, 2016). The contrast of dense networks are sparse networks which are characterized as weak ties with circumstantial contacts. Although through sparse networks, a company can avoid locked partnerships and has the higher possibility of acquiring new information and triggering innovation, these networks still remain market-line exchanges and are easily severed (Lazzarini et al., 2001).

In addition, farmers that group together to form a cooperative, gain the ability to reach new niche markets and cater to new production initiatives (Jang and Klein, 2011). In addition, the risk of the farmers is mitigated through assimilation of each member's risk, due to utilization of economies of scale (bulking) and by accessing more stable markets, in terms of varying demand, that individual farmers wouldn't be able to access otherwise (Jang and Klein, 2011 ; Chagwiza, Muradian, Ruben, 2016). Apart from economies of scale, through a cooperative there is also the possibility of acquiring capabilities regarding transportation of the produce, its packaging (Chloupkova, 2002). There is also a report that the education of the farmer members of a cooperative is also enabled by a cooperative (Burt, 2016). Moreover, cooperatives are reported to have greater political influence in the area they exist, as income is generated for the community that the cooperative is located in (Burt, 2016). Lastly, cooperatives can act as more effective means of acquiring new knowledge and technologies and open up the possibility of

financial support agents outside the supply chain, like the government and donors (Chagwiza et al., 2016).

However, cooperatives in their conventional form (traditional cooperatives) are facing many performance and stability challenges due to their structure and organization practices. In terms of organization practices, cooperatives of smallholder farmers are in general characterized by poor operation and management practices (Jang, Klein, 2011). An example of such poor practices occurs frequently in the dairy cooperatives where practices such as milking, reproduction of the cows and feeding forage securing, are not conducted properly or at all (Sraïri, Benhouda, Kuper, Le Gal, 2009). This fact results to drastic variations of product volumes, differences in quality of produced products and ultimately leads to financial losses (Jang, Klein, 2011). For dairy cooperatives, due to the lack of quality management practices, it also leads to failure to comply with recent stricter international quality standards, which makes it harder for the cooperatives to partner with the dairy processing companies who adhere to those standards, and sell their produced milk (Sraïri et al., 2009). In terms of structure, recent macro-environment changes, such as the deregulation of the economy of the European market, have caused instability to cooperatives as their members are starting to differ from each other in farm size, related equipment, practices and even cultural background. This heterogeneity, as academics call it, leads to "unfair selling prices", as it does not result in profits to some or many members (Hovelaque, Duvaleix-Tréguer, Cordier, 2008). Ultimately, it leads to lack of incentive for the members of the cooperative to remain in it, as the cooperatives principles are being questioned (Hovelaque et al., 2008). This lack of incentive has been noticed by researchers, as farmers were found to be unwilling to invest in practices or technologies that would improve the quality (Sraïri et al., 2009) or any strategic investment that would provide benefits in the long run (Schulze-Ehlers et al., 2010).

Moreover, because cooperatives cannot limit their supply, they were found to be heavily dependent on the demand of the basic raw material (e.g. milk) that they sell. Hovelaque et al. (2008) found that when the selling price of milk was lower, the dairy cooperatives were in a weaker position than conventional companies. They also state that, unless dairy cooperatives invest in ways to process their raw milk and provide differentiated products, they would be susceptible to heavier losses and instability, compared to firms, from potential price fluctuations of the raw material (milk) (Hovelaque et al., 2008). Lastly, although the possibility of financial support from agents from outside the supply chain was considered as an additional benefit, many cooperatives were found dependent on it, mainly from the government. Unfortunately, not all

governments support dairy cooperatives or their stance towards the cooperatives may change, resulting in dependent cooperatives to be heavily crippled (Moran, 2009).

Looking through the literature, what is needed for cooperatives, to survive in the changing environment, is to adopt proper management practices. The aim of these practices would be to provide profit and maintain the principles of the cooperatives, but also to promote the incentive for the members to endorse in long-term investments (e.g. new equipment) and to gain financial independency, rather than depend on outside financial support, such as from the government (Moran, 2009 ; Nilsson, Ohlsson, 2007). Such practices would be a supply chain optimization (Jang W., Klein C., 2011), the adoption of new payment systems based not only on quantity, but also on quality (Sraïri et al., 2009), and further collaborate with their partnering companies and aim to fulfill their specific requirements, rather than simply supplying them raw materials (Deimel, Frentrup, Theuvsen, 2008).

2.7.2 Challenges of a cooperative, explained through the ownership-rights spectrum

As a result from the challenges that cooperatives face and due to their limitations, academics have started to examine cooperatives through the ownership rights spectrum. Based on a cooperative life cycle made by Cook in 1995, and supported by several authors, when traditional cooperatives reach a certain high amount of size and heterogeneity of farmers in land size, the complexity of their operations becomes significant enough to cause instability to the cooperative (Nilsson, et al., 2009; Chagwiza et al., 2016; Ortmann, King, 2007). The main sources of this instability are namely the free-rider problem, the horizon problem, the portfolio problem, and the control problem (Nilsson, et al., 2009; Nilsson, 2001; Chagwiza et al., 2016; Ortmann et al., 2007) and will be furtherly explained later in this chapter.

The result of this instability is three main types of inefficiency for the cooperative (Nilsson, 2001):

1. **Technical inefficiency**: this type of inefficiency occurs because the costs of control of the cooperative end up higher. The cause of the rising costs originates from patron agents, who have less incentive to monitor the cooperative, due to shrinking benefits for their effort and the inability to concentrate the ownership of the cooperative. The resulting inefficiency is a reduced incentive for innovation, making the cooperative less efficient from companies, due to technological deficiencies.
2. **Allocative inefficiency:** allocative inefficiency is translated as the inability of the cooperative to fully utilize its capital and its intangible resources. This inefficiency is

attributed to the fact that the full return of investment from long-term investments will not be properly distributed to the members of the cooperative, but rather a significant portion will be held by the patrons. Thus, there is always fear of patrons who have concentrated ownership, and long-term investments are denied by members of the cooperative.

3. **Scale inefficiency:** in order for cooperatives to achieve the main benefits that they offer, they need to achieve economies of scale in their production. To do so, a sufficient amount of patronage is required. However, due to the rising number of patrons, the costs of control increase accordingly. This phenomenon is even more drastic when legal constraints exist, regarding the number of business activities a cooperative can conduct with agents outside the cooperative (e.g. companies), ultimately leading to the inhibition of a cooperative's expansion. A cooperative that does not enough control and cannot expand effectively, will end up being scale inefficient.

These inefficiencies lead to the loss of control over the cooperative and disconnection of its members due to loss of trust in the leadership. This consequently ends to the inability of cooperatives to invest needed high amounts of capital to perform costly collective actions, becoming inefficient (Nilsson, et al., 2009; Chagwiza et al., 2016). From then, cooperatives will either be dismantled (Chagwiza et al., 2016) or they will start being heavily dependent to outside investors, such as the government (Nilsson et al., 2009), a scenario which can also end up with the cooperative being heavily crippled (Moran, 2009). There is also the recent scenario that a cooperative will pursue other sources for capital and it will change its governance structure in terms of ownership rights, such as the types mentioned in Chapter 7.2, including the chance to become an investor-owned firm (Ortmann et al., 2007).

As mentioned earlier in this chapter, the four major sources of instability are the free-rider problem, the horizon problem, the portfolio problem, and the control problem. These issues are heavily dependent on the cooperative's ownership structure.

The **free rider problem** (or common ownership problem) is of common occurrence in a cooperative that happens when property rights are not tradeable or are not sufficiently well defined and enforced, thus individuals do not bear the full responsibility or cost for their actions nor they receive the full benefits from their taken actions. Hence the free rider problem is associated with the conventional (traditional) cooperative type, because residual claims are linked to patronage rather than investment. Thus, new and old members of a cooperative receive the same patronage and residual rights, despite that new members are not obligated to support

the cooperative with up-front investments proportional to their use. This results in the cooperative focusing on short-run investments and increasing cash flows rather than long-term investments, as existing members are discouraged by the dilution of their returns of investments (Ortmann et al., 2007). Cross referencing the research of Ortmann, et al., (2007) and Nilsson (2001), one can observe that there is a link between the free rider problem and allocative inefficiency, as both end with the inability of the cooperative to make long-term investments. This observation is also supported by Nilsson (2001).

The **horizon problem** *"occurs when a member's residual claim on the net income generated by an asset is shorter than the productive life of the asset*" (Ortmann et al., 2007). Thus members are likely to under-invest in the cooperative's assets, because the potential return of investment that they will receive is less than the one generated by the cooperative's assets. Cooperatives that suffer from this phenomenon are characterized by a structure of rights, based on which the residual claims are distributed to members of the cooperative based on patronage, meaning as current payments. So the return of investment a member receives is limited by the time period (hence *horizon*) that the member is a patron of the cooperative. The result of the horizon problem is under-investment of assets who will pay on the long run such as technological equipment, research and marketing, while on the contrary the cooperative's management will aim towards short-term profit earning (Ortmann et al., 2007). Once again, cross referencing the works of Ortmann et al., (2007) and Nilsson (2001), the horizon problem can be linked with the technical and the allocative inefficiencies, as it can be noticed that both the general avoidance of long-term investments and lack of incentive to innovate technologically is present. The link between the horizon problem and the allocative inefficiency was also observed by Nilsson (2001). In terms of the link between the horizon problem and the technical inefficiency, perhaps the shrinking benefits of patrons, a cause of technical inefficiency, could be the horizon limitation of the member-patrons receiving returns of investment.

The **portfolio problem** is defined as the scenario when members of the cooperative are unable to diversify their individual investment portfolios according to their own wealth and preferences regarding risk taking. Thus, many members are forced to make unwanted investments towards portfolios that bear more risk than they prefer to. These members will then pressure the board of the cooperative to reduce the amount of risk, even at the cost of reduced return of investment. This phenomenon occurs in conventional (traditional) cooperatives where members invest in the cooperative's action in proportion to their patronage, while the residual claims are not tradable. In addition, the phenomenon intensifies when there are limited to no outside investors, because these investors would diversify the associated risks of an investment, while it can be even

worsened when the a member's investment comprises a high proportion of his off-farm investment (Ortmann et al., 2007). Nilsson (2001) states that the reduced return of investment that occurs due to the portfolio problem will ultimately lead to a financial inefficiency for the cooperative.

Lastly, the **control problem** is described as the divergence of interests between the members of the cooperative (and perhaps their representative board of directors) and the management of the cooperative (Ortmann et al., 2007). The phenomenon can occur in any cooperative where ownership and control are separated to some extent, in terms of goals or aims. However, this issue is considered more in conventional cooperatives where ownership rights are not tradable or there is lack of incentive mechanisms that could attract other firms to invest in the cooperative. The absence of this ownership rights market is translated to the fact that the members of the cooperative are unable to monitor the cooperative's value or asses the management's performance. On the other hand, good managers tend to avoid cooperatives who lack this ownership market, as it is considered a disadvantage for the cooperative, while current managers of a cooperative may consider converting their cooperative into an investor owner firm. Moreover, the control problem is magnified when the cooperative has a restricted membership, because it hinders the expansion of the cooperative in size and its evolution. This is because the more members a cooperative may have, the more it shifts from a product oriented mindset to a consumer oriented one and the harder it is to monitor the management's performance. Due to this, the cooperative needs new managers or board members, who have related expertise and who can also make the cooperative more competitive towards other companies. Unfortunately, this is heavily hindered by the restricted membership (Ortmann et al., 2007). Seeing that the control problem leads to inability for the cooperative to properly control its actions, we can assume that there is a link between the control problem with the technical and scale inefficiencies, because of the potential higher control costs.

2.7.3 Initial hypothesis of the standing of each ownership type of cooperative, from the company's perspective

In the previous sections of the chapter, an initial typology for cooperatives was adopted, based on ownership-rights structure, the challenges and reasons behind those challenges were documented. While the management perspectives, criteria, and demands of companies for supplier evaluation were reviewed.

Through this section, an initial hypothesis is going to be created, regarding the standing of the cooperative ownership-rights types. Looking back again to the Chaddad's and Cook's (2004) 7 types of cooperatives based on ownership rights (see also Figure 2 in Chapter 2.2.2) one can now realize why traditional cooperatives shifted to other forms of governance and ownership structure.

In a traditional cooperative, where there is restricted membership, no residual rights and ownership market and residual claims are distributed in proportion to patronage, every problematic phenomenon (free rider, horizon, portfolio, control problem) has a high possibility of occurring. Thus, it is not surprising that many academics have characterized traditional cooperatives as unstable in all forms of inefficiency (financial, scale, allocative, technical). For a company perspective, they would not be preferred partners, or at best they would consider a transactional partnership, due to the cooperative's instability, inability to adopt new practices or technologies, and the potential to the inability to comply with the new international standards (Nilsson, 2001; Nilsson et al., 2009; Chagwiza et al., 2016; Moran, 2009; Nilsson, Ohlsson, 2007; Ortmann, et al., 2007; Jang, Klein, 2011; Sraïri et al., 2009). It should also be noted that the instability of the traditional cooperative can be exacerbated furtherly, if the cooperative reaches a critical size, as Nilsson et al., (2009) Chagwiza et al., (2016) and Ortmann, King (2007) state.

However, the more we move down the echelon (as seen in Figure 2, Chapter 2.2.2), the more the ownership structure changes. To further elaborate, with the adoption of the policy that residual claims or returns of investment are distributed based on patronage and shareholding, like in proportional investment cooperatives, the horizon problems can be mitigated. Thus, a proportional investment cooperative is less likely to suffer from allocative and technical inefficiencies, and is able to invest in long-term investments such as technological equipment (Moran, 2009; Nilsson, Ohlsson, 2007). Thus, a proportional investment cooperative has the potential to acquire the necessary equipment and knowledge that Sraïri et al., (2009) state that could be needed in order to comply with the new quality standards and be able to properly partner with companies. However, since the ownership rights are still not tradable, and members are expected to invest based on patronage, the free rider and portfolio problem may still occur. As a result, this type of cooperative can still be unstable due to scale inefficiency, and still may be subject to allocative and technical inefficiencies. Thus, for a company perhaps it's better to examine signs of these inefficiencies and then proceed with the decision about if and on what level should the company partner with the examined cooperative.

Then there is the member-investor cooperative, where the difference from the proportional investment type is that the residual claims are only based on shareholdings. In this way, as

Chaddad's and Cook's (2004) mention, a better incentive is given for members to invest in the cooperative's activities. Thus, the portfolio problem is fully mitigated, resulting in the cooperative being able to endorse long-term investments. Therefore, for the same reasons like the proportional investment cooperative, the member-investor cooperative is able to prevent allocative and technical inefficiencies, but in a greater effect than the proportional investment type. Thus, for a company a member-investor cooperative would be a more suitable partner than a proportional investment one. Unfortunately, the restricted to members ownership is still a limitation for the cooperative, as the free rider problem and the control problem can occur. As a result, they are not still stable enough to consider for a more strategic business partnership.

The New Generation Cooperatives (NGCs) are the further step of reforming, as there is a market for ownership rights, restricted though to members of the cooperative, while the up-front investment payment, residual claims and returns of investment are based on expected patronage. Thanks to this ownership structure, the NGCs almost fully negate the four cooperative phenomena that could cause inefficiencies and instabilities. However, there is still the limitation of restricted membership and the ownership market is restricted to members, which could cause a control problem. Thus, there could still be a possibility that an NGC could present technical and/or scale inefficiencies. In addition, there is still the limitation that the cooperatives may still be too dependent on specific financial support such as from the government. As a consequence, like in the case of member-investor cooperatives, the companies should examine if the cooperative has any signs of technical and scale inefficiencies, as well as signs of economic dependence on specific exterior sources of capital, such as the government. Nonetheless, there is the possibility for a stronger business relationship, shifting towards an alliance.

The remaining types of cooperatives differ greatly from the previous types, because ownership rights are not restricted to members and/or patrons of the cooperative, and the cooperatives are now seeking multiple channels of financial support. The difference is what channels were chosen (Chaddad, Cook, 2004). For the cooperatives with capital seeking entities, the link between the cooperative and the entity is in the form of a strong connection, such as a strategic alliance, a trust company or a publicly held subsidiary (Chaddad, Cook, 2004). Thus, there is the possibility that either the financial support may not be enough, or that the connection with the capital seeking entity, which is now an economic stakeholder, may affect the policy of the cooperative in terms of choosing other companies to partner with. The reason for the policy affection is because a stakeholder can act as a key blocker or facilitator in the cooperatives strategy and decision making (Johnson et al., 2018) All in all, though, this type of cooperative is proved by literature to be more stable than the previous ones (Chaddad, Cook, 2004). Companies

considering a partnership with such companies should consider the financial stability of the cooperative and its stakeholder mapping, before considering the extent of the business relationship.

As for investor – share cooperatives, the difference from the cooperatives with capital seeking entities is that ownership rights and its bearing risks, returns, responsibilities for exterior investors differs from the ones of members and patrons. Thus the power of the stakeholders in this case is possibly lesser in this scenario, though a stakeholder mapping would still be required. As for the suitability of this type of cooperative as partners for a company, Chaddad and Cook, (2004) consider investor – share cooperatives at the same standing with the cooperatives with capital seeking entities, regarding how they dealt with the issues occurring in all previous cooperatives. As a result, it's best to assume that companies should consider both of these types in the same way, which includes the stakeholder mapping and spotting signs of financial instability.

Finally, Investor owned firms seem to be the most stable compared to the other cooperative types, due to its fully reformed structured. However, it itself is far from perfectly stable as it can be subjected to a conventional firm's sources of instability, such as a firm's version of the control problem (Ortmann et al., 2007). So other companies should evaluate this type of cooperative as if it were another conventional company that they would consider to partner with.

2.7.4 A more balanced typology for cooperatives based on members' involvement

Although the assessment of the cooperatives done in the previous sections (2.7.1 to 2.7.3) creates the idea of a black & white assessment of the cooperative types, the reality is far from it. Like Nilsson says (2001), if what the literature states about cooperatives applied in every occasion, then they wouldn't be thriving business organizations. Thus, there may be the scenario of, for instance, a traditional to work perfectly fine, if the property rights are defined appropriately, the cooperative is organized and collectively financed, and strong coordination with high willingness to commit by its members exists. This is why Nilsson created another typology to further explain this stance (see Figure 4).

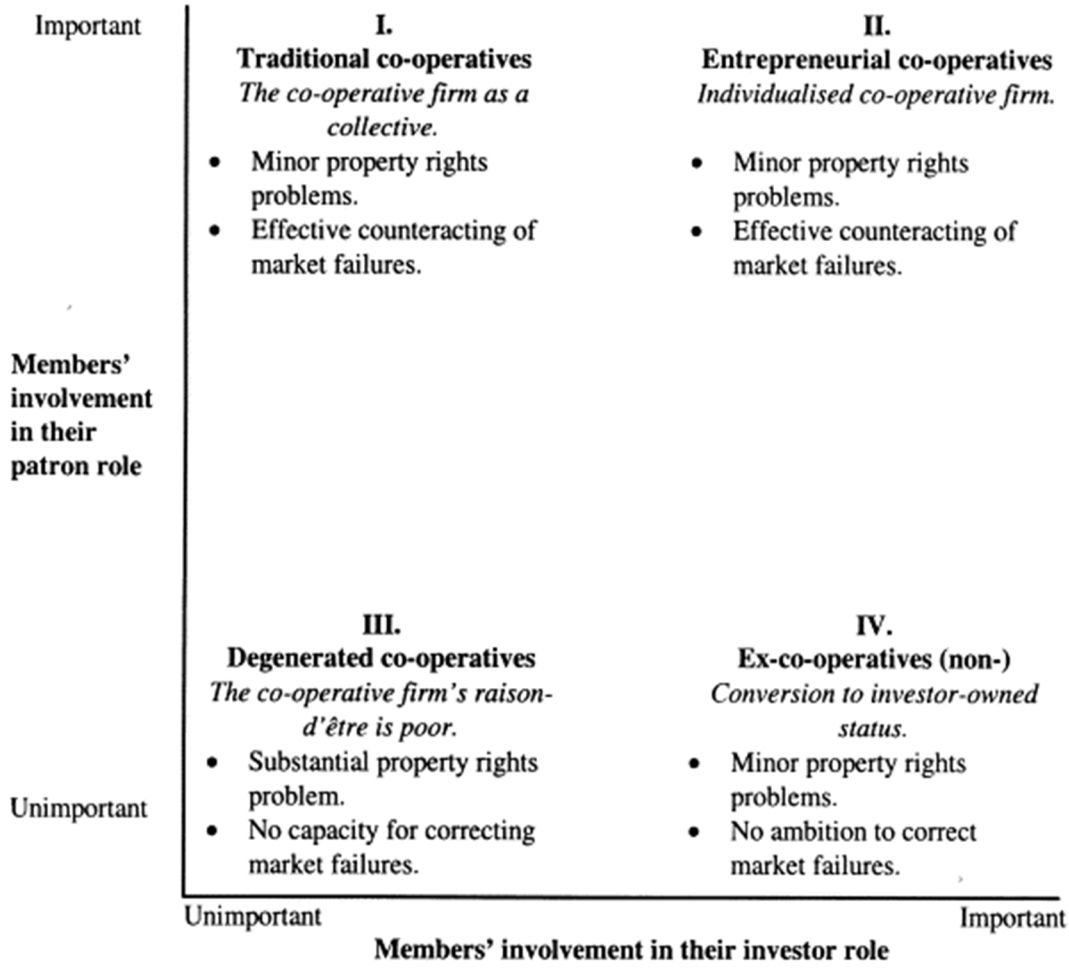

Figure 4: Cooperative typology based on members' involvement. Source: Nilsson (2001)

Nilsson (2001), thus, recognizes four types of cooperatives:

- **Countervailing power co-operative or traditional cooperatives**, where the patron role will overshadow the investor role, due to the patronage's potential benefits. There aren't any allocative and control inefficiencies, because the financing is collectively controlled without issues by the patrons. As long as the cooperative deals with a basic function related to the first level of the supply chain e.g. collecting milk from farmers, and there isn't the need for critical sizable investments for this function, then the cooperative is effective. Thus, the traditional cooperative type of Chaddad and Cook (2004) can fit into this role and is proved by Nilsson that it's possible that it can function efficiently.
- **Entrepreneurial co-operatives**, where members are highly involved in both their patron and investor role. The result of this equally high involvement is the cooperative to have a strong position in the market. As the residual claims are now tradable, like in the New Generation, Proportional Investment, and Member Investor Cooperatives of Chaddad

and Cook, the cooperative's members are now incited to make large investments. Thus, the cooperative is now more able to adapt to rises in production complexity, such as product diversity and innovation, and the need for new resources (e.g. technological equipment) and capabilities (knowledge, management personnel and practices).

- **Degenerated co-operatives**, a type which occurs when the cooperative is unable to fix its market failures, and its members have no appreciation of their role as an investor and as a patron. Significant control problems arise and unless the issues are fixed by re-organizing, the cooperative's resources are depleted, and its existence is threatened. Nilsson states that most cooperatives of this type were of the traditional kind that reached critical size and heterogeneity, while needs for large investments started occurring. They have overcome this by either becoming a more complicated form of cooperative with lesser control from its members or become an investor-owned firm.
- **Ex-cooperatives**, most of the times a degenerated cooperative which ultimately decided to become an investor-owned firm rather than fix their issues or become an entrepreneurial cooperative, perhaps due to inabilities of the cooperative. The firm's owners are former members of the cooperative.

In the same spirit as with the typology of Chaddad and Cook (2004), this typology is also limited by the fact that it accounts vertical cooperatives, mainly cooperatives aimed to advance to processing. This typology is considered for two reasons. First, like Chaddad and Cook's (2004) typology, it can explain the challenges and the reason why a cooperative may have in regards of financial constraints. Secondly, the benefit of this typology is that traditional cooperatives are now considered that they are not bound to fail, as long as the cooperatives fulfill a single function such as collecting the milk and selling it.

2.7.5 The research's chosen typology for cooperatives

Combining the various perspectives of the literature with the ownership-rights structure typology of Chaddad and Cook (2004), Chaddad and Cook's 7 types of cooperatives were assessed based on their potential worst scenario, while via Nilsson's typology (2001) based on members' involvement, another hindsight is offered to the circumstances when a cooperative's full potential can be achieved and when inefficiencies may arise. In addition, combining the typologies of Chaddad and Cook (2004) and of Nilsson (2001), the 7 types of cooperatives of Chaddad and Cook (2004) can be categorized in four groups, which are:

1. **Group A**, the traditional cooperative of Nilsson, which falls in line with the traditional cooperative type of Chaddad and Cook.

2. **Group B**, the restricted entrepreneurial cooperative of Nilsson, which includes the proportional-investment, member-investor and new generation cooperatives of Chaddad and Cook.
3. **Group C**, the unrestricted entrepreneurial cooperative of Nilsson, which includes the cooperatives with capital seeking entities and investor-share cooperatives of Chaddad and Cook. The difference with the previous group is that for cooperatives in group C, ownership is no longer restricted to member - patrons and that the cooperatives have sought exterior sources of financial capital.
4. **Group D**, the ex-cooperative of Nilsson, which is the same as the investor-owned firm cooperative type of Chaddad and Cook.

This group distinction will be essential in the decision-making tool, as the groups can easier be distinguished by a company who isn't knowledgeable of the ownership typology, while the strengths and weaknesses of the cooperatives within the same group are almost similar. The mentioned distinction is presented below in figure 5.

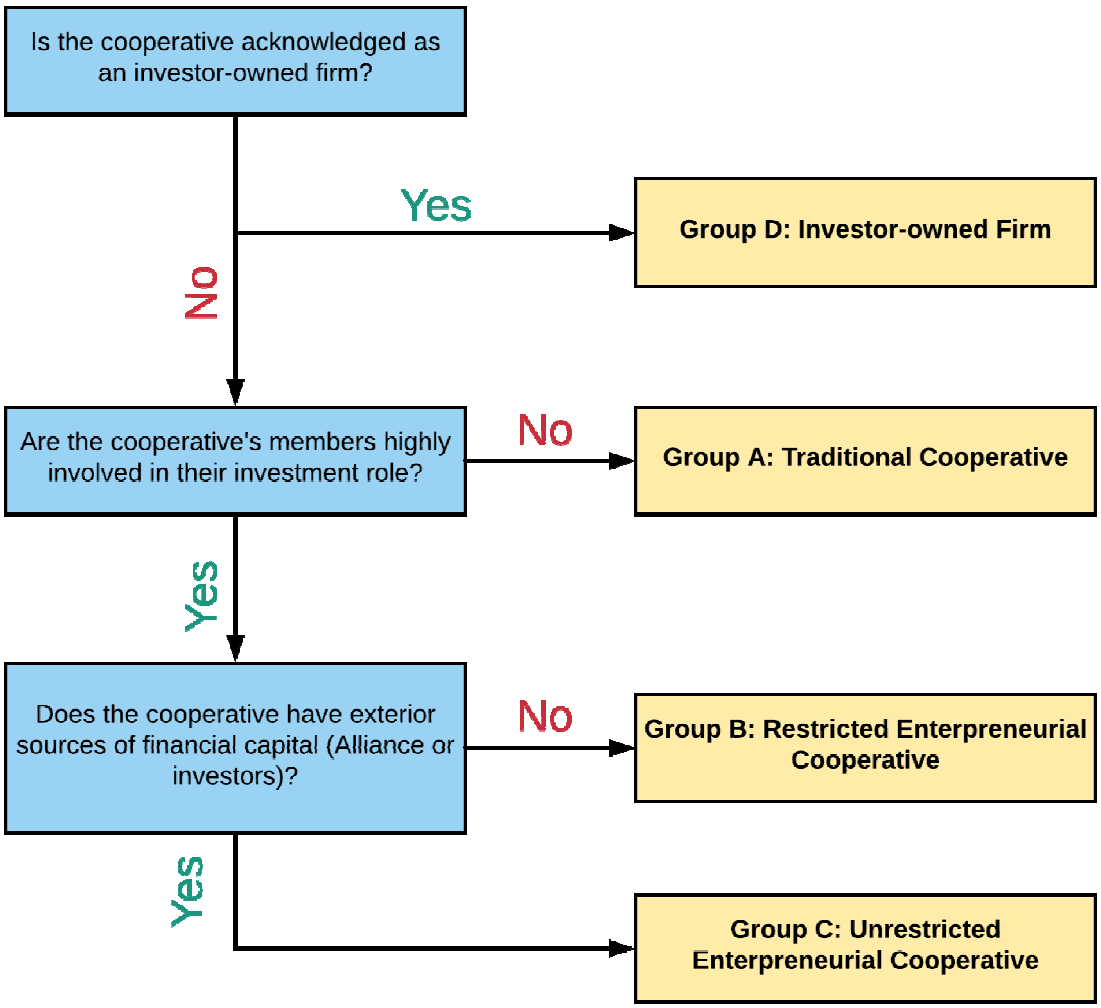

Figure 5: Distinction of the four groups, by merging the typologies of Nilsson (2001) and Chaddad and Cook (2004).

On another note, there is a debate regarding the applicability of the literature's reports of inefficiencies of cooperatives. Although many academics state that cooperatives suffer from the three mentioned inefficiencies, there is an argument that the actual presence and level of these inefficiencies differs based on the how the cooperatives' performance is measured. Through their research, Soboh, Oude Lansink, Van Dijk (2012) state that when one considers the cooperatives' different strategy and goals and adopts this factor into a different performance evaluation approach, then cooperatives are not so inefficient. They may even be more efficient than investor-owned firms at some points (Soboh et al., 2012). For the purpose of this research, the inefficiencies are not solely meant to describe the performance of the cooperative, but the ability of the cooperative to meet a processing's company demands for a business relationship with it.

2.8 Conceptual framework – a summary of the literature review

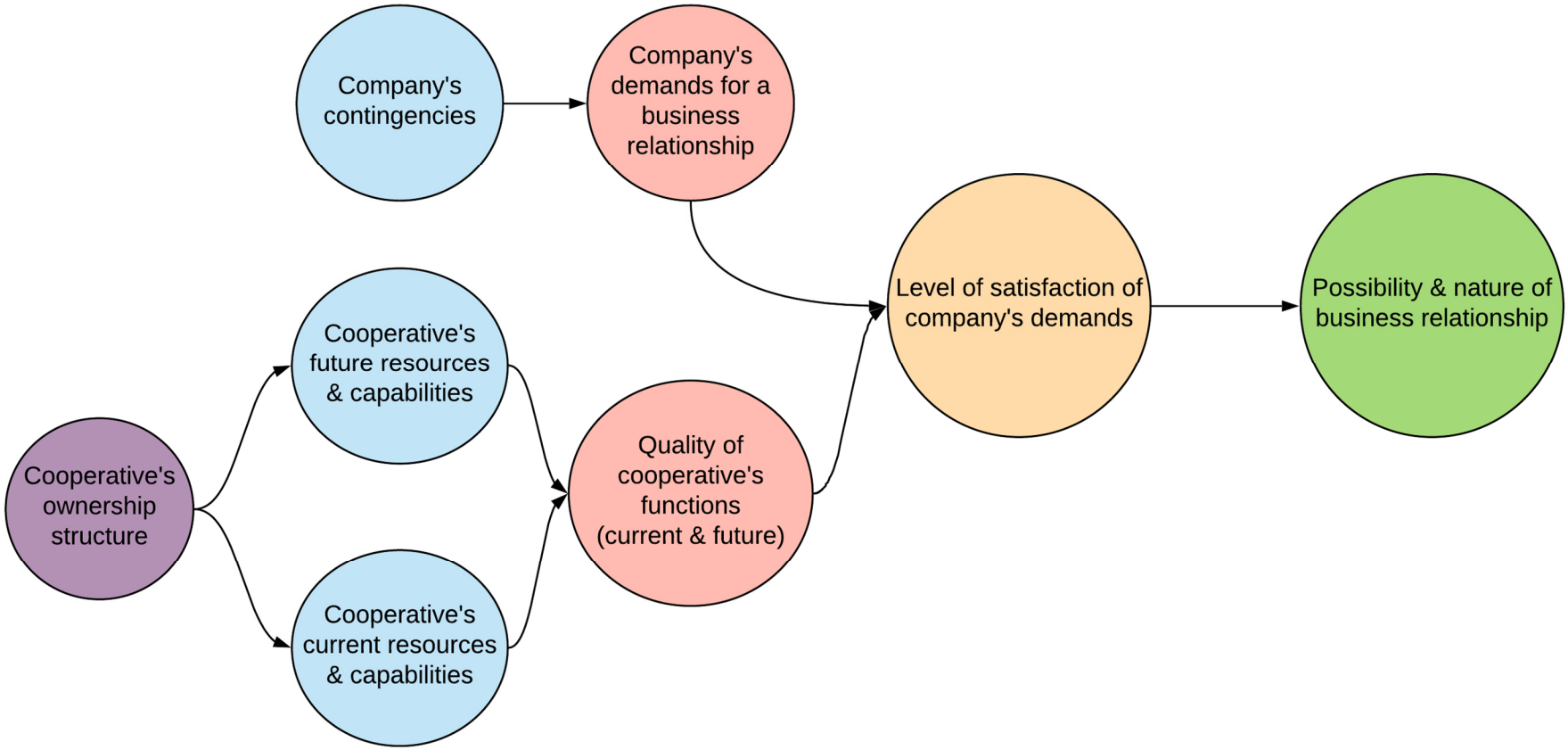

Figure 6: Conceptual framework. The arrows mean that the previous element affects the element the arrow is pointed to.

2.9 Decision making tool: a first draft based on the literature

"*How does the type of a cooperative influence the business relationship with the processing company and why does this influence occur?*"

The first draft of the decision-making tool can be seen in Figure 7. As stated before, this tool is based on the literature review regarding the performance of dairy cooperatives according to certain demands of a processing company (See Figure 6). The tool's aim is to provide recommendations regarding the possibility of a business relationship and the nature (weaker/closer) of this relationship.

At first, a distinction of the cooperative to the four different groups mentioned in section 2.7.5. is given. This is because, as mentioned before, each group can have different strengths and weaknesses based on its characteristics, thus different factors for the processing company to evaluate. For Group D, as the related cooperatives are now investor-owned firms, then existing conventional supplier evaluation tools and criteria can be used.

A relationship continuum is also provided, as a hindsight of examples of relationship types based on their distance/strength. Lastly, cells of the main table (Figure 8) of the decision-making tool can be seen with a certain number of answers and shapes, based on the answer given (triangle, square, and circle). If the correspondent cell is filled with answers, this means that the question is applicable for the group of cooperative that is in the same column, and is needed to be answered, in order to evaluate that cooperative.

Three groups of questions are presented in the main decision-making tool's table which are:

- **Essential supplier criteria**, which are mandatory criteria applicable to every potential partnering supplier, regardless if it's a cooperative or not. It has to be noted that financial independence is not applicable to Group C, which includes cooperatives with capital seeking entities and investor-share cooperatives, as their main characteristic is securing financial stability through exterior financial capital channels, such as via exterior investors or by forming a strategic alliance, thus losing their financial independence (Chaddad et al., 2004).
- **Additional benefits**, a group of questions which regard more complex and future related demands, such as innovation and CSR. Since a traditional cooperative (group A) mainly focuses on a single action and has investment limitations (Nilsson, 2001; Chaddad et al., 2004), it is considered, as explained in previous chapters (2.6.3), very rare to be able to have capabilities for most of these complex demands, except for CSR at a certain basic

degree. Thus most questions in this part of the table are applicable for the rest groups (B & C).

- **Unique group characteristics**, where questions related to specific group characteristics are located. It can be seen that the first three questions referring to the effect of size, the complexity of the cooperative's main function (e.g. collecting milk) and the need of large investments refer to group A. Each of the three parameters (size, complexity, required investment size), is a factor that, should it reach a critical amount, can hinder the performance of the cooperative and can ultimately lead to a threat in the cooperative's existence (Nilsson et al., 2009; Chagwiza et al., 2016; Ortmann et al., 2007). The fourth question regarding an ownership market is used as a way of distinguishing the New Generation cooperative, which has established an ownership market, from the proportional-investment and member-investor cooperatives who haven't (Chaddad et al., 2004). It is considered beneficial if such a market exists, as New Generation cooperatives were described in a previous chapter to be more stable against all forms of inefficiencies, compared to the other two kinds of the same group (B). The last two questions refer to group C, with the first one acting as a way to distinguish the cooperative with a capital seeking entity (one financial support channel) and an investor-share cooperative (multiple channels). As stated in previous chapters of the literature review, the investor-share cooperative is somewhat more financially stable, due to the number of channels of financial support. The second question regarding group C applies to both cooperatives of this group and refers to a stakeholder mapping to see if one or more stakeholders may affect the cooperative's decision-making, thus influencing its policies, potential relationships and general decision-making (e.g. investments).

In the bottom of the main table of the decision-making tool, a decision scenarios area is inserted, where the recommended course of action regarding the possibility and nature of a business relationship with the evaluated cooperative is presented. One can see the trend that the more one goes to the left (from group A to Group C), the closer the relationship that can be developed at the considered optimal conditions. This falls in line with the conclusion from the literature review that the more we go down Chaddad and Cook's (2004) echelon of cooperative typology, thus move from group A to group C, the less unstable, efficient, and adaptable to complexity the cooperative can be.

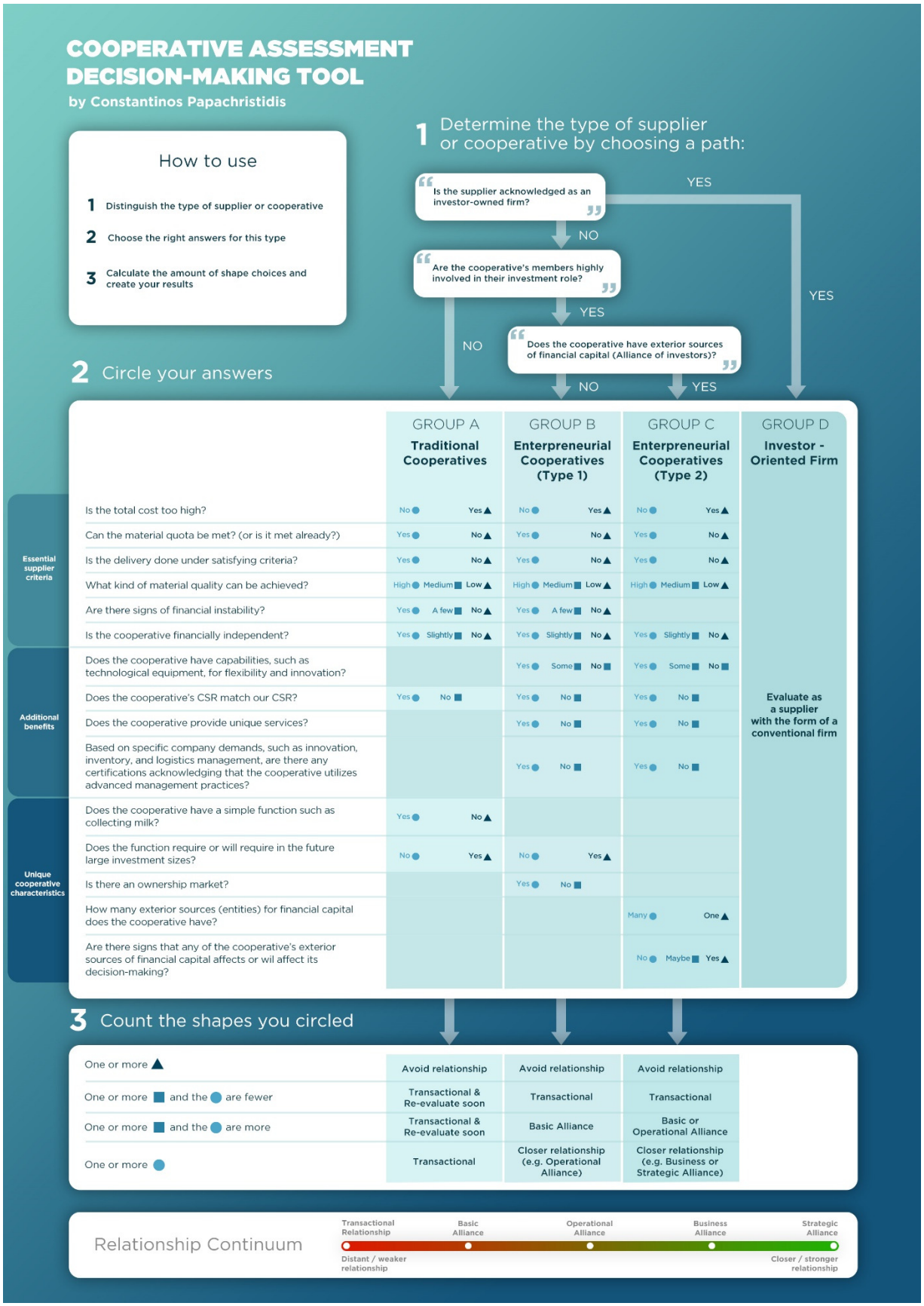

Figure 7: Decision-making tool based on the literature review

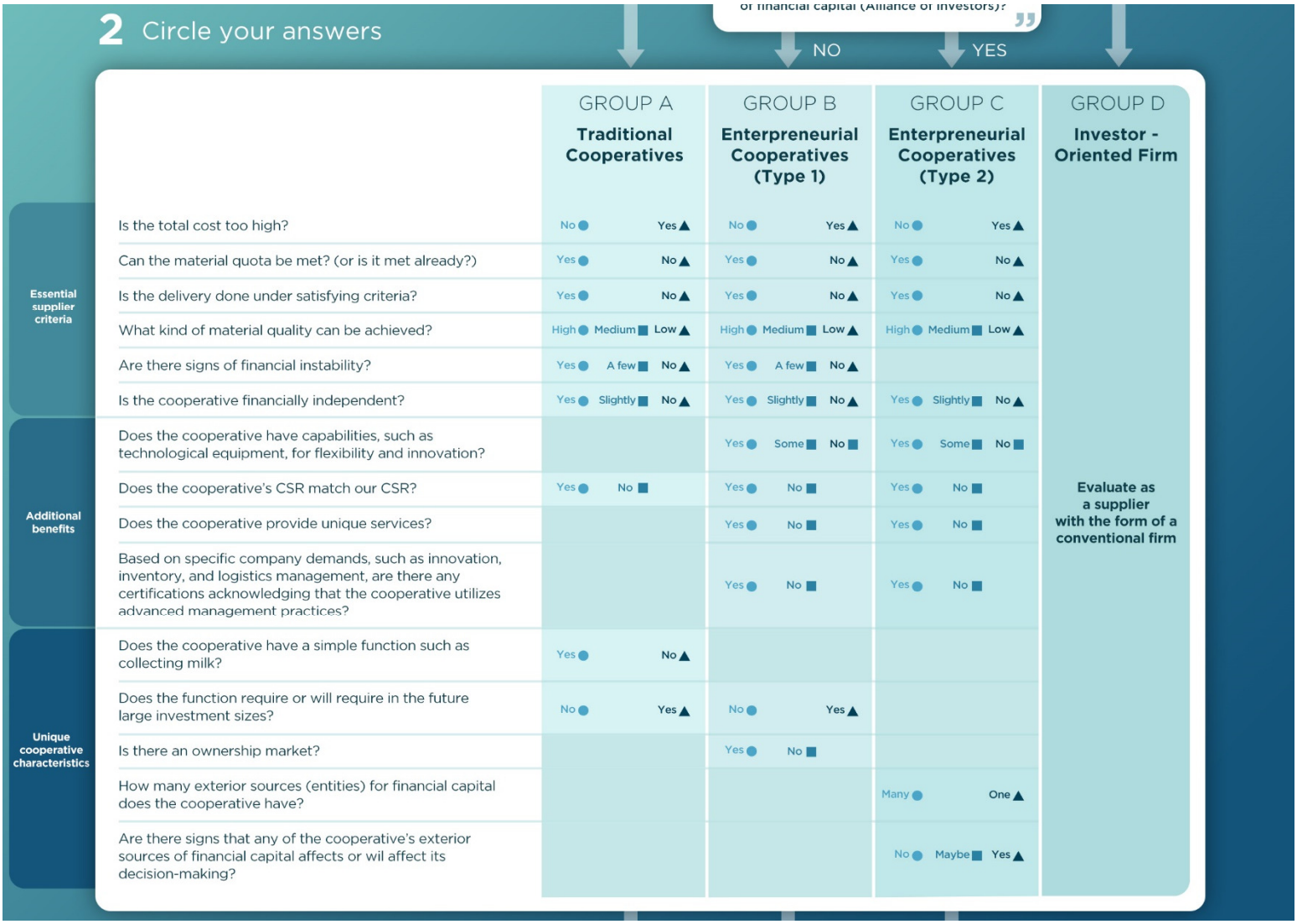

Figure 8: Main table of the decision-making tool

3. Research Design & Methodology

The purpose of this study was to examine the suitability of dairy cooperatives as partners for a processing company and develop a decision-making tool that shows recommended course of actions for a processing company, regarding the possibility and nature of a business relationship with a dairy cooperative. To accomplish this task, six sub-research questions were derived and an attempt was made to answer them with an initial literature review. By doing this, a theoretical background of cooperative and processing company contingencies was extracted, and a first version of a decision-making tool was developed.

Afterwards, primary data was needed to verify the importance of the tool's derived contingencies and decisions and possibly extract new ones. The collection of primary data by qualitative research was considered to be more suitable for this study to achieve a more holistic and in-depth understanding (Beech, 2015). For this, interviews were conducted to gather the required primary data. Since there was the need to examine the company's perspective on various kinds of cooperatives, which can be located worldwide, the population for this research was considered to be potential interviewees of companies who are active in more than one countries or even more than one continent markets of the world, such as Europe and Asia (e.g. multinational companies). The method of sampling for the potential interviewees was of the judgmental type, with goal to make contact with processing companies suitable for the conducted research. Companies were chosen based on the criterion that they work or consider working with, or simply are aware of dairy cooperatives. An ideal option was considered if the company were working with several dairy cooperatives located in multiple countries.

Finally, the interviews were analyzed and the final set of cooperative and processing company contingencies were derived and appropriate modifications were made to the decision-making tool.

3.1 Methods of data collection and analysis

3.1.1 Decision making tool

As shown in a previous chapter (Chapter 2.8), a first version of the decision-making tool (Figure 7) was made based on a first literature review. This tool was shown, in order to gather feedback for the decision-making tool's information/criteria chosen and the level of importance given to each one. What is meant by that is that certain information/criteria may occur or be removed and their level of importance may lessen or be higher, based on the interviewees' feedback on

the tool. After the analysis of this feedback, the modification of the tool was carried out and a final version of the decision-making tool was created.

3.1.2 Interviewing

The purpose of the interviews was to gather additional information on issues regarding the partnership with one or more of the types of cooperatives, based on past experiences of experts of the research topic. In addition, through the interviews, initial feedback can be acquired for the decision making tool that was created based on the literature review. Thus, some conditions, originally found from the literature review, may be revaluated for their impact (less or more significant) on the type of business relationship between the processing company and the cooperative. There is also the possibility that new conditions, that weren't considered before in previous researches, may even be considered after the analysis of the interviews. For this research potential interviewees were considered to be managerial personnel who have knowledge, experience, or awareness regarding cooperatives and have an occupation related to supply chain management, procurement management, relationship management or higher levels (business unit and/or organization) of strategy. Thus both mid and high level managers with the relevant knowledge, experience and occupation could be potential interviewees.

The nature of the interviews was semi-structured. A semi-structured interview was more suitable for this study, because it would allow the interviewer to encourage the interviewees to elaborate more on their answers by further asking 'How?' and 'Why?' but still remain within the boundaries of the interview's original concept. An advantage of doing interviews is that the interviewer can request for a better explanation from the interviewee if the answers obtained are not clear enough. This is to avoid misinterpretation of data. The guideline questionnaire for the semi-structured interviews for the purpose of this research is presented in the Appendix (Appendix, Section B).

The interviews were carried out by the same person, to ensure reliability of data. Every interview conducted was under the 'Chatham House Rule' to allow the interviewer to freely use the information received, while the interviewees' identities will not be revealed. Permission was also requested from the interviewee, to record the interviews and transcript them, as more information can be obtained, compared to simple note-taking (Beech, 2015). Lastly, the interviews were carried out either up-close in person or via the phone. An initial attempt was made to gather as many up-close interviews as possible. Afterwards, when there wasn't the possibility of an up-close in person interview, due to location access limitations, a second attempt for interviews by phone was made.

In total, seven (7) interviews have been conducted, two (2) of which were up-close interviews, and five (5) conducted via phone. All of the interviewees, apart from one, had mid or high level occupations in the dairy procurement field, with their responsibilities also including the evaluation of suppliers. The other interviewee was located in the Netherlands and is a manager in a company's global program aimed for coordinating the dairy industry, including the supplying farmers and cooperatives. In terms of the interviewees, three (3) of them were located in Netherlands, two (2) of them in Greece, one (1) in Spain, and one (1) in Switzerland. Every company has a multinational presence, either via having a foothold in more than 1 countries or continents, or being present in more than one country or continent markets via exports. Lastly, among the companies, two (2) of them, one in the Netherlands and one in Greece, have a corporate history of being and dealing with cooperatives.

4. Results & Discussion

In this section the results of the data collection are going to be presented and discussed. This chapter is made of four sections. In the first section, the respondents' opinion about cooperatives is summed up. Although almost every respondent fulfilled the requirement of having knowledge and/or experience with cooperatives in general, not many respondents had an in-depth knowledge of each cooperative type. Thus the main comparison is between the traditional cooperatives and the rest of the cooperative types grouped up together. In the next two sections of this chapter (4.1 & 4.2) the contingencies and criteria of the companies will be discussed, while the last section (4.3) is dedicated to presenting and discussing feedback gathered for the decision-making tool, and presenting a final version of the decision-making tool.

4.1 Respondents' opinion about cooperatives

"*How does the type of a cooperative influence the business relationship with the processing company and why does this influence occur?*"

The outline for cooperatives, derived from the literature review, was that most cooperatives in their traditional form aren't able to perform well enough, so that the companies' new and stricter demands would be satisfied. The more reformed it becomes, for instance from traditional form to one of the entrepreneurial forms, the more able it is to improve and meet those demands.

Indeed, this trend was verified in every interview. Like a procurement manager in Greece stated "*Unfortunately, dairy cooperatives struggle a lot. They do not match the level that private companies are*". When it came to traditional cooperatives meeting a company's demands, every interviewee expressed a level of dissatisfaction. This dissatisfaction was explained as the inability of the traditional cooperatives to reach a company's raw material demands, mainly the demand for a desired level of quality, and for other demands related to delivery (timing and access), and CSR related characteristics, such as sustainability, social welfare, and animal welfare ("*I think they should evolve and manage some topics that nowadays are very important for the society and for the consumers*", procurement manager in Spain).

The interviewees linked the inability of dairy cooperatives to meet the company's demands to how much business oriented or professional a cooperative was, with the traditional form being less oriented and the entrepreneurial forms more oriented. By business orientation the interviewees meant:

- A cooperative is willing to improve its performance and is able to gather investments to do so. This refers to both short-term and long-term aspects.
- The cooperative is characterized by "professionalism", meaning it is willing to properly listen, discuss and negotiate regarding a company's demands. In case it can't initially meet one or more of the demands of a company, a compromise would be discussed or, in link with the first bullet point, the cooperative would attempt to improve to meet these demands.
- The members are aware of the strengths and weaknesses of the cooperative they belong to.
- Apart from aiming social welfare for its members, the cooperative also has profit-making in mind.

At the same time, preference was shown from every interviewee towards cooperatives that are more business oriented. This preference was either in a general way or for as a choice for a more long-term oriented business relationship ("*if we want a strategic and long-term view for the company, then a more long-term oriented cooperative*", procurement manager in Switzerland). According to Nilsson, 2001, a traditional cooperative can also be more business oriented, as long as it has a strategical focus on a single function. This fact was verified by the manager in the global dairy program, who stated that *"…if you look to dairy, the whole change should be in the cooperative.* (They're trying to step in) *Also processing, also the consumer…until the consumer. In my opinion, that's not the right way to approach a cooperative in developing countries, because you should focus on where a cooperative is needed for.*"

In addition, companies may avoid cooperatives due to their instability. The main reason for that was because companies want a supplier who has a certain level of stability, as expressed by the procurement managers in Greece, Spain, and the Netherlands. However, there was also one procurement manager in the Netherlands, who stated that the manager's company avoids cooperatives, because the company wants to "*have control of quality and CSR aspects, also some operational aspects*" and not being dependent on what happens in the cooperative, while also aiming for a stronger and more resource intensive relationship with its suppliers.

Lastly, 4 out of 7 of the interviewees linked the inefficiencies of traditional cooperatives with culture elements of leadership and governance (4 out of 7), meritocracy and tradition (3 out of 7). They mention that a good leader needs to be a professional himself and he is the only one who can effectively drive the members of the cooperative to be more involved in the cooperative's success. Like a procurement manager in Spain mentioned "*For me, also an important criteria for me when dealing with cooperatives, is if they have a strong leadership for*

this task. So I think it's very important if the cooperative has a strong leadership. A director, a general manager of the cooperative…Together with the staff, depending on the dimension of the cooperative, the director of this cooperative, really has the ability that can drive, motivate and convince all the members of the cooperative". In terms of governance, both culture-wise and structure wise, the manager of the global dairy program in the Netherlands mentioned that when he re-organizes cooperatives, he focuses on "*Apart from the simple function, the governance…"And that goes from the board to the member and all in between*". The talk about meritocracy and tradition originates from one of the procurement managers in Greece, who linked it with leadership and mentioned that "*We begin from who is leading the cooperative. The governance is done by a director of the cooperative, who is elected by the members (of the cooperative). So, you can understand that, possibly, the election of a director can't be done in a meritocratic way…"* and later said that the result of this is the possibility of favoritism instead of meritocracy ("*As a result, the at-the-time director of the cooperative, leaves behind the idea of choosing a person depending if he is capable of the position and willing to work*"). Tradition referred by three interviewees who all commented that cooperatives in their form have a form of "grantish", proudness behavior which in turn was linked to the cooperatives unwilling to be efficient suppliers for processing companies and/or change to become efficient. Since these culture elements were not found in the initial literature review and a great importance was given to them by interviewees, they will be further discussed in the further research section.

4.2 Essential supplier evaluation criteria

"Based on these management perspectives, what are the criteria that a processing company considers when partnering with a supplier?"

As per derived from the literature review, the essential supplier criteria that apply to all types of suppliers are total cost, raw material quality, timing of delivery, supplier's financial stability, innovation possibilities, matching supplier CSR and unique services. During the interviews, the interviewees were asked to rank the supplier criteria based on importance, with 1 meaning less to no importance and 5 meaning most or high importance.

Table 1 presents the criteria evaluation scores from the interviewees, while Tables 2 & 3 represents the scores grouped up per country and grouped up based on companies that have a cooperative ideology or not. The tables do not include the third interviewee in the Netherlands, because despite working with cooperatives, they use a third party procurer for acquiring dairy related materials, who uses his own standards.

Table 1: Supplier criteria evaluation scores per interviewee/company

#1	Original criteria						
Companies	**Total cost**	**Raw Material Quality**	**Timing of Delivery**	**Supplier's financial stability**	**Innovation possibilities**	**Matching Supplier CSR**	**Unique services**
#1 (Spain)	5	5	4	4	3	5	2
#2 (Netherlands)	4	5	3	1	3	3	2
#3 (Greece)	5	5	4	4	3	3	4
#4 (Netherlands)	5	5	4	2	2	4	3
#5 (Greece)	5	4	4	3	3	1	2
#6 (Switzerland)	5	5	4	3	3	4	3
Average #1	4.8	4.8	3.8	2.8	2.8	3.3	2.7

Table 2: Supplier criteria evaluation scores per country

#2	Original criteria						
Score by country	**Total cost**	**Raw Material Quality**	**Timing of Delivery**	**Supplier's financial stability**	**Innovation possibilities**	**Matching Supplier CSR**	**Unique services**
Netherlands	4.5	5.0	3.5	1.5	2.5	3.5	2.5
Greece	5.0	4.5	4.0	3.5	3.0	2.0	3.0
Spain	5.0	5.0	4.0	4.0	3.0	5.0	2.0
Switzerland	5.0	5.0	4.0	3.0	3.0	4.0	3.0
Average #2	4.8	4.8	3.8	3.0	2.8	3.5	2.5

Table 3: Supplier evaluation scores by companies with a cooperative ideology (Companies #2 & #5) versus companies with non-cooperative ideology (rest of the companies)

#3	Original criteria						
Cooperative vs non-Cooperative	**Total cost**	**Raw Material Quality**	**Timing of Delivery**	**Supplier's financial stability**	**Innovation possibilities**	**Matching Supplier CSR**	**Unique services**
Cooperative	4.5	4.5	3.5	2.0	3.0	2.0	2.0
Non-cooperative	5.0	5.0	4.0	3.3	2.8	4.0	3.0
Average #3	4.8	4.8	3.8	2.6	2.9	3.0	2.5

On a global scale, based on Table 1, the criteria scores almost match the importance stated by the literature review. Between the literature review and the interviews, differences in importance occurred in supplier's financial stability and matching supplier CSR criteria. To further elaborate:

- **Total cost** and **raw material quality** are indeed considered as of high importance criteria. In fact, almost every interviewee stated that these two criteria are the "main drivers" (procurement manager in Netherlands) and that if the total cost or raw material quality standards are not met, then a deal breaker occurs between the company and a supplier.
- **Timing of delivery** is also considered as of high importance by the interviewees. As a procurement manager in Greece mentioned, "timing of delivery is also important, because you are dependent on a volume of milk in order to produce something. And if that volume is not in time, then it will create problems in your production process". However, as the average score of 3.8 implies it is of lesser importance than total cost and raw material quality, both with 4.8 scores. This was explained by most interviewees that it varies, but depending on the conditions around the delivery. The most commonly mentioned example was how the delivery was done, such as via a third party company, by the company itself or even the supplier can provide assistance in the delivery. Thus, the importance of this criterion may vary, but on average it is considered as a 4 out of 5 in importance.
- **Supplier financial stability** is the criterion with the biggest importance difference between the interviews and the literature review. While the literature review states it at high importance, the interviewees' average score is 2.8, stating it as of medium importance. Like a procurement manager in Switzerland mentioned, companies ideally prefer suppliers who are financially stable. However, this is not true in reality. On the other hand, both interviewees in Netherlands (procurement manager and manager in the global dairy program), a supplier's financial stability is not of importance, especially when it comes to farmer suppliers. The manager in the global dairy program said "…if the farmer goes bankrupt, yeah it's a pity for the farmer, but for that farmer there is a new farmer again. The same principle applied to the other interviewee (procurement manager) in the Netherlands, where the company has a high number of suppliers. The procurement manager stated that "*Because if he is not financially stable….he will get bankrupt and in the end we have to find another farmer. In the Netherlands it's not a big thing to find new farmers, unless there are too many (= farmers going bankrupt) at the same time*". Looking into Table 2, where the scores are grouped up by country, a difference can be seen in ranking of importance between the Netherlands and the other countries. To the author's knowledge, the best explanation for an average importance on this criterion is given by a procurement manager in Greece, who said "*it is something of, "yes but". What I mean…The company pays and tries to help the producers, produce (milk). From the other side, however, you cannot fully depend on a supplier, who you know that, due to his*

financial situation, he won't be responsible or even abandon you in the middle of your partnership/relationship. Everything has a role."

- **Innovation possibilities** was also acknowledged as a criterion of medium importance by the interviewees. Every interviewee stated that in the dairy industry's supply chain, innovation occurs at the processing company's level ("*So most of the innovation in the dairy supply chain is done by the dairy processing company*", procurement manager in the Netherlands). In regards to the Early Supplier Involvement (ESI) mentioned in the literature, an additional comment from the manager in the dairy global program in Netherlands states that "Yes, you can involve the supplier, but it will be somewhere in the middle….Because a supplier by himself, he doesn't have the knowledge, he doesn't have the finance, to do real innovation". From the same interview, a potential tendency in the future for innovation to lose even more importance as a supplier criterion was mentioned.
- On a global average, the **Matching supplier CSR** criterion remains at medium/average importance. However, when examining differences in CSR per company or country. This is attributed to the fact that every interviewee, recognize different elements as CSR, apart from the ones that the literature states are included (e.g. sustainability). For instance, for the interviewees in Greece CSR was mostly linked to sustainability and was considered as not of high importance, because of other priorities while being in a developing country. Whereas the interviewees in Netherlands and in Spain linked it to more elements than sustainability, such as social and animal welfare, free-grazing or pasture grazing, or organic and non-GMO materials. However, most interviewees (5 out of 7) agreed that sustainability has gained importance during the last years, especially after the UN has implemented its Sustainability Development Goals (SDGs) back in 2016 (United Nations, 2019).
- **Unique services** generally remain on a low importance like it was derived from the literature review. Apart from a procurement manager in Greece, every interviewee explained their given ranking saying that the supplier, as a farmer or a group of farmers doesn't really offer any unique services that would be important for the company to be beneficial. The remaining manager ranked it higher than the rest, because of the fast responses to complaints from the company.

4.3 Additional supplier evaluation criteria

"Based on these management perspectives, what are the criteria that a processing company considers when partnering with a supplier?"

As stated before, another goal of interviewing was to examine the possibility of new potential supplier criteria and their importance. For this research, if a criterion was mentioned by more than one interviewee. Depending on the number of times this new criterion is mentioned, its possibility of this criterion to be considered as a new supplier criterion. Table 4 presents these criteria that were mentioned more than once.

Table 4: Criteria mentioned by more than 1 interviewees and their relevant average score

Common added criterion	Grazing meadows/Free grazing	non-GM	Organic/non-GM (Green product)	Volume	Distance or Location
Times mentioned	2	2	3	2	2
Scores	4 and 5	5 and 5	4 and 5 and 5	3 and 4	4 and 3
Average	4.5	5.0	4.7	3.5	3.5

From the common criteria, the Grazing meadows/Free grazing, non-GM, and Green product criteria were all mentioned from interviewees in the Netherlands (3 out of 7). Thus there is a possibility this is a criterion linked with the country.

On the other hand, volume and distance or location of the supplier were mentioned by interviewees from different countries. Volume criterion was stated by the procurement manager in Spain and one of the procurement managers in the Netherlands, while Distance/location by the same procurement manager in the Netherlands and one of the two procurement managers in Greece. Unfortunately, since these two criteria were mentioned only twice, there isn't much certainty whether they should be considered or not as new essential supplier criteria. There is only a hint of the possibility and their medium importance.

4.4 Decision-making tool

"How does the type of a cooperative influence the business relationship with the processing company and why does this influence occur?"

4.4.1 Decision-making tool: literature version feedback

The decision-making tool's literature version received positive reactions from every interviewee. It was recognized for its structured way as an assessment tool and that it provided better clarity

towards dairy cooperatives. A notable example is the fact that the tool's outcomes were in line with the perception manager of the global dairy program in the Netherlands, who has the most knowledge of the interviewees ("*For me, the outcome is in line with what I thought, without answering the questions*", manager of the global dairy program in the Netherlands).

In terms of improving the tool, one interviewee mentioned that there needs to be a story guideline behind it, meaning what this tool is meant to do, for whom it is meant, and based on whose perception will the questions be answered (here the company's perception).

In addition, 4 out of 7 interviewees commented about the meaning of CSR and questioned if it included what the company stands for in terms of sustainability and CSR. Based on the literature review, CSR would include extrinsic attributes, such as the product's environmental impact, or its contribution to the overall sustainability concept, while also including a company's policies. What was seen during the interviews is that differences in interpretation of CSR from occurred. To further elaborate, the manager in the global dairy program stated that CSR no longer includes sustainability, a procurement manager in the Netherlands included sustainability, grazing meadows, non-GM, and animal welfare in their CSR, while the procurement manager in Spain separated the vision and goals of the company from CSR. This phenomenon is better explained by quoting the procurement manager in the Netherlands who stated "*Because what is CSR?.... you have to dive into it, what kind of CSR we have in mind. In every country it's different... Yes, and every company is different*". Translating this quote, this phenomenon occurs because every company or even country has a different culture, and this culture can affect the CSR definition and the characteristics that it includes. However, considering that literature review of CSR, and that nowadays sustainability has gained more importance after the UN's imposing of Sustainability Development Goals (SDGs), the following quote from the manager in the global dairy program located in the Netherlands gains more value: *"Well, I think sustainability I miss. Because sustainability for me is not CSR. CSR is charity. But sustainability is more and more important and will be incorporated in the principles of the cooperatives…But I think today you score more if you have good sustainability policy than CSR. Because CSR, you can also include in your brands….But is linked to your brand, because everyone can see your brand. But if you are not sustainable, e.g. if your water waste treatment is not ok, you will be punished*." Based on all of the above considerations, sustainability will most likely stand out in the future as a stand-alone criterion, rather than a simple extrinsic attribute for a company's brand product. Thus, maintaining a worldwide perspective of application for the tool as well, sustainability should be a separate question in the decision-making tool, which will apply to all types of cooperatives.

Lastly, two interviewees, one of the procurement manager in Greece and the manager of the global dairy program located in the Netherlands, mentioned that the assessment for the traditional cooperatives is too strict or too high and they can't reach the standards proposed by the decision-making tool. These two comments gain scientific importance when considering that both interviewees are in companies that had a background history with cooperatives, thus a cooperative ideology exists. Combined with the usefulness of the tool the manager of the global dairy program mentioned "*I think you should make a difference between a company who was originally a cooperative and a non-cooperative. Because, I for sure know that Fonterra, Arla, FrieslandCampina, they know exactly how to deal with cooperatives. But Danone, Nestle, who don't have this type of mindset DNA of cooperative, they don't know…but there are some companies that they don't know. And for those companies this tool could be important*". Indeed, for companies that didn't have a cooperative mindset, the reactions towards the tool was very positive, apart from one company in Switzerland, whose interviewee mentioned that they are too big in volume demands now that they don't look into a detailed overview for cooperatives. Thus, the interviewee characterized the tool as structured, but also a fragmented way that won't be so useful for the company, because they don't look into details of a cooperative.

To wrap and clarify the tool optimization feedback, three main points to consider were extracted from the interviews, which are the following:

1. The tool may need a better guideline tutorial, for first time users to read.
2. The sustainability characteristic needs to be split from the CSR criteria and be stand-alone.
3. The standards of assessment for traditional cooperatives may be too strict.

4.4.2 Decision-making tool final version

In the next page, the final optimized version of the decision-making tool is presented (Figures 9 and 10). In the main table, a new question is inserted to address the sustainability aspect of company demands and supplier evaluation. Considering the differences in importance given to sustainability per country (Table 2), the possibility to skip the question is mentioned. Thus, for companies who do not have sustainability requirements when it comes to supplier evaluation and selection, the decision won't be affected by that question.

The recommended course of action for traditional cooperatives has changed. Now, when one or more triangle answers are present, either a transactional relationship is recommended or avoidance of the supplier. After the optimization of the tool, the standards of accepting a traditional cooperative as a potential supplying partner are more relaxed, while also hinting to the evaluator the potential risks from a business relationship with a traditional cooperative.

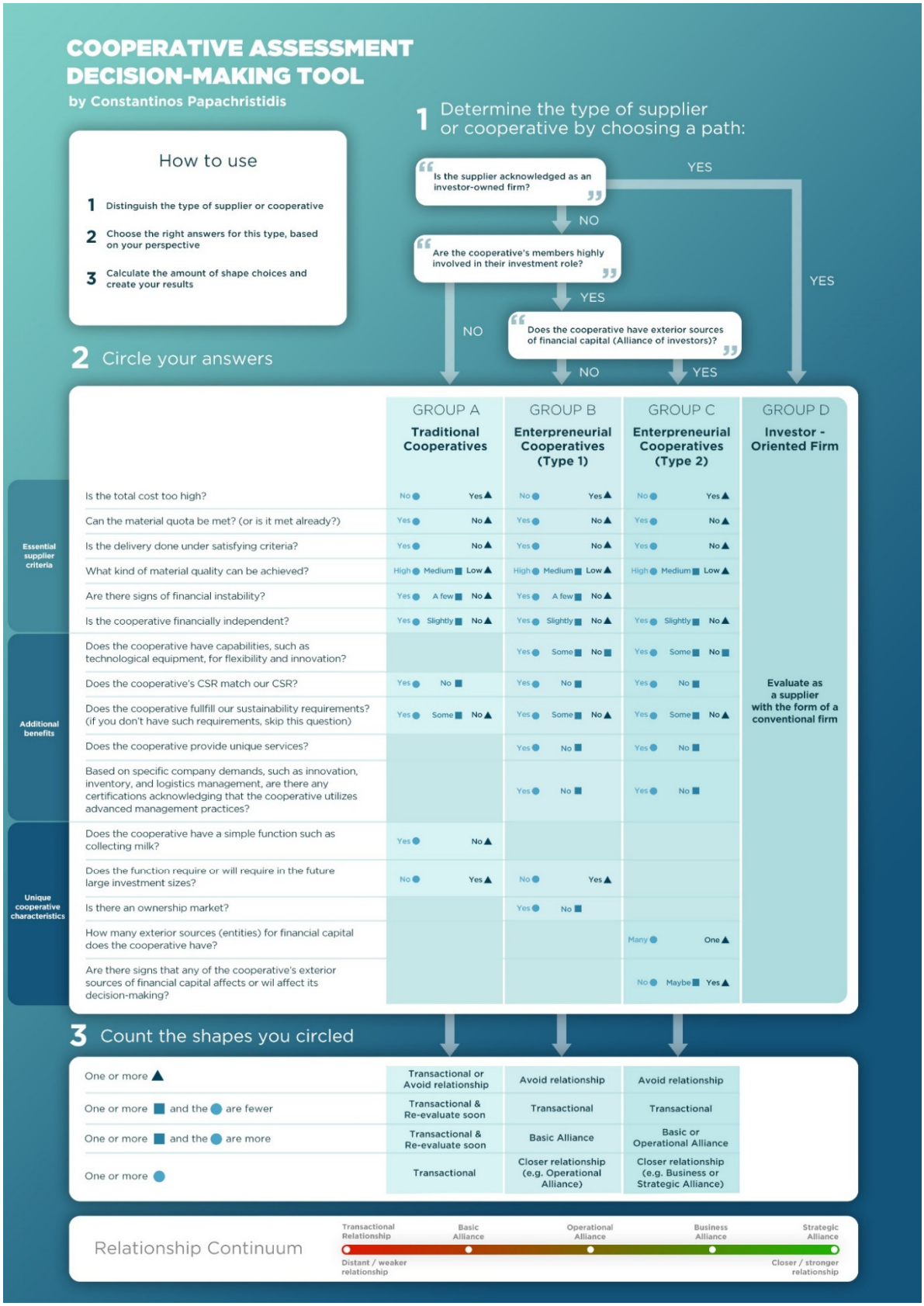

Figure 9: Final version of the decision-making tool

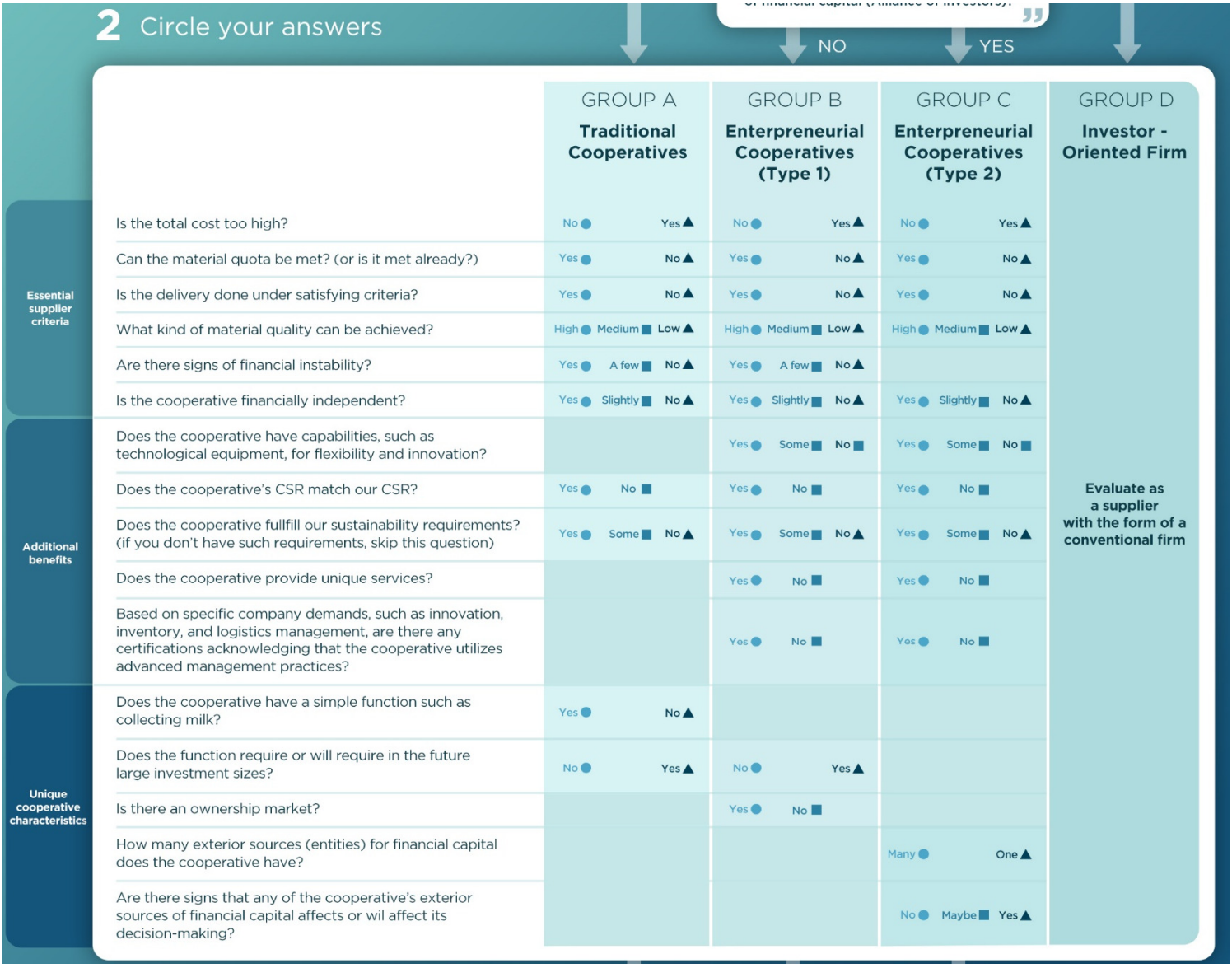

Figure 10: Main table of the final version of the decision-making tool

5. Conclusion

To conclude, the goal of this research was to examine the conditions a business relationship may occur between a dairy processing company and a dairy cooperative, while also determining the nature of the potential business relationship.

Through an initial literature review, initial conditions were derived, by examining what the demands of a dairy processing company are, in the form of supplier criteria, and how the dairy cooperatives perform to meet those demands. Through the interviews, the derived supplier criteria were validated of their importance, while for one criterion, supplier financial stability, its importance now is lesser than stated in the literature review. In addition, the CSR criterion was redefined, excluding sustainability from it, due to the gained momentum sustainability has in the last years. It was also confirmed that various forms of dairy cooperatives exist, with the more business oriented ones to perform better than the traditional ones. In addition, the traditional cooperatives, in their core form, will probably be bound to inefficiencies, unless they become more business oriented.

5.1 Recommendations for cooperatives

The main message derived from this research is that dairy cooperatives need to become more business oriented and organized, in order to reach an overall level of performance that meets the demands of the dairy processing companies. Considering the fact that new standards occur for total cost, quality or competitiveness in general, this need for dairy cooperatives to become more efficient suppliers is crucial. Otherwise, the dairy cooperatives will start to suffer inefficiencies, leading to financial breakdown and perhaps even for the cooperative to break.

A dairy cooperative could achieve becoming more business oriented through two main ways. One way is for the dairy cooperative re-organize itself and adopt a new organizational form, like becoming an entrepreneurial cooperative or an investor owned firm, where the members of the cooperative (or ex-cooperative in case of an investor owned firm), are more involved in their role as investors. The other way is for traditional cooperatives, which instead of attempting to branch out to more than one main functions, like collecting milk and then processing it, they should focus on a single function, such as simply collecting the milk.

Thus, by adopting and maintaining a business orientation and a level of professionalism, they will be more stable and efficient as a cooperative supplier, then be able to meet a dairy processing company's demands, and, in the end, having higher chances of survival and success.

5.2 Accomplishments

To the author's knowledge this research serves as a solid ground research for better understanding the interaction of dairy cooperatives with dairy processing companies. This is because, by answering the main research question:

- A better definition of cooperatives and their typology is presented. In this way, a more structured and simplified perception of cooperatives is offered, enabling a better understanding of a cooperative for both sides of the interaction.
- Supplier criteria, both for general suppliers and for dairy cooperatives, were revisited for their significance and modified based on the revision, while criteria aimed for cooperatives are presented.
- Combining the two previous bullet points, a decision-making tool was made. This model serves as an effective tool for dairy processing companies to evaluate dairy cooperatives, while there is the possibility for dairy cooperatives to see aspects they can improve, based on what a company's demands are.

5.4 Limitations of the methodology

While conducting this research, there were two limitations that occurred, the first being location access limitation and the second being the high possibility of a low response rate due to the nature of the research and its chosen potential interviewees.

Among the two, the low response rate was the most significant limitation. This is because the topic of working with cooperatives is complex, and frequently involves business partnerships/relationships on an international level. Thus the interviewees needed to have certain knowledge and/or experience on this external relationships and/or cooperatives. This fact limited the range of potential interviewees to those who hold a mid or high ranking position in food companies. Because of that, even though a long period of availability for interviews will be presented to potential respondents (see Appendix Figure 2), there was always the possibility that experts suitable for the specific research topic may not be available due to time schedule limitations. The combat this limitation, a large worldwide population of companies was selected, always in accordance to the selection criteria mentioned in the methodology section.

That is why the ease of location access limitation occurred. This is because up-close interviews were only possible regarding for companies located in the Netherlands.

As a compromise between the two limitations, while ensuring a high quality of data collection, phone interviews were chosen as an alternative method of an interview for companies which could not be accessed for an up-close interview, while also slightly raising the response rate.

It should be noted, though, that initial priority was given for up-close interviews, as the quality of data collected is even higher than from phone interviews.

On a final note, only 3 out of 7 of the interviewees had extended knowledge of each type of cooperatives, thus not much in depth quality information could be acquired for the strengths and weaknesses of each specific type of dairy cooperative.

5.3 Further Research

From the point this research sets, there are various ways of moving on. The first and probably most important is linked to the main limitation of this research, which is the assumption that a traditional cooperative is in the form of an agricultural bargaining cooperative. However, as stated in the theoretical background (Section 2.2.1), in agricultural marketing cooperatives, the farmers act separately from the cooperative. Thus, the next immediate step is to examine how the management of a dairy marketing cooperative can drive the farmers to improve themselves according to the recommendations derived from this research.

Then there is the need to examine the social aspect of a cooperative. Based on the principles and the definition of cooperatives, as found in the literature review, a cooperative's goal is to also function in a way that the social welfare of its members is guaranteed. Thus, when evaluating the performance of a cooperative, this social aspect needs to be defined, like Soboh, et al. did in 2012. However, through the literature review and through the interviews, the parameters for this social aspect are still missing. Like the manager in the global dairy program stated "*In countries like Indonesia and Thailand they have a different objective. They have setup a cooperative to be good for the members. That's different…Because there we still struggle with, how do we measure the impact of what we do within our Dairy Development program. It's not only measuring the KPIs and the specs of the milk. No, we want to have a good livelihood and good income for the farmer. But how do we measure that?*" There is the realization that there is a need to define the characteristics of the social aspect ("*do good"*) of a cooperative, so a better understanding and assessment of a cooperative's standing. Adding the importance various interviewees have given to culture aspects (4 out of 7), there is a high need to examine the culture of a cooperative. Since the interviewees mentioned leadership, tradition, meritocracy and member's behavior towards each other and towards potential supplying clients, attention should be given to the culture elements that match these characteristics. Based on Johnson's et al.

(2018) interpretation and presented framework of an organization's culture web, the matching elements would be paradigms (because of tradition), rituals and routines (because of tradition and behavior), power structure (because of leadership and meritocracy), and stories (because of tradition, leadership, meritocracy and behavior). For reference purposes, the culture web can be seen in Figure 9. Combined with the need to study how the management of a marketing cooperative can drive the cooperative's members to improve, it seems to be of great importance to study the culture aspect of a cooperatives.

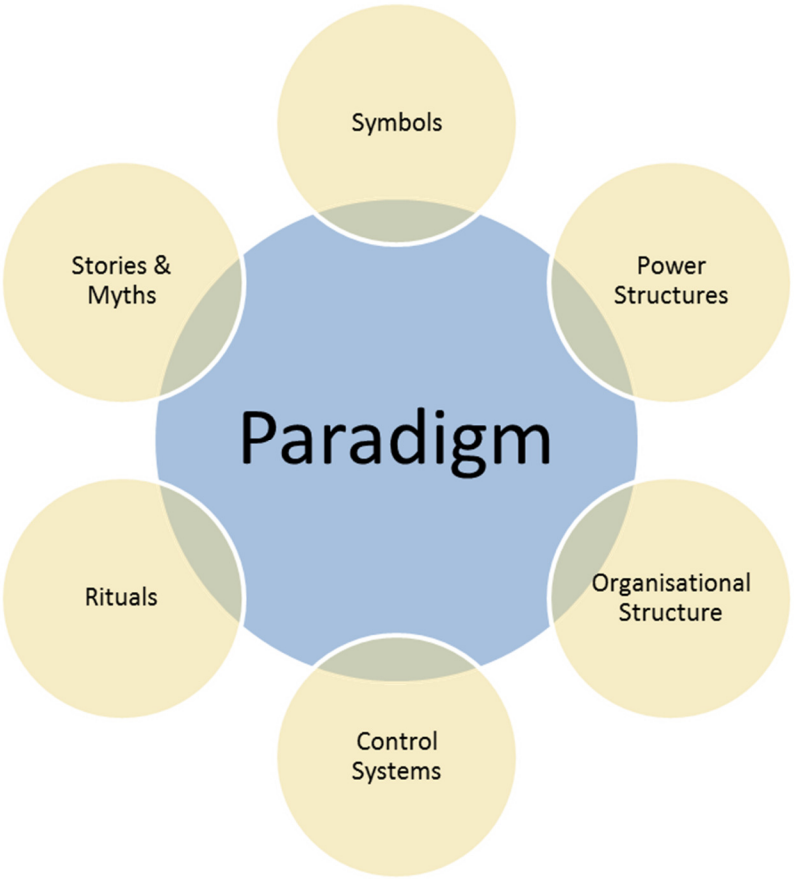

Figure 11: Culture web of an organization (Johnson et al., 2018)

Another possibility of a next research is to carry out similar researches, like the one carried out, with the same goal, in order to get a better worldwide picture of the revised criteria in terms of importance, as well as continue looking for new criteria that companies consider when evaluating their supplier. Even though the research had an adequate amount of interviews (seven), more interviews would lead to the introduction of statistics and, with quantitative data, get a more in-depth analysis, rather a diversity analysis. Moreover, more interviews would enable the opportunity of finding interviewees, who have more in-depth knowledge of each type of

cooperative, thus gaining better insight about each type's standing, rather than the traditional versus the more entrepreneurial ones.

In addition, there are signs that companies with a background history with a cooperative ideology have a different stance and standing against dairy cooperatives and farmers. Both interviewees of such companies participating in the research expressed that the standards of the tool for traditional companies are too strict, while no relevant mention occurred at the rest interviews. There seems to be a link, possibly with the fact that the companies with a cooperative ideology have a better understanding of cooperatives and farmers in general. A possibility is that this can affect the demands and the interaction with the dairy cooperatives. Unfortunately, in this research, it can only be claimed as a hint and not of statistical value. However, if a future research can compare the two types of companies, a better understanding of this difference can be acquired. Perhaps a meta study of several researches of this purpose will be needed, as there is always the low response rate for such type of researches.

This research and decision-making tool were restricted to the dairy industry sector. Every food sector is characterized by different, and sometimes unique, resources or capabilities that are required by companies to survive in these sectors, while every food product (e.g. milk) has its own unique characteristics. As explained in the introduction, the focus was chosen because the first and most important agricultural cooperatives are dairy cooperatives (Mauget R., Declerck F., 1996), and because the dairy industry on the farmer level mainly consists of agricultural cooperatives (Khalafalah S., 2010). Thus another future step is to carry out similar researches in other food industry sectors.

Lastly, in terms of the decision-making tool, since a proper revision and re-verification for supplier criteria was done, perhaps after studying cooperatives, there is the opportunity to branch out to generally suppliers. Like the procurement manager in Spain mentioned "*I think this tool is good not only for just cooperatives, but also to analyze different types of suppliers.*"

Appendix

A. Literature review elements (definitions, figures)

Decision-making: *the process of defining problems and selecting a course of action from the generated alternatives. Decisions are made upon collecting and using information* (Luning, Marcelis, Jongen, 2002).

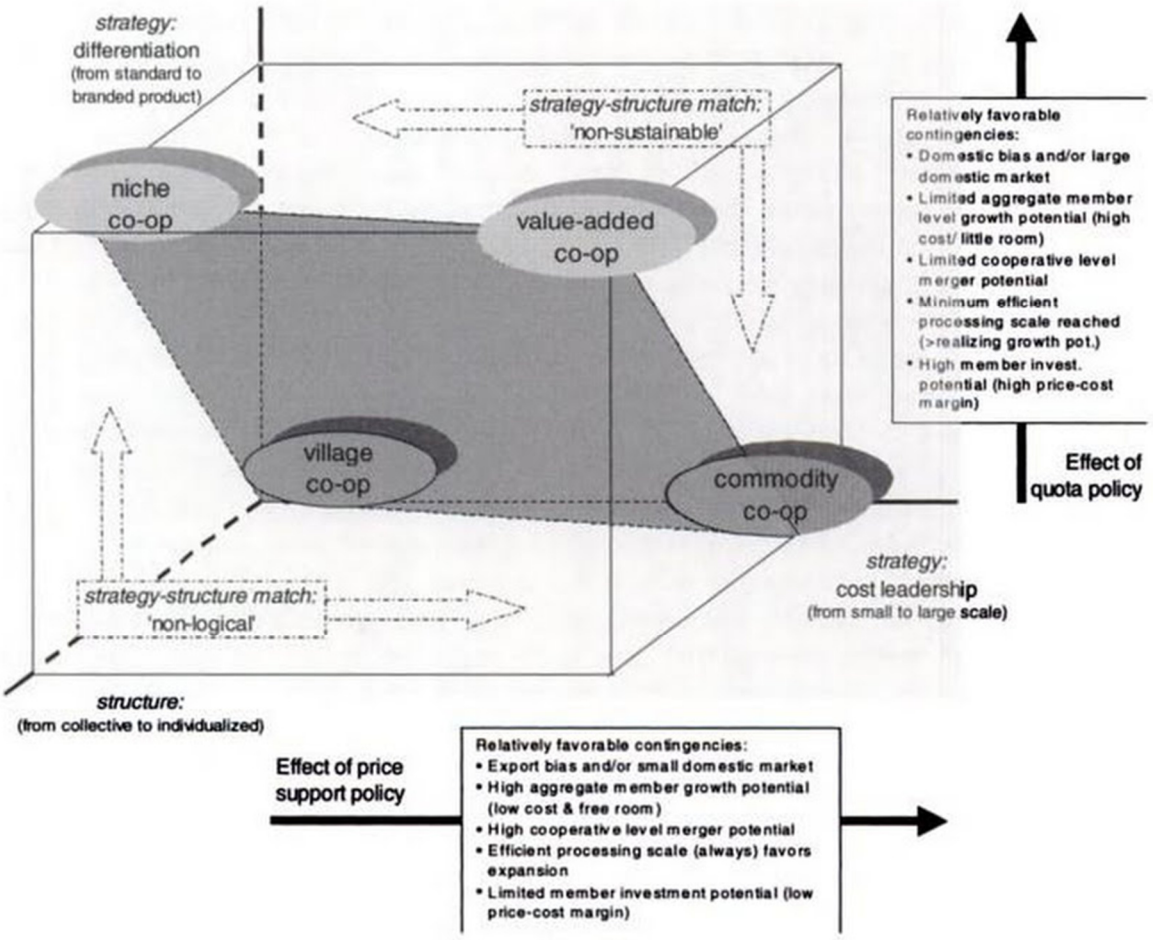

Figure 1: Types of cooperatives based on strategy and structure (Van Bekkum O. 2001)

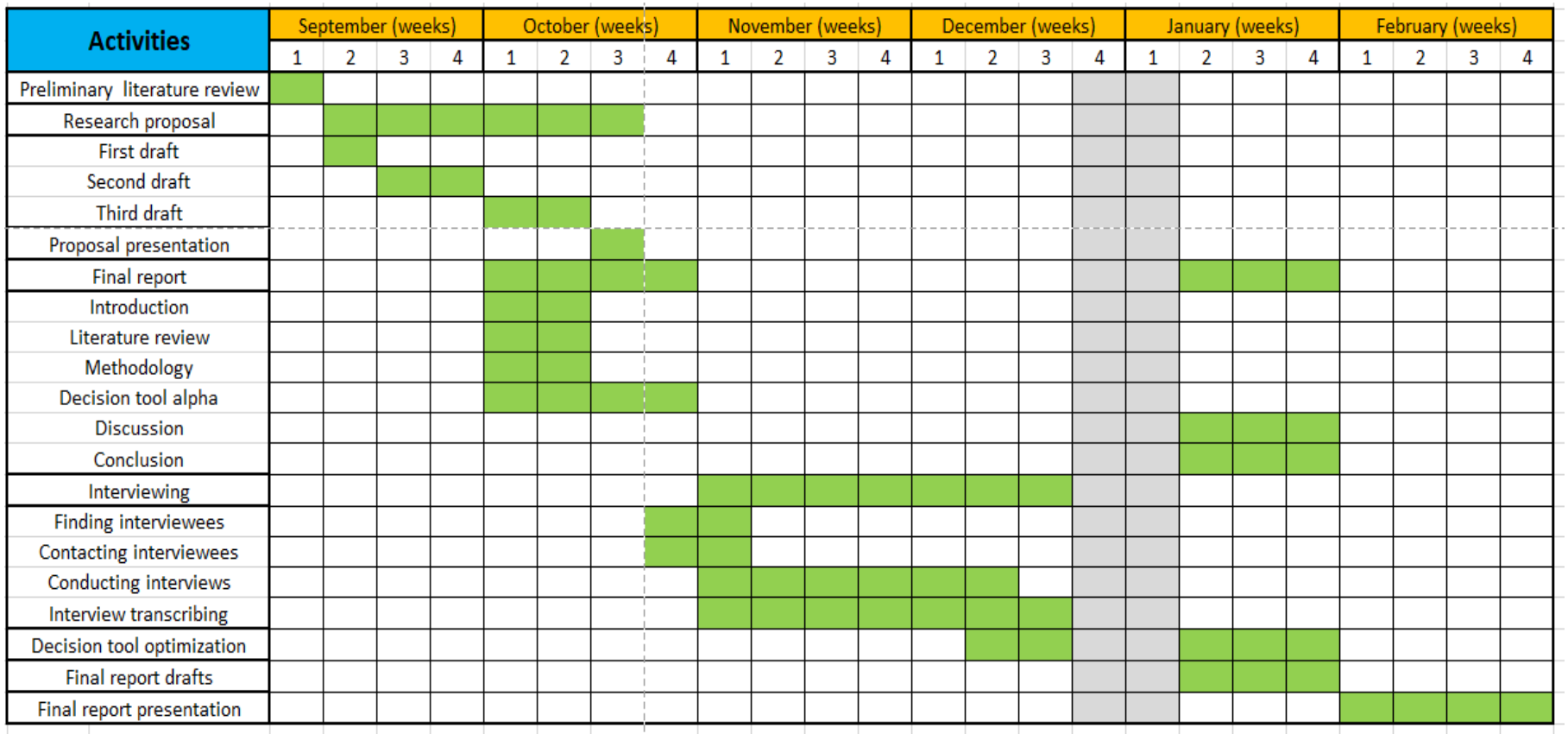

Figure 2: Initial Gantt chart for the research, as created during the early research stages

B. Interview questionnaire for the thesis research project

Interview questionnaire for the thesis topic (Code: MST - 80436) course project "Working with cooperatives: the company perspective. A case of the dairy industry"

Interview Guideline

Name of interviewee :

Occupation of interviewee :

Company of interviewee :

Place of interview :

Date of interview :

A. General info:

1. What does your current occupation involve?

2. What's your experience or knowledge in regards to cooperatives?

3. Based on said experience, what do you think of cooperatives? (further questions are sure to follow)

B. Supplier evaluation criteria:

1. A table is presented in this question, which includes evaluation criteria for suppliers, as derived from the literature, and 5 columns for a Likert scale ranking. Please rank them in terms of importance (1 = less/no importance, 5 = most/very important). The same score can be applied to more than 1 criteria.

Explanation of the criteria, present in the table, are the following:

- **Total cost** = includes material price acquisition, quality costs (inspection & failure costs), delivery costs, costs related to the formation and the management of a relationship.

- **Raw material quality** = the quality of the delivered raw material. Factors affecting quality include storage and transportation conditions, and practice conditions (milking practices, choice of breed, and choice of feed).

- **Timing of delivery** = fast order cycle times, no deviations from delivery times.

- **Supplier's financial stability** = how financially stable is the supplier.

- **Innovation possibilities** = to ensure higher success chances of new food products, collaboration with the suppliers is considered essential, according to the literature.

- **Matching supplier CSR** = the supplier's CSR matches the company's CSR policies (e.g. sustainability).

- **Unique services** = examples are fast response on complaints or purchase-market information (information sharing).

Criteria	1	2	3	4	5
Total cost					
Raw material quality					
Timing of delivery					
Supplier's financial stability					
Innovation possibilities					
Matching supplier CSR					
Unique services					

2. Is there any other criteria that you or the company considers when evaluating a supplier?

3. Is there any other criteria that you or the company considers when evaluating a cooperative? If yes, can you rank it/them as well?

4. From every evaluation criteria discussed, is there any specific supplier resource/capability that you consider is important to be separated from the criteria (including its own criteria category)? If yes, can you rank it/them as well?

C. Decision-making tool:

In this part the decision-tool alpha version, created form literature review, will be presented and explained (see also next pages).

1. Do you consider this tool easy to use?

2. Is there some information that you consider missing? (e.g. evaluation criteria, based from the answers from questions B2 to B4)

3. Do you think that with the decision-making tool, you have greater clarity of how to deal with cooperatives?

4. Based on your knowledge or experience with cooperatives, is there anything else that you'd like to add in terms of the decision-making tool?

5. Anything else you'd like to comment about?

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