



**POLITECNICO**  
MILANO 1863

SCUOLA DI INGEGNERIA INDUSTRIALE  
E DELL'INFORMAZIONE



**Transition Towards Sustainability and Circularity for Family  
Businesses - A Systems Perspective Model.**

TESI DI LAUREA MAGISTRALE IN  
MANAGEMENT ENGINEERING  
INGEGNERIA GESTIONALE

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Academic Year: 2021-22



I would like to express my deepest gratitude to my professor Josip Kotlar for his support and guidance during the course of this project. I am also grateful for my friends and family. Their belief in me has kept my spirits and motivation high during this process. Lastly, I would be remiss in not mentioning Politecnico Milano for the opportunity to pursue my master's degree in such an esteemed institution. Thank you all for having your faith in me. Without you, none of this would have been possible.

## **Abstract**

Sustainability and circularity are gaining importance all over the world as society has started to be more conscious regarding their impact on the planet. As a result, there is an increase in the number of literatures in this field. Still, research on sustainability in family businesses remains scarce and scattered. Since the family element changes the way family firms tackle their challenges, it is important to have an understanding on how the family influence can make the firm see sustainability differently. To bridge the gap in the literature, we present a model on the transition towards sustainability for family firms based on systems perspective to shed light onto how the family firms are impacted by factors that affect transition towards sustainability while also providing a practical path for family firms to follow in the journey towards a sustainable future.

## **Executive Summary**

In this thesis, we focus on sustainability and circularity among family firms and how they should make the transition towards a more sustainable business while ensuring factors important to them like their long term orientation and socio-emotional wealth are not under siege. This topic is considered of high importance as the awareness and push towards sustainability is growing every day and it is recognised that there is no alternative to sustainability. Thus, the lack of information on applications of the same in family businesses is alarming and the topic deserves more attention from researchers and experts.

Currently, we have a lot of literature regarding sustainability available to us and foundations like the Ellen McArthur Foundation are trying to give as much clarity regarding understanding sustainability and identifying scope for implementation of sustainable initiatives in multiple sectors. Nevertheless, there is still a lack of a step by step guide for this in different industries or geographical locations. To improve the situation, the systems perspective was introduced as a tool for identifying the key issues to implement a sustainable transition while also providing a lens for our conceptual understanding of sustainability.

Even with the existence of tools like systems perspective, researchers and practitioners need a framework that is designed specifically for family businesses to understand in detail, how the factors affecting the transition towards sustainability and circularity impact family businesses differently and to apply this in practice. This could be in the form of an assessment tool to understand how the given family business performs in different levels or for analytical and monitoring purposes.

Here, we have attempted to develop a model based on the systems perspective visualised in figure 3 by considering the factors that affect this transition and then comparing it with the family element which makes the family firms different. The three dimensions identified for the purpose of the model are “family influence”, “factors affecting transition towards sustainability” and “implementations in levels of systems perspective”. To connect these three dimensions, propositions P1-P5 were derived between the first two dimensions and P6-P8 were derived between the family influence and implementation of systems perspective. These propositions are available on table 3 and table 4 respectively. The model along with the step by step guide and detailed inspection of the elements of the model is expected to help in analysing the difference in a family firm’s approach to sustainability compared to the non-family firms and to guide them towards the perfect approach in implementing, monitoring and managing this transition.

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## **1. Introduction**

Family businesses are often more sophisticated than non-family firms as they have the influence of a family associated with them. The family element incorporates topics like long term orientation (LTO) and socio-emotional wealth (SEW). For this reason, they often tend to tackle things differently compared to the other organisations making them a very interesting and relevant topic for research. Nevertheless, the lack of awareness on the aspect of sustainability till recently means that sustainability and green innovation are under researched topics in family business (Clauß, Kraus and Jones, 2022). In this paper, we hope to understand how differences between family businesses and non-family businesses can affect how they approach sustainability and circularity and try to articulate a different and detailed approach tailored for family firms to transition towards a more sustainable future. We believe that the topic is highly relevant for the current scenario as society is becoming well aware of the sustainability needs of our deteriorating planet and are promoting businesses that are more sustainable in nature. Also, there is no alternative to sustainable development (Nidumolu, Prahlad and Rangaswami, 2009) making this transition crucial for safeguarding the LTO of the business.

When we look at the available literature on family businesses and their environmental sustainability orientation (ESO), we can see that the impact of ESO on performance would be higher in family firms than non-family businesses (Adomako et al., 2019) and this impact would grow even higher with the increase in age of the business (Leonard-Barton, 1992). Apart from this, we can also see that while there is an evident difference in how family firms tackle challenges

compared to non-family firms, the motivations behind their decision making processes also vary widely and could be related to the LTO, difference in structure and SEW factors like prominence, enrichment and continuity. Unlike non-family enterprises, family firms consider sustainability as an opportunity with a driving force from within and not a necessity caused by internal or external triggers. We also know that in older researches like the one on Henokien group (Bakoğlu et al., 2016), sustainability is not considered as a requirement for long term survival but we believe that this has changed in the recent years with ESO being one of the key non-financial goals for all firms operating in the EU.

While the relevance of incorporating sustainability and circularity to businesses and the regulations and social pressure regarding the same is considerably new in the field of research, we have reached a point where immediate action should be taken in this aspect for the wellbeing of our planet and survival of businesses. Researchers point towards antecedents of sustainability, management of sustainability and bargaining from sustainability as under researched topics in the field of family business. Above all, there is not enough literature on how the difference between family firms and non-family firms means they should tackle the sustainability crises differently. So, we have identified two main research questions to help us gain more clarity. These are as follows:

**RQ1:** How do the factors affecting transition towards sustainability and circularity impact family firms differently?

**RQ2:** How can family firms follow a step by step approach to transition towards a more sustainable business?

We can see that the questions identified address the practical aspects of sustainability initiatives in family business while also trying to bridge the gap in literature on this subject. In this paper, we try to develop a theoretical model to answer these questions. The model is three dimensional in nature with the family influence being the primary dimension while the other two dimensions are the factors affecting the transition and the implementations for transition based on systems perspective. The model is designed in a way that a family firm can adopt a multiple level incremental implementation approach towards a sustainability transition. On the other hand, the model can be used to theoretically analyse how the factors affecting sustainability can impact family businesses differently while also providing a step by step approach for assessing how they would perform in different levels of the model. The model is expected to facilitate analytical and monitoring functions as well. While bridging the gap in literature, we also hope that our model will pave the path for more practical analysis and implementations of sustainable transition in family firms.

## **2. Theoretical Background and Literature Review**

### **2.1 Understanding the Basics of Family Businesses.**

#### **2.1.1 Definition of Family Business**

According to the general understanding, the family's involvement in the business makes a family business unique to be a field worthy enough of development and study. "What exactly is a family business?" is a question that has been pondered by many experts throughout the years. We can see the use of myriads of different definitions by researchers in an attempt to explain the heterogeneity of family firms and their unique behaviour. The results can be as simple as "a company in which controlling ownership is rested in the hands of an individual or the members of a single family" (Barnes & Hershon, 1976) or more complex like "a company in which more than 50 percent of the voting shares are controlled by one family and/or a single family group effectively controls the firm, and/or a significant proportion of the firm's senior management is members from the same family" (Leach et al., 1990). Therefore from this, we can understand that there is a general agreement that the family, ownership and management are the three main factors defining a family business.

### **2.1.2 Long Term Orientation in Family Firms**

Family Firms, unlike non-family businesses, have been observed to focus on a long term orientation (LTO) goal as the families often associate the survival and reputation of their businesses to their family legacy. Such perspectives are reflected in scenarios like long term tenures for Chief Executive Officers (Lansberg, 1999), extended time horizons for financial returns (Zellweger, 2007) and long term capital investments in family firm initiatives can be seen as compelling evidence for LTO in family firms. The importance of LTO orientation may be even higher in achieving non-economic goals (Chrisman, Chua, Pearson and Barnett, 2010).

Another important feature of family firms in cementing their LTO approach is their intention to pass on the business to successive generations of the family (Chua, Chrisman and Sharma, 1999) as it requires a very long term plan. Beyond the idea of succession, the importance given to socio-emotional wealth (SEW) and the amount of patience and planning that is required for achieving and maintaining it points towards the LTO of family businesses. Chrisman et al. (2010) makes a compelling case that this focus on SEW is a distinctive feature of family firms. Lumpkin and Brigham (2011) take this a step forward by stating that LTO and SEW are congruent and linked in such a way that it would be difficult to achieve one without the other. Hence, family firms would focus on LTO to ensure that the business and the family as an extension stays relevant as time passes.

### **2.1.3 Common Challenges and Pitfalls in Family Firms**

The biggest differentiating factor between family firms and non-family firms is the involvement of a family and its name in the company. This makes it much more complicated with multiple factors coming into play. Thus, we often see multiple challenges in family businesses that are not commonly found in case of other businesses. Beckhard and Dyer Jr (1981) recognises ‘issues for founders’, ‘succession planning’, ‘training and development of family members’, ‘family dynamics’, ‘growth and development’ and implications for owners and managers’ as key areas where challenges could be faced.

Issues for founders could be in the lines of the preservation of the original goal of the business or the inclusion of family members in the business and what role should be given to them initially in case they become a part of the business. As a family business, the members of the family would also expect to have equity in the business and determining the amount of equity provided and the grounds for it could also be seen as a major issue a founder might come across.

Taking a step further, one of the biggest challenges a family business would face is the succession of the leader. The succession process in any family firm is highly complicated and can be categorised into 4 stages. These are the owner-managed business stage, passing through the training of the successor to a phase of partnership, leading to the power transfer from incumbent towards the successor (Churchill, Hatten, 1997). According to the family firm institute, only 12% of the family firms succeed over 3 generations. Hence, the proper management and execution of the succession is a crucial point in the life cycle of a family business.

Family dynamics, and managing the “family system” and the “business system” such that they work in harmony, is another major challenge that family firms face unlike non-family firms. The desire of the family to stay together is a key variable in understanding the family dynamics. Higher the cohesion within the family, more the priority would be given in decision making to ensure that family values are preserved. Based on family dynamics, 4 different scenarios can affect which would tailor the future of the firm: collaboration, nepotism, displacement and estrangement. According to Beckhard and Dyer Jr (1981), the situation of collaboration would ensure good harmony within the family while motivating non-family managers to still be a part of the business. In case of nepotism, the family members are promoted even with visible lack of skills and would have an opposite effect in the behaviour of non-family employees compared to collaboration. Displacement occurs when the family members are pushed out by more capable outsiders while estrangement occurs as a result of intra-family conflicts leading to the firm losing the family business status.

#### **2.1.4 Innovation in Family Firms**

Innovation is an integral part of businesses holding their competitive advantage. Innovation can be categorised into three as innovation inputs, innovation activities and innovation outputs. It is generally noticed that the R&D in a firm is a good determinant of innovation and R&D investment is a good proxy for the autonomous innovative capabilities of the firm. It is generally seen that there is a negative relationship between the involvement of the family and level of the firm's R&D expenses and external technology acquisition (Berrone et al., 2012; De Massis et al., 2013; Kotlar,



De Massis, 2013). It is also noted that family firms are less inclined towards open innovation as a step to preserve control over innovation. Nevertheless, it is seen that even by investing less on innovation, family firms have a better innovation output compared to non-family firms, thanks to the much higher innovation conversion rate. It can also be dependent on the generation of the family members at the higher executive roles. It is safe to say that the family firm–innovation input–output relationships depend on contextual factors; namely, the level of minority shareholder protection and the education level of the workforce in the country (Berrone et al., 2012; De Massis et al, 2013; Kotlar, De Massis, 2013).

Family influence on the other hand paves way for innovation through tradition. Tradition refers to the stock of knowledge, competencies, materials, manufacturing processes, signs, values and beliefs pertaining to the past know-how, symbolic and cultural content or micro-institutions of practice handed down across generations. This tradition shapes the identity of individuals and organisations. Tradition helps in value creation by increasing legitimacy and reliability while also creating competitive advantage as it cannot be easily replicated by others and the uniqueness enables appropriating innovation rents. These traditions eventually result in unique innovations and value creation if used appropriately.

### **2.1.5 Governance in Family Firms**

Another challenge that family firms are often concerned with is the extent of involvement of the family in management of the business (Beckhard, Dyer Jr, 1981). The governance structure is more complicated than non-family firms as there are members of the family and outsiders in some cases

involved in the governance of the firm. Additionally, the owners do not have the option to sell the stocks and move on to a different firm during situations where the firm is underperforming.

According to Carney (2005), family governance is more sophisticated as the strategic decisions are made by few individuals who are usually part of the family, putting the family first using the wealth of the family. This could be justified by the family's tendency to use personal wealth to concentrate maximum equity within the family.

As a result, there is often a veil of secrecy over the conduct of the family and non-family members of the business are considered as outsiders leading to a bifurcation bias (Carney, 2005; Gedajlovic et al., 2004).

Considering this situation, tailored structures and mechanisms have to be put in place to avoid favouritism and conflicts between family owners while promoting harmony and incentives for non-family professionals to be part of the business.

### **2.1.6 Role of Governance in Sustainable Competitive Advantage**

According to Barney (1991), sustainable competitive advantage is a situation where a firm possesses valuable and rare resources that are difficult for competitors to imitate or find substitutes for, enabling a firm to maintain superior performance for an extended period of time. This would enable a firm to exhibit superior performance over time.

Researchers believe that resource endowments originating from the alignment between family and business systems (Habbershon & Williams, 1999; Habbershon, Williams, & MacMillan, 2003; Sirmon & Hitt, 2003) can be a source of sustainable competitive advantage for family firms. There is also an intrinsic motivation that allows interests to be aligned at a lower cost because the owners and managers are emotionally bonded with their businesses (Gómez-Mejía, Haynes, Núñez-Nickel, Jacobson, & Moyano-Fuentes, 2007). The understanding that family firms are heterogeneous in nature should be taken into account as there might be situations where there is no cohesion between family and non-family employees of the company resulting in a negative effect.

## **2.2 Understanding Sustainability and Circularity**

### **2.2.1 Definition of Sustainability**

Sustainability is a term that is known to everyone but the intention of the term has been generalised in multiple aspects in recent years. Sustainability as a policy concept has found its origin in the Brundtland Report (1987), a document about tensions caused by the aspirations of mankind and the limitations imposed by nature, which defines sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. This is also the definition that is most often cited in literature. In the course of time, this term has been further classified into social, economical and environmental sustainability.

According to Kuhlman and Farrington (2010), this obscures the real contradiction between aims for welfare for all and risks diminishing the importance of the environmental dimension. They also argue that separation of social and economic aspects are unnecessary and could be considered one and the same. As per their proposal, sustainability should be concerned with retaining the resources, specifically related to the environment and the gratification of present needs should be considered as well-being.

Even though multiple definitions exist for sustainability, making it much less precise than usual scientific definitions, nearly all definitions share the core elements. First presenting a way of looking at environmental issues with respect to society and economy meaning neither social nor economic growth should take environmental underpinnings for granted (O.Vos, 2007) or the other way around. Another core concept of sustainability is intergenerational equity and Brundtland report (1987) emphasises this aspect. The final core aspect shared by most definitions is the idea of working beyond mere compliance with existing laws and regulations.

Bryner (2001) reiterates that the existence of multiple definitions is not a problem and could be useful because they allow for a broader agreement and help to organise for social change when tough choices are being confronted.

We will be focusing on the topic of sustainability as the concept in Brundtland report and the term would be used in reference to environmental sustainability.

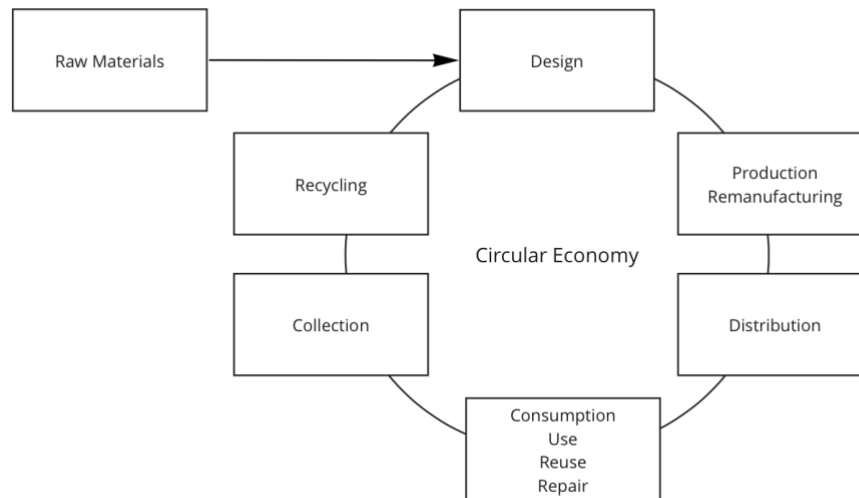
### **2.2.2 Concept of Circular Economy**

In recent years, another term that has garnered quite a lot of attention is ‘Circular Economy (CE)’. In similar fashion as to the term sustainability, there are multiple definitions of CE that have been used in relation to sustainability or recycling or other environmental concerns. J. Kirchherr et al. (2017) took the claims of critics that it means different things to different people and proceeded to analyse 114 circular economy definitions previously published to create transparency in the current understanding of the CE concept. The findings indicated that CE is most commonly used as a combination of 3Rs (Reduce, Reuse and Recycle). They also noted that ‘Recycle’ is the most commonly found in most definitions and some definitions even bring down circular economy into the idea of recycling which is problematic and often incorrect. They also noted that researchers and practitioners understand CE in different ways.

The report by Ellen MacArthur Foundation (2012) was called seminal and possibly guided the discourse in the definition of circular economy in 2012. This is evident in the change of definitions used pre and post the report. The report suggests that CE would go mainstream by 2025 with savings of around 20%. Moving manufacturing away from wasteful linear material consumption patterns could prove to be a major innovation engine, much as the renewable energy sector is today, facilitating this change. The report further defines CE as follows:

“The circular economy refers to an industrial economy that is restorative by intention; aims to rely on renewable energy; minimises, tracks, and eliminates the use of toxic chemicals; and eradicates waste through careful design. The term goes beyond the mechanics of production and

consumption of goods and services in the areas that it seeks to redefine (examples include rebuilding capital, including social and natural, and the shift from consumer to user)”.



**Figure 1** Implementation of CE Adapted from Ellen MacArthur Foundation (2013)

While taking a deeper look, we can identify 10Rs as the pillars of CE which are as follows (Kirchherr et al., 2017; Reike et al., 2018):

1. Refuse
2. Reduce
3. Reuse
4. Repair
5. Refurbish
6. Remanufacture
7. Repurpose
8. Recycle (materials)
9. Recover (energy)

## 10. Re-mine

These 10Rs can be applied to close the linear business model into a circular one with ideally zero wastage. This would ensure that the product retains value post use and facilitates multiple uses. This can be demonstrated by the concept of Value Hill by Achterberg et al. (2016). It is evident how the circular economy concepts would add considerable value to the company's processes in the course of time. It should also be noted that the process does contribute to the reputation of the brand as people would show more interest in a company that is environmentally conscious.

### **2.2.3 Relation between Sustainability and Circular Economy**

It is often seen that people mistake circularity for sustainability and use the terms interchangeably. Even after understanding these as two different terms, their relation is often not understood. We can see that circularity is defined by researchers as a precondition (Rashid et al., 2013) or an important element of sustainable manufacturing while some others assume a much stronger conditional relationship (Ellen MacArthur Foundation, 2013b). More pronounced in the environmental dimension are Bakker et al. (2014) who considers circularity as an absolute necessity for sustainable economic output.

Nakajima (2000) has identified this condition and has extended it to circularity as a necessity but not sufficient condition for a sustainable system but should be accompanied by other conditions like a change of lifestyle. Looking from an industrial point of view, we can see that

having a closed loop circular system would greatly benefit a company especially in that manufacturing sector for a transition towards sustainability.

#### **2.2.4 Sustainability as The Key Driver of Innovation**

There is no alternative to sustainable development (Nidumolu, Prahlad and Rangaswami, 2009) but companies are often hesitant to switch to sustainable methods as they believe the higher efforts will erode their competitiveness. This could be explained by the addition of costs that does not often result in immediate financial benefits. Sustainability is a long term goal which requires immediate action.

Many CEOs in the US and Europe see the need to transition towards sustainability as pressure on them that rivals from developing countries do not face. Hence, they treat it as a corporate social responsibility (CSR) instead of part of their business objectives. In contrast with this popular idea that the companies have to weigh sustainability efforts with the financial causes of doing so, research on 30 large corporations show that sustainable transition can yield both bottom line and top line results (Nidumolu, Prahlad and Rangaswami, 2009).

Being environmentally friendly lowers costs in the long run as inputs are reduced while resulting in better products and enabling companies to create new businesses. For this reason, smart companies have now started to treat sustainability as innovation's new frontier. By treating sustainability as a goal today, early movers will develop competencies that rivals will be hard-



pressed to match. That competitive advantage will stand them in good stead, because sustainability will always be an integral part of development.

### **2.2.5 Generating Competitive Advantage with Circularity**

Employing circularity leading to sustainability in company practices can result in hidden sources of value (G. York, 2009) leading to competitive advantage. York identifies two values that can be obtained. Namely, “differentiated cost savings” and “increased revenue and market share”. Hitchcock and Willard (2002) have provided a framework regarding cost benefit of sustainability including the following factors:

- Reduced Operating and Manufacturing expenses, thanks to reuse, reduction in consumption and refusal of waste generation.
- Reduction in risk related to legal, regulatory and social reasons from health and environmental issues.
- Reduced employee expenses as a result of increased productivity and better retention as employees would be happier to work at a responsible company that aligns with their values.
- Increased revenue and market share is obtained through differentiation and preferred access to markets that are not accessible to competitors (G.York, 2008). To be more detailed, access to markets that are not available or soon to be inaccessible can be improved with more environmentally friendly products and processes.

The cost savings generated along the supply chain could also be extended to customers helping in retaining them. Being in advance of regulations would also help avoid requirements for abrupt changes helping with the cost saving.

### **2.2.6 Systems Perspective of Circular Economy**

Different companies have different organisational structures and relationships meaning they would pursue sustainability in different ways. As a result, a key dilemma that is faced by firms that are considering adopting sustainable strategies is “How should sustainability actually be pursued?” (Starik, Rands, 1995; Marshall, Brown, 2003).

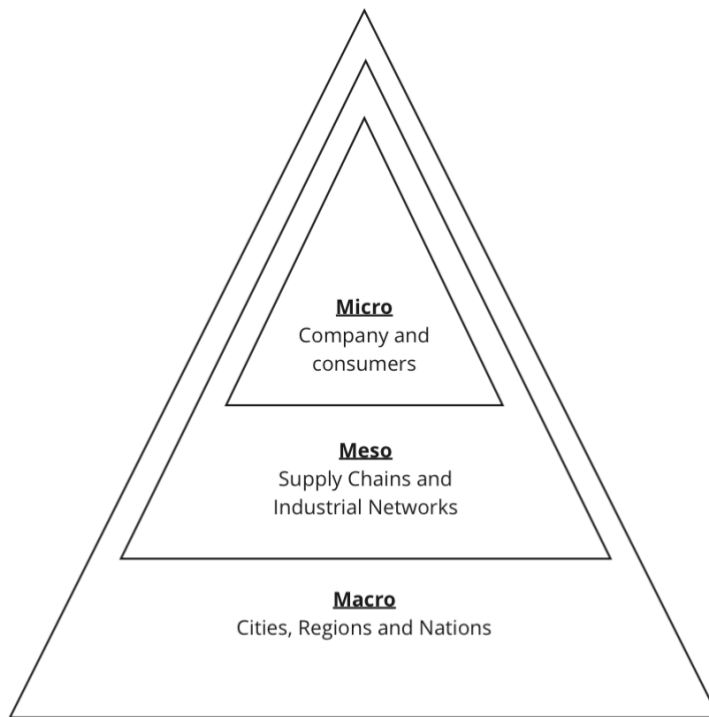
To tackle this, Ellen MacArthur Foundation introduces the Systems Perspective as a tool for identifying the key issues to implement a better solution while also providing a lens for our conceptual understanding of sustainability. According to the systems perspective, we can identify three levels of systems namely micro, meso and macro levels. Micro level comprises actors like company and consumers. Meso level on the other hand deals with industrial networks and supply chains. Macro level is much broader and comprises cities, regions and nations. We can identify different methods and steps to implement sustainability related activities at every level.

At the consumer level, two of the most effective methods to contribute towards a transition towards sustainability are responsible consumption and shared ownership. There are multiple steps that a company can take to cater to these needs of the consumer and to create a bond with them. On the other hand, at the company level, cleaner production methods with zero or reduced impact

can be the initial step followed by promoting augmented product life cycle with after sales service, warranty and right to repair initiatives.

At the meso level, industrial symbiosis can be achieved by establishing joint supply and handling along with modular designs and a closed loop supply chain (CLSC). Establishing industrial symbiosis will foster eco-innovation and exchange of knowledge, information and expertise positively influencing the physical flow of materials and energy resulting in eco innovation (Lombardi, Laybourn, 2012).

At the macro level, systems perspective has a much broader outlook on sustainability and deals with steps taken at the level of cities, regions and nations. The circular economy action plan (CEAP) adopted by the European Union in 2020 as a part of the European Green Deal is a type of step taken at the macro level to lead the countries under the European Union and to help other developing nations get closer to a sustainable future.



**Figure 2** Visualisation of Levels in Systems Perspective

### **2.2.7 Consumer Contribution to Sustainability**

As per the systems perspective, we have identified that consumers also play a role at the micro level for paving a path towards circularity. The awareness regarding the importance of being sustainable and eco-conscious has led to most consumers wanting to choose greener alternatives for their requirements. Collaborative consumption is one of the new areas leading to a more ecological consumption mode (Bostman, Rogers, 2011).

Collaborative consumption renews consumption logics by mutualising, bartering, exchanging or sharing products (Felson, Spaeth, 1978). It is considered as a socio economic groundswell that will transform the idea of value proposition for companies and the way people fulfil their needs (Bostman, Rogers, 2011). Companies can facilitate collaborative consumption models and monetise it to facilitate options for consumers to be more eco conscious. This could be by offering shared ownership or rental options instead of selling products to customers. Apart from a collaborative consumption model, companies can also facilitate responsible consumption by offering products with minimal packaging and reduced wastage.

### **2.2.8 Steps Towards Sustainability from Within the Company**

In the micro level of systems perspective, apart from the consumer side, there are also actions that businesses can take within the company to improve the sustainability efforts. These efforts mainly deal with cleaner and reduced or zero impact production methods, usage of recycled materials and providing an augmented lifecycle for the products by offering warranty and repair services involving minimal wastage.

In this regard, the “Right to Repair” directive was officially launched by the European Union in October 2019 and takes the focus broader from the idea of optimising production towards increasing the life of products and focusing on the idea of reuse. “Right to repair” has the capacity to give back to the users the right to decide what to do with their products when they fail and before they have to dispose of them (Miranda, Goni and Hernandez, 2020). In this regard, the businesses

can make their products more modular, repairable and make spare parts available to the customers. This would open more business opportunities while retaining customers and reducing impact.

### **2.2.9 Role of CLSC in Circularity**

From the systems perspective on sustainability, we can see that a closed loop supply chain is pivotal in achieving circularity in the meso level. Thus, it is important to understand the different factors that help in achieving CLSC. CLSC is the design, control, and operation of a system to maximise value creation over the entire life cycle of a product with dynamic recovery of value from different types and volumes of returns over time (Guide, Van Wassenhove, 2009).

To ensure that the used product returns to the same industry, along with the forward supply chain, an effective reverse supply chain should also be established. The reverse supply chain can be broken down into 3 separate steps which are product returns management, reprocessing management and remarketing or reintegration. This has to be integrated with the forward supply chain to realise a closed loop. The CLSC can facilitate industrial symbiosis by forming shared infrastructures for recycling, supply and handling. CLSC is more effective while working with other companies in the same industry as a supply chain is considered closed if the product returns to the same industry and not necessarily the same company.

### **2.2.10 Limitations of Circular Economy**

We have seen from the available literature that a circular economy is an integral part of a sustainable transition for consumers, companies and countries. But it is also important to see and understand the limitations of the circular economy in order for a smooth transition towards a more sustainable business model. In an ideal CE, it is expected that there is no loss in the system and the circles and be repeated without added energy or material consumption. But in reality, thermodynamic limits show that every loop around the circle creates dissipation and entropy, attributed to losses in quantity and quality (Cullen, 2017). New material and energy must be injected into the circles as the loops progress to overcome the dissipative losses as well as increasing demand (Korhonen, Honkasalo and Seppälä, 2018).

In practice, material losses combined with energy inputs associated with recycling may negate many of its environmental benefits. A cyclic flow just by itself does not guarantee a sustainable outcome but it should be carefully analysed for its net global sustainability contribution (Meskers, 2008; Korhonen, Honkasalo, and Seppälä, 2018). During recycling, physical flow of material and energy cross organisational, administrative and geographical boundaries often creates the phenomenon of problem shifting or problem displacement by reducing environmental impact on one part of the system while increasing it in another (Allwood et al., 2011). Thus, making net global sustainability contribution, an important factor to consider.

Finally, the physical flows of materials and energy mobilised by the human economy create both short-term and long-term environmental impacts and this should be taken into account when designing reuse, remanufacturing and recycling projects (Korhonen, Honkasalo, and Seppälä 2018). Many of the impacts are currently unknown. Implementing a circular economy is happening under great uncertainty, imperfect information and constantly evolving contexts.

### **2.2.11 Regulations on Sustainability**

Environmental regulations are a core part of industrial policy towards sustainability (Wu, Fang, Jacoby, Lee and Wu, 2022). Increasingly stringent regulations help pressure energy and pollution intensive companies to adopt green innovations. One stream of literature on relationship environmental regulations and industrial innovations (Porter, 1991; Porter and van der Linde, 1995) suggests that keeping pressure on companies by developing environmental regulations may motivate them to innovate for sustainability. These regulations also offer more transparency to the customers and avoids the possibility of the greenwashing phenomenon which occurs when companies advertise sustainability to sell products without being actually involved in sustainable practices. Currently, there are 4 main regulations regarding sustainability that might affect businesses in the EU which are explained in the following paragraphs.

ISSB Sustainability disclosure is a step towards global standardisation of sustainability reporting by the International Sustainability Standards Board (ISSB) under the International Finance Reporting Standard (IFRS). They will be responsible for developing a global baseline which will give companies around the world a way to work on sustainability reports. This would



improve the transparency. The ISSB standard is under rapid adoption in the UK and is expected to be adopted in the US and EU as well.

EU Taxonomy's Climate Delegated Act is a classification of sustainable economic activities which was created to provide information to companies and investors on which activities are considered sustainable. It is a fundamental step towards creation of the European Green Deal. The Delegated Act would play a major role in securing more investments for sustainably operating companies.

Sustainable Finance Disclosure Regulation (SDFR) is a legislation with the goal of redirecting capital towards more sustainable investments and activities. SDFR aims to eliminate greenwashing by promoting transparency in the financial industry.

Corporate Sustainability Reporting Directive (CSRD) was proposed in 2021 and will be fully effective in 2023 replacing the previous Non-Financial Reporting (NFRD). This would expand the number of businesses affected by EU Taxonomy and SFDR by more than 50,000.

Porter (1991) and follow-up scholars argue that environmental regulations can create a “win-win” solution by stimulating industrial innovations to promote performance (Porter and van der Linde, 1995; Costantini and Mazzanti, 2012; Ambec et al., 2013). This is further extended by Wu, Fang, Jacoby, Lee and Wu (2022) to argue that informal environmental pressure from local communities, consumers, and competitors may similarly contribute to the “win-win” solution. In

either case, it is important for these companies to be aware of the regulations and to comply with them.

### 2.3 Literature on Sustainability Orientation in Family Firms

While we were able to understand in detail the family influence elements and, also, sustainability and circularity from the point of view of a business. It is imperative that we take a deeper look at how the effects of these factors on a family firm have been pre-established in past research and literature. Seven studies were identified that try to tackle this from different points of view in line with our goal.

| No | Study                   | Title   | Main Findings   |
|----|-------------------------|---|---|
| 1  | Dangelico et al. (2019) | A comparison of family and nonfamily small firms in their approach to green innovation: A study of Italian companies in the agri-food industry.             | Family firms' approach to green innovation may be similar but motivations vary.<br>Non-FFs change due to necessity and could be internal or external triggers. Families see it as an opportunity with driving force from within.<br>Investing in green innovation gives competitive advantage and hence should not be considered as a cost. |
| 2  | Clauß et al. (2022)     | Sustainability in family business: Mechanisms, technologies and business models for achieving economic prosperity, environmental quality and social equity. | Recognises sustainability as an under researched topic in family business. Recommends 3 new perspectives on sustainability in FFs.<br>Antecedents of Sustainability: Willingness, Ability<br>Management of Sustainability: Balancing business and Family, Paradoxical tensions  |

|   |                             |  |   |
|---|-----------------------------|--|---|
|   |                             |  | Bargaining from Sustainability.   |
| 3 | Adomako et al. (2019)       | Environmental sustainability orientation and performance of family and nonfamily firms.                          | ESO is higher in non-FF than FFs. Smaller FFs have less advantage in focusing on ESO. Older the firm, the higher the relevance of ESO.  |
| 4 | Kariyapperuma et al. (2021) | Family logics and environmental sustainability: A study of the New Zealand wine industry.                        | Family firms may look at sustainability differently due to their heterogeneity. Variations in the values, characteristics, desire of the founding owners and the next generation, with the variations in the family ownership, structure and family non-financial goals are identified as heterogeneities among family firms to look at ES among other things differently.    |
| 5 | Tiberius et al. (2021)      | Sustainability beyond economic prosperity: Social microfoundations of dynamic capabilities in family businesses. | Conducted to see how specific microfoundations of FFs relate to sustainability. Innovative mindset, human capital investments, and participation in decision-making were the micro-foundations related to the social dimension of sustainability dynamic capabilities. When it comes to economic sustainability, no considerable factors are encountered.                     |
| 6 | Bakoğlu et al. (2016)       | The Role of Sustainability in Long Term Survival of Family Business: Henokiens Revisited.                        | Study conducted on FFs in Henokiens group. Only 75% of FFs mention sustainability of any sort out of which only 13 mention eco-sustainability. Only 2 firms care about all kinds of sustainability. Study concludes sustainability is not a requirement for long term survival of FFs (Note that importance of sustainability has evolved past the publishing of this study). |
| 7 | Núñez-Cacho et al. (2018)   | Family Businesses Transitioning to a Circular Economy Model: The Case of “Mercadona”.                            | Model talks about how family and the business cannot be separate entities in general and for the sustainability of the business, they are often intermingled to some degree. The situation where family and businesses  |

|  |  |  |  |
|--|--|--|--|
|  |  |  | can be seen totally separate are just rare exceptions. |
|--|--|--|--|

**Table 1** Literature Review of Existing Research on Sustainability in Family Firms

### 2.3.1 Environmental Sustainability Orientation in Family Business

Sustainability is an under researched topic when it comes to family firms (Clauß, Kraus and Jones, 2022). As a result, there is lack of clarity in the Environmental Sustainable Orientation (ESO) followed by family firms as a whole. Available studies like the one conducted in Ghana on 253 small and medium family enterprises by Adomako et al. (2019) shows that family firms are often less focused on their ESO compared to non-family firms.

Adomako et al. (2019) takes a step further and hypothesises that the impact of ESO on performance would be higher in family firms than non-family businesses. Based on past studies (Leonard-Barton, 1992) that firms’ age is a core competence that underpins their market competitiveness, we can take this hypothesis a step further by stating that the impact of ESO on the business’s performance would be stronger among older companies than that of younger ones. It is also noted that smaller firms have lesser advantage of having an ESO than the larger ones.

### **2.3.2 Motivations Behind ESO in Family Firms**

Family firms, due to their difference in structure and LTO tend to tackle challenges differently compared to non-family firms. The motivations behind much of their decision-making process also varies considerably. A study conducted on Italian companies in the food industry by Dangelico, Nastasi and Pisa (2019) comparing family firms with non-family firms regarding their approach to green innovation revealed that family firms are very heterogeneous in nature and their approach to green innovation may be similar, but the driving motivations behind do vary.

Unlike non-family enterprises, family firms consider sustainability as an opportunity with driving force from within and not because of necessity caused by internal or external triggers. A research on family owned companies in New Zealand wine industry reveals that the heterogeneity could be accounted by motivations generated from variation in values, characteristics, desire of founding owners and the next generation, variation in the family ownership structure and non-financial goals of the family (Kariyepperuma, Collins, 2021).

### **2.3.4 Role of Sustainability on Long Term Survival of Family Firms**

Long Term Orientation (LTO) is one of the key determining factors of family firms as they are seen to associate their family legacy to the survival and reputation of the businesses. Their goal of passing down their firms to successive generations (Chua, Chrisman and Sharma, 1999) is key to long term survival. ESO is one of the key factors among non-financial goals currently for all firms

operating in the EU. It is expected that the environmental sustainability initiative would be prioritised by family firms to ensure their long term survival.

Conversely, research conducted on family firms which are part of Henokien group by Refika Bakoğlu et al. (2016) suggests otherwise. Henokien group has a minimum age of 200 years as membership criteria for member firms. Hence, all the firms taken into consideration are long term surviving firms. Only 75% of these firms have mentioned sustainability of any sort in the annual reports or company published materials. Only 13 out of the total 44 mention an ESO and only 2 firms consider all kinds of sustainability. Hence, the study concludes that sustainability is not a requirement for long term survival. It has to be noted that the study was conducted in 2016 and the relevance for sustainability and pressure from regulations and customers have changed considerably post that. The lack of literature regarding the changes increases the ambiguity of the situation.

### **2.3.5 SEW and Transition to Sustainability for Family Firms**

Family and business in a family business are not separate entities and for the survival of the business, they are often intermingled to some degree (Stafford, Duncan, Dane and Winter, 1999). The situation where family and business can be seen totally separately are just rare exceptions. The values of the family are often embedded in the values of the business. Hence, socio-emotional wealth (SEW) is a key in differentiating family firms from non-family firms.

A study on the Spanish FMCG industry (Mercadona Company) by Nunez-Cacho, Moreno, Iglesias and Garcia (2018) notes three main factors of SEW that orient the company towards sustainability. The factors are prominence which includes the concern for the company's reputation (Gomez-Mejia et al., 2011; Zellweger et al., 2011), continuity (Gomez-Mejia et al., 2007; Debicki et al., 2016) where the company wants to continue ownership and propagation of values of the family and enrichment (Gomez-Mejia et al., 2011; Berrone et al., 2012) to ensure enrichment of value for all the stakeholders and investors driving them to maximising values. The study was conducted on a single company and this questions the validity of the results on the family businesses in the sector as a whole.

## **2.4 Research Gaps and Questions**

Family Business and related topics have been highly researched in the past. We can find literature about family firms of different sizes, industries and organisational systems. The family element which incorporates the relevance for SEW and other complicated processes like succession makes it a very interesting and relevant topic for research.

On the other hand, sustainability orientation and circularity are terms that have been known to us for a long time. But the relevance of incorporating sustainability and circularity to businesses and the regulations and social pressure regarding the same is considerably new in the field of research. We have reached a point where immediate action should be taken in this aspect for the wellbeing of our planet and survival of businesses.

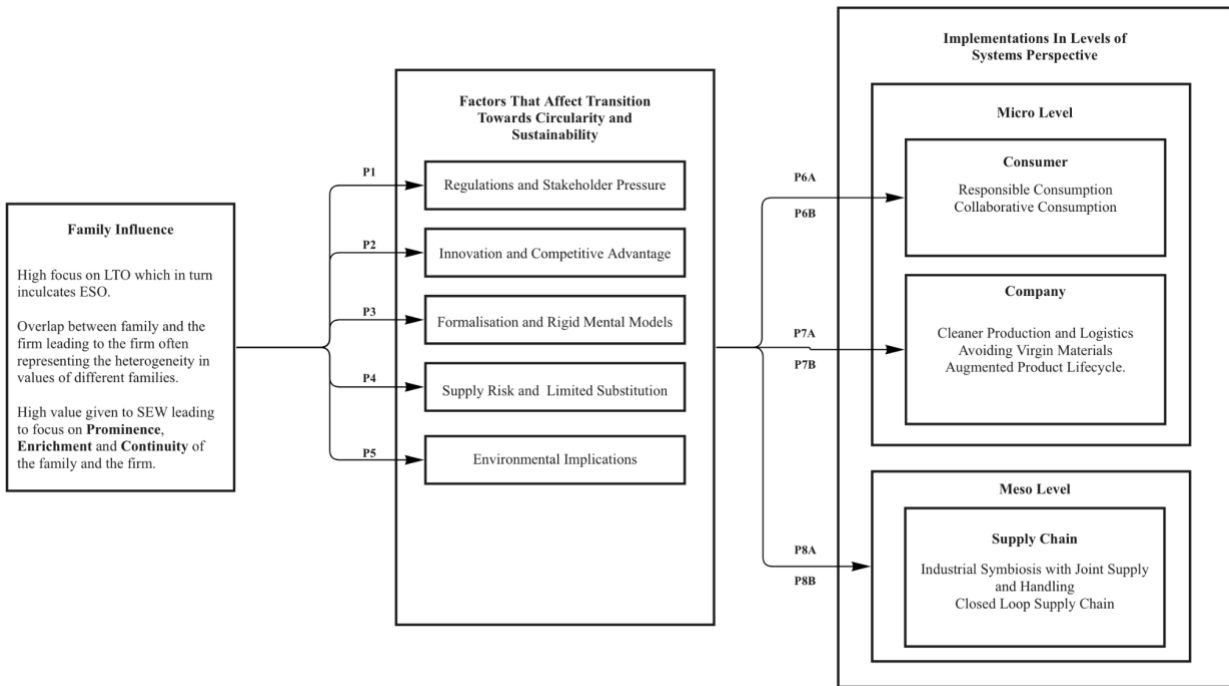
Due to the lack of awareness on the sustainability aspect, sustainability and green innovation are under researched topics in family business (Clauß, Kraus and Jones, 2022). They suggest antecedents of sustainability (willingness, ability), management of sustainability and bargaining from sustainability as under researched topics in the field of family business.

Another major factor that is noticed in previous literature is that family businesses tend to consider green innovation as a cost even though they are passionate about the cause. Unlike this preconception, investing in green innovation gives competitive advantage (Dangelico, Nastasi and Pisa, 2019) and this should not be considered a cost.

Above all, there is not enough literature on how the difference between family firms and non-family firms means they should tackle the sustainability crises differently and more cautiously as there are many more factors that come into play and the long term survival of the firm is crucial. The systems perspective gives an idea on how the transition towards sustainability can be broken down into multiple levels of the system and how each level and sublevels can play a role in achieving the goal of sustainability. But there is no literature available on how the family influence affects the adaptation of systems perspective within a family firm and how the different factors affecting sustainability can be advantageous or disadvantageous. A model for these family businesses to abide by while making this important and time sensitive transition based on the systems perspective could make a considerable difference in giving more clarity regarding the same to researchers and the companies.



### 3. Model of Transition Towards Environmental Sustainability in Family Firms



**Figure 3** Systems Perspective Model for Transition Towards Sustainability and Circularity in Family Businesses.

#### 3.1 Dimensions of The Model

##### 3.1.1 Family Influence

There are multiple models related to sustainability available among the previously published literature. While most of these models take different innovative approaches to sustainability, they are more generic in nature and do not account for the nuances of a family business. According to the European Union, over 60% of businesses in Europe are family firms. For this reason, it is important to consider the characteristics of a family business that sets it apart from a non-family

firm while framing a model for transition towards sustainability. In this model, which is specially framed to help family businesses become more sustainable, the first dimension is the family influence on the business and how it affects the transition. The factors considered under the family influence dimension are explained as follows:

High focus on Long Term Orientation (LTO) is something that makes family firms stand apart from non-family firms. While this focus can be seen in scenarios like long tenures of CEOs and extended time horizons for financial returns, the importance of LTO may be even higher in achieving non economic goals of the company and as an extension, the family (Chrisman, Chua, Pearson and Barnett, 2012). One of the most important non economic goals in the current scenario is the Environmental Sustainability Orientation. While there are studies that state family businesses are often less focused on Environmental Sustainability Orientation (ESO), Adomako et al. (2019) hypothesises that the impact of sustainability would be higher in family firms than non-family firms. Combining this with the past studies (De Carolis, 2003; Leonard-Barton, 1992) that firms' age is a core competence that underpins firms' market competitiveness, we can take this hypothesis a step further by stating that impact of ESO on firm performance would be stronger among older firms than that of younger firms. Thus, even though there is a lack of literature to give a clear picture in this area, it is safe to conclude that the LTO of family firms are driving them to focus on ESO. It should also be pointed out that ESO is one of the key factors among non-financial goals currently for all firms operating in the EU. It is expected that the environmental sustainability initiative would be prioritised by family firms to ensure their long term survival.

Another important factor under consideration in this model is the heterogeneity between family firms. Family firms due to their difference in structure and LTO tend to tackle challenges differently compared to non-family firms. Also, their motivations behind different decisions made vary widely from non-family firms. But this does not mean that all family firms have the same drive behind their sustainability intentions. Family firms may have similar approach towards green innovation, but the high level of heterogeneity in the family leading to high levels of heterogeneity in the way they conduct business means that they would have different driving motivations behind their attempt on green innovation (Dangelico, Nastasi and Pisa, 2019). These differences could be caused by variation in values, characteristics, desire of founding owners and the next generation, variation in the family ownership structure and non-financial goals of the family (Kariyepperuma, Collins, 2021). It is crucial to account for this heterogeneity in the model to ensure that these diverse types of family businesses can follow the model for a smooth transition.

The final level in this dimension is the value given to socio-emotional wealth (SEW) in a family business. We are aware that the SEW and its relevance is one of the key differentiating factors between family and non-family businesses. Values of the family are often embedded in the businesses, making the business values an extension of that of the family. Debicki et al. (2016) have identified three main factors based on SEW that orient the company towards sustainability. These are prominence, continuity and enrichment. Prominence depicts the importance of how a family is perceived by the community as a business owner. Concern for corporate reputation and similar issues comes under this and this could drive the transition towards sustainability as the firm seeks a favourable organisational reputation. Since families also pursue nonfinancial goals in order to guarantee transgenerational sustainability, they will invest in proactive environmental practices.

Continuity represents the importance of making decisions such that it sustains the family business along with the desire to maintain family ownership and management. Enrichment on the other hand indicates the significance of the desire to maintain family harmony through altruistic behaviour, a distinctive characteristic of family-owned companies. These three factors which are derived from the family nature of the companies act as triggers to speed up the transition towards sustainability.

| <b>SEW Factors</b> | <b>Definition</b>   |
|--------------------|---|
| Prominence         | Perception of the family as business owner by the community                       |
| Continuity         | Sustaining family business under family ownership and management in the long term |
| Enrichment         | Desire to maintain family harmony through altruistic behaviour                    |

**Table 2** Factors of SEW That Affect ESO

### **3.1.2 Factors Affecting Transition Towards Circularity and Sustainability**

The second dimension of the model identifies the different factors that could have a positive or negative impact on a family business's transition towards circularity and sustainability. Some of these factors are more global in nature and affect all types of businesses while the others may be particular for family businesses. Nevertheless, we will examine in detail all the factors and how it can impact family firms differently while they become more sustainable using this model. The main factors identified as a part of this dimension are as follows.

**Regulations and Stakeholder Pressure:** environmental regulations are a core part of industrial policy towards sustainability and increasingly stringent regulations help in nudging companies towards green innovation. As a family business operating in the EU, there are 4 main regulations that they would have to comply with to legally keep the business running. These are the sustainability reporting standard by International Financial Reporting Standard (IFRS) to offer more transparency; Sustainable Finance Disclosure Regulation (SFDR) which is a regulation with the goal of redirecting more capital towards sustainable investments and activities; EU Taxonomy's Climate Delegation Act which provides more information on the activities which are considered sustainable; Corporate Sustainability Reporting Directive (CSRD) which includes more companies to the ones affected by EU taxonomy and SFDR.

It is important for the companies to be aware of these regulations and comply with it while also accounting for the stakeholder pressure as the consumers and external investors should believe in the company and their activities to invest in them and use their products. While some of these regulations are already mandatory, the others would be enforced in the near future and sudden transitions could prove to be expensive for the business.

**Innovation and Competitive Advantage:** Innovation is an integral part of ensuring leadership in any particular industry for any company. Sustainability and circularity have become the new frontiers of innovation in recent years partially due to necessity and partly due consumers becoming more eco-conscious. Nevertheless, companies are often hesitant to switch to sustainable methods even though there is no alternative to sustainable development (Nidumolu, Prahlad and Rangaswami, 2009) as they are afraid that the higher efforts will erode their competitiveness. This

could be explained by the additional costs incurred which does not reflect immediately in the financial benefits. But it is known that being environmentally friendly reduces costs in the long run while resulting in better products. For this reason, sustainability is the new frontier of innovation. By being early movers to sustainability, companies are expected to develop competencies which would be difficult for their rivals to match. As sustainability is expected to be an integral part of our life and businesses in the foreseeable future, this will really be a big move in the right direction for the LTO of the company.

When we look at the competitive advantage that could be generated with a move towards sustainability, two values that are identified are “differentiated cost savings” and “increased revenue and market share” (G. York, 2008). There is a framework provided regarding this by Willard (2002) which includes factors such as reduced expenses in operations and manufacturing, reduction in risks of legal, environmental and health related nature, better employee retention and productivity and increased market share thanks to preferred access to markets that competitors cannot access.

**Formalisation and Rigid Mental Models:** Formalisation in this context refers to the extent to which a business has formalised the process to interpret, analyse and react to changes in the environment (Arrow, 1974; Hannan, Freeman, 1977; Thomas, Clark and Gioia, 1993; König et al., 2013). Formalisation is a factor that is often imperative in the success of an incumbent in an undisturbed market. On the other hand, high levels of formalisation in companies could cause structural inertia when there is a requirement to make radical changes to the way companies’ function. Regulations and pressure from the society building up could make radical changes like

this necessary for the survival of a business. As a highly formalised organisation would have to follow a particular path towards making any necessary changes, this would slow it down to a level that may even question the survival of the company in case of a requirement for sudden changes. Formalisation may also question the level of influence the community holds in the functioning of the business.

Another factor that could inculcate a similar situation in an organisation is “Rigid Mental Models”. It builds on theories of human and organisational cognition (Kaplan, 2011; Kaplan & Tripsas, 2008) and attributes heterogeneity in incumbents’ adoption behaviours to variations in the rigidity of organisational members’ mental models. Mental models could cause the members of the organisation to consider issues on a strictly local basis and often miss out on important changes happening globally until it is late. The rigidity of these mental models is also relevant in the organisation’s adoption of new technologies and innovations. The higher the flexibility of mental models of the actor, higher the speed of a routine being implemented if it deviates from the previous routine. The level of deviation is also dependent on the flexibility of the mental model of the actor (Feldman, Pentland, 2003).

The level of formalisation and rigid mental models in businesses determine the amount of flexibility it can adapt to during transitions like the one towards more sustainable operations.

**Supply Risk and Limited Substitution:** During a transition towards more sustainable practices, it is a very common scenario that the raw materials and energy used for manufacturing, logistics etc, may need to be substituted for better alternatives. This substitution is often necessary due to

the high environmental impact caused by the current materials and energy sources in use. In some situations, this change is quick and easy while there are some other scenarios in which the change could be threatening to the business model or the key products of the company. In case of airline businesses, the flights used are responsible for a very high carbon footprint. But there are very few other alternatives to air travel. High speed railway networks may be able to provide an alternative in few cases but still, comes with a lot of complications like the infrastructure of high speed railway lines that are needed to run the trains. Railways are also seldom private in nature compared to airlines and are usually a monopoly by the governments of different countries which means that there is a very high entry barrier. In such cases, there may be a consideration for offsetting the impact caused instead of replacing the energy source, raw materials or business model followed by the business. For some organisations, the competitive advantage would be the ones created over a very long period of time by depending on the same and in some cases, exclusive suppliers. If there are instances where these suppliers have to be changed for better ones in the sustainability perspective, the companies may lose some of the advantages they have built over the years and would cause more rigidity while making this transition. Furthermore, the choice to retain these suppliers and offset the impact may not be well received among the different stakeholders.

**Environmental Implications:** from the time when Brundtland report talked about sustainability as a policy for the first time, we have come a long way in understanding the impact of our practices on the environment. There are deep conversations and debates happening around the world regarding the deterioration of the environment and how our regular practices and consumption are causing irreparable damage to the planet. People from a much younger age have started to take the well-being of planet Earth much more seriously. The movement brought forward by Greta



Thunberg is a good example of how people have started considering conservation of environment and slowing down of global warming as their responsibility.

This transition can also be reflected in the ways businesses have started considering sustainability as a key driving factor of their innovation. Companies like Patagonia are leading the charge in making their products and production methods more responsible while brands like The North Face are following the trend to stay relevant in the market. Furthermore, there are brands like H&M who were exposed by the media and public for using greenwashing as a marketing tool while not being actively involved in any sustainability practices. While IFRS and similar organisations are working on preventing similar greenwashing situations and promoting greener alternatives and practices, it is important for a brand to consider the environmental implications that they cause and to move towards a more sustainable future in order to stay relevant and true to their evolving customer base.

While implementing a more circular supply chain and introducing recycled products in the product line may be ample change to attract eco-conscious customers and to meet the regulations, it may be causing a situation of problem shifting or problem displacement by reducing the impact in one geographical location and increasing it in a different location (Allwood et al., 2011), probably where the company does not sell their products or services. It could also be the case that the short term impacts are addressed while the long term impacts are not (Korhonen, Honkasalo and Seppälä, 2018). While there is great uncertainty in the implementation of circular economy and sustainability into business practices, this should be done very consciously in order to ensure that the steps don't affect the planet and, in turn, the business in the long run.

### 3.1.3 Levels of Systems Perspective

The Systems Perspective outlook was first introduced by the Ellen MacArthur Foundation in order to identify key issues related to sustainability and implement better solutions while also providing a conceptual understanding of sustainability. The tool classifies the sustainability efforts to multiple levels which are micro, meso and macro. While macro level concerns a global approach on sustainability by considering actors like a country or a region and their role in sustainability, the micro and meso levels go in more detail regarding actors like a customer or a company and its supply chain. In this model, the Systems Perspective is used as a tool to localise different types of actors so that their role in a sustainable future can be analysed deeply while relating it to different factors and their effects. Finally, these inter-relations would be examined along with the family influence to understand how these factors can have different or similar effects on implementing the Systems Perspective on family businesses compared to no-family businesses.

For this model, there are three actors identified in this dimension. The first and second levels, which are the consumer and the company, are part of the micro level while the third actor identified, the supply chain, is part of the meso level. The changes in the actions of these three different actors, that can be brought about by the activities of a family business, would be analysed deeper in this model. To provide clarity, in the case of the consumer as an actor, the different implementations that can be done by the business to trigger changes in the actions of the consumer towards a more sustainable approach would be inspected. Similarly, in the levels with the company and the supply chain as the actors, the changes that the business could do to follow a more

sustainable approach by itself and by the supply chain that it would be a part of, would be inspected respectively.

## **Consumer**

The consumer is the first tier in the micro level that has been considered in this model. Consumers are very important actors for a business as they hold high influence in the long term success of the business. Consumers are also highly informed and concerned about the well-being of the planet and they have started taking sustainability as an important part of the products they purchase. In this tier, we will focus on the steps a business can take to ensure that the consumers can be more sustainable. This could be done by offering alternative choices to the consumers that would reduce their impact on the environment while ensuring that they get good value from the products and services that they purchase. In many situations, the consumers are on the lookout for better alternatives to products currently available in the market and making these available to them would also act as a competitive advantage for the company by attracting prospective customers. Companies have multiple ways to help consumers be more sustainable. Among those, two of the major roles that we address in this model are promoting responsible consumption and creating an ecosystem for collaborative consumption.

Responsible consumption could be promoted by making products available in eco-conscious packaging, by making the product and the packaging reusable in nature or by incorporating more recycled material into the packaging, etc. Ferrero, making Nutella available in packaging that could be reused as glasses, is an example of packaging reuse once the product is

over. Furthermore, the businesses could encourage customers to recycle used products by offering a comprehensive recycling plan as well, like in the case of Nespresso, where the customers are provided with recycling bags along with capsules which they could deposit in the nearest Nespresso store once full.

Collaborative consumption on the other hand is a newly emerging idea that has gained popularity with the increasing importance to sustainability in the society. This idea renews consumption logics by mutualising, bartering, exchanging or sharing products (Felson, Spaeth, 1978). Unlike consuming products responsibly, the collaborative consumption methods have a much higher role for the business incorporated into it. While the customers can find methods to implement collaborative consumption within their circle on a small scale, the businesses that make the product play an important role in implementing collaborative consumption methods on a large scale. It should also be noted that there are businesses emerging with the business model of implementing collaborative consumption in products where it was not previously practised. Companies can facilitate collaborative consumption models and monetise it to facilitate options for consumers to be more eco-conscious. This could be by offering shared ownership or rental options instead of selling products to customers. BMW has implemented this model with ShareNow, their ride sharing wing, to promote car rentals based on need on a minute based pricing so that people would depend on cars only when they need it for the minimal time requirement. This, paired with most of the cars added into their network being electric, is definitely taking the business a step closer to sustainability.

## Company

In this tier of micro level, we would be focusing on the steps a business can take to improve circularity and sustainability within themselves while being more efficient for their customer base as well. While in the production process, there are multiple ways in reducing impact like using batch production to reduce the working time of the equipment or switching to more efficient equipment that would consume less energy. On the other hand, businesses could also reduce logistics expenses by efficiently locating warehouses and using zero emission transport services like trucks running on electricity.

Also, the business can optimise the raw materials used for their products by depending on materials which are recycled instead of virgin materials and on materials that have lesser or zero impact on the environment. This would make a big difference in the impact as production increases and would make the products more attractive to environmentally conscious consumers.

Furthermore, the businesses can implement an augmented product lifecycle by promoting self-repair and reuse of the products and designing products in a modular fashion that would ensure there is minimal wastage and pollution in case of a repair requirement. By enabling this, the companies can also have a new channel to reach the customers by selling spare parts and can build customer relationships over the course of time. This would also help the companies adhere to the “right to repair” directive of the EU while cutting down greatly on environmental impact. The Fairphone company has implemented this on their smartphones by making it easily repairable by the customers. They have also managed to create a niche for themselves by using this feature as an advantage towards eco-conscious consumers.

## **Supply Chain**

The final tier under consideration in this model based on the Systems Perspective is the supply chain. This is also the only tier that comes in the meso level of the system. The supply chain in the context of this model refers to supply chains of companies that work in the same industry and not the supply chain of a single business. Here, we would analyse in detail how the businesses can make the supply chain that they are a part of, more efficient and sustainable by implementing the principles of sustainability. Main concepts that would be considered for this are establishing an industrial symbiosis with joint supply and handling, closed loop supply chain (CLSC) and use of modular designs with similar materials along the product range.

Industrial symbiosis with joint supply and handling will ensure that there is a steady flow of considerable volume in the supply chain in all directions. To ensure that the CLSC is effective, there should be a well organised reverse supply chain as well. The inclusion of industrial symbiosis would help towards this as the increase in number of companies taking advantage of the reverse supply chain with similar materials and products would be higher increasing the chances for a steadier flow with enough return of unuseful products to provide for a better start for the next loop in the CLSC. On the other hand, the use of similar materials can also add to the simplicity and efficiency of the loops resulting in a better product. This can be seen in how Napapijri implemented the use of similar materials in all their jackets in the circular series to aid with reuse and recycle of the product once it is returned after being no longer useful for the consumer. The company is able

to maintain a steady flow in the reverse supply by ensuring all the products in the series use the same material.

## **3.2 Interactions Between Dimensions**

### **3.2.1 Family Influence on Regulations and Stakeholder Pressure**

There have been multiple regulations and directives put forward recently on sustainability as the importance of a more sustainable lifestyle is growing among us. The EU is one of the leaders in this push to sustainability and there are multiple regulations that a business working in the EU should be aware of to operate smoothly. While some regulations are mandatory to be followed for every business, some others are not yet an obligation. Here, we can see how the family influence affects the way a business follows regulations and how and when they make the transition towards the regulations put forward by the authorities.

Long Term Orientation is one of the key factors in the family influence dimension of our model. For the family firms to pursue this long term orientation, they would often have to abide by all regulations and ensure that they do not suffer complications to their LTO goal due to not transitioning towards the latest directives. The heterogeneity in the values of the firms is not expected to make a difference in the way family businesses look at regulations even though it is possible that they prioritise regulations differently due to this factor. Furthermore, when we look at the continuity and enrichment aspects of the SEW part of the family influence, we can see that

the business would be more inclined towards abiding to the regulations and directives at the earliest to ensure the longevity of the business and harmony within the family and also between families and other stakeholders who are closer to them.

On this note, we should take a deeper look at how the stakeholder pressure affects the decision making in a family business and what role the family business plays in it. While the family's long term orientation can also show signs of the family giving high priorities to the stakeholders as they tend to stick with the same partners and suppliers in the long run. The business would feel obligated to ensure these stakeholders are happy with the company and will give importance to their wishes. Thus, we should also inspect the SEW aspect of family influence and its effects on stakeholder pressure. We can see that the prominence factor of the family influence is highly dependent on the image and importance the family has in the society. So it can be argued that the family business would give high priority to societal and stakeholder pressure to ensure that the image and importance of the family is not left unhinged.

Proposition 1 (P1): Stronger the family influence, higher and faster the compliance towards regulations and higher the value given to stakeholder pressure.

### **3.2.2 Family Influence on Innovation and Competitive Advantage**

The family influence acts on innovation in a way that initially looks detrimental to innovation in businesses with high levels of family influence while actually being advantageous for the business and their innovative nature if caution is taken. The LTO orientation of the family means families



are focused on the long term goals and innovation and generating sustainable competitive advantage are integral parts of it. While this generates expectations that family firms would be spending high amounts in R&D, the expenditure on R&D tends to be lower in businesses as the family influence increases (Berrone et al., 2012; De Massis et al., 2013; Kotlar, De Massis, 2013). This could be explained by multiple factors. Firstly, family firms prefer to keep the innovation inputs from within the family, unlike non-family firms, and this tendency increases as the family influence on the firm increases. They also participate less in open innovation as they prefer to have more control over the innovation happening at the firm. Nevertheless, the output is higher in family firms when it comes to innovation as they have a much higher conversion rate for innovative initiatives. This is also supplemented by the innovation through tradition capability that family businesses hold. Family firms are often multiple generations old and have competitiveness that originates from this tradition. This could be in the form of stock of knowledge, competencies, materials, manufacturing processes, signs, values and beliefs pertaining to the past know-how, symbolic and cultural content or micro-institutions of practice handed down across generations. Higher the family influence, higher the possibility of existence of these competences which give them a clear competitive advantage over the other businesses.

Apart from this, when we look at the enrichment factor of the family influence, researchers believe that resource endowments originating from the alignment between family and business systems (Habbershon & Williams, 1999; Habbershon, Williams & MacMillan, 2003; Sirmon & Hitt, 2003) can be a source of sustainable competitive advantage for family firms. There is also an intrinsic motivation that allows interests to be aligned at a lower cost because the owners and managers are emotionally bonded with their businesses (Gómez-Mejía, Haynes, Núñez-Nickel,

Jacobson, & Moyano-Fuentes, 2007). Hence, it can be argued that the higher the family influence, the higher the level of successful innovation happening in the firm, thanks to better conversion rates and innovation through tradition. On the other hand, effective governance also helps raise competitive advantage in family firms. Here, we can expect similar results while the business tries to transition towards innovations based on sustainability as well. We have to note that these innovations should be made incrementally as businesses with higher family influence tend to struggle while adapting to discontinuous technologies (König et al., 2012) and hence radical transition towards sustainability as an extension.

Proposition 2 (P2): Stronger the family influence, higher the level of incremental innovation and competitive advantage.

### **3.2.3 Family Influence on Formalisation and Rigid Mental Models**

We have seen how difference in formalisation affects the business as higher levels of formalisation helps the incumbents in leading an undisturbed market while also causing social inertia during radical changes in the market. Looking into this concept in detail from a family business perspective, the level of formalisation in a family business is dependent on variations in family influence in the business (König et al., 2012). The continuity facet of family influence manifests itself in a focus on long term performance targets rather than short term ones (Miller & Le Breton-Miller, 2005), thus freeing the company from short term local refinements. The performance in these cases would be measured in tacit long term performance parameters instead of precise short term outcomes. Hence, the long-term focus induced by family influence creates room for

organisational members to engage in grounded, non-formalized screening and the exploration of a broad set of new opportunities, even if those opportunities involve variability and risk (König et al., 2012). Another factor that affects formalisation seen especially in small and medium family enterprises, is how the decision making happens in the business. The strategic decisions are made by a few individuals who are the members of the family using the wealth of the family trying to concentrate the equity within the family (Carney, 2005). As a result, there is a veil of secrecy over the motivations behind the decisions made and non-family members are often considered as outsiders. While this may come with negative effects, it also points towards the lesser levels of formalisation in the business which may be advantageous in making a transition towards sustainability.

We should also consider the heterogeneity in the family as different families have different motivations generated from variation in values, characteristics, desire of founding owners and the next generation, variation in the family ownership structure and non-financial goals of the family (Kariyepperuma, Collins, 2021). This would also mean that the level of family influence and type of family influence would also be different in different families making the effect on formalisation in the business different. Nevertheless, based on the literature, it can be argued that the stronger the family influence in a firm, the lower the level of formalisation within the firm.

Another important factor to be considered is the rigidity of the mental models of the actors involved in the business and how the family influence can affect this rigidity. Mental model rigidity is also pivotal in adoption of new organisational routines and on how different the routine is from the pre-existing one. Mental models in established organisations are likely to become more rigid

as the family influence increases. The LTO aspect of family business would increase as family influence increases. This would be reflected in scenarios like long term tenures for top tier management (Lansberg, 1999). Long tenures would freeze the mental model used by the management inducing a kind of “tunnel vision” and reinforcing commitment to the status quo (Finkelstein, Hambrick, 1990; Gómez-Mejía et al., 2001). As the family influence increases, the top management would also become more homogenous and would represent a similar mental model across the executives. This could act as a particularly strong barrier to the adoption of new practices, given the high concentration of authority in such firms. Furthermore, family influence entices decision makers to avoid incorporating external influence in organisational decision making and action (Gómez-Mejía et al., 2007). Hence, the higher the family influence, the higher the rigidity of the mental models of organisational members of the firm.

Proposition 3 (P3): Stronger the family influence, higher the rigidity of mental models and lower the level of formalisation in a business.

### **3.2.4 Family Influence on Supply Risk and Limited Substitution**

The transition towards sustainability comes with multiple changes in the suppliers and processes to make them less impactful and more circular in nature. While this is not a big concern for newer non-family businesses, it can be much more impactful as the family influence on the business increases. This is because in many cases, family businesses depend on the same suppliers over the years and create a synergy with them that has higher exclusivity and better flow of raw materials. This also results in suppliers prioritising family firms over other clients in case of shortage of

materials or delay in shipment. These synergies increase as the family influence on the firm increases. Along with this, another factor that is integral to the continuity factor of the family business is that they often depend on the same family recipe or methodologies for their products as it often represents the legacy of the family and their humble beginnings. This would in some cases make some materials and techniques integral in the accomplishment of the final product that it would not be possible to replace them with an alternative without affecting the enrichment factor of the family.

Ferrero using palm oil in their Nutella is an example we could take into consideration. Since Nutella is their leading product and the usage of palm oil is integral part of it, the identification of palm oil causing severe deforestation had a big impact on the company and the product affecting their prominence. Hence, the company had to adapt to offsetting the impact and promoting more responsible agricultural practices to ensure that their prominence was not destroyed while maintaining their product. Therefore, it can be argued that the supply risk increases as family influence increases because the long term suppliers are one of the factors that give competitive advantage to family firms. Also, the substitution is more limited as the family influence increases in a business.

Proposition 4 (P4): Stronger the family influence, higher the supply risk and lower the ease of substitution.

### **3.2.5 Family Influence on Environmental Implications**

As our generation is part of the community that has been directly experiencing the effects of environmental degradation, there is a much higher awareness and concern regarding protecting the ecosystem and improving the health of the planet. While we see that society is moving towards environmentally friendly products and practices, we have to take a deeper look into how family influence affects the business's outlook towards sustainability and circularity. Environmental Sustainability Orientation (ESO) being an under researched topic in family business literature makes it more difficult to get concrete examples of how family influence can have an impact on this. Nevertheless, we can try to explain the possible impacts by understanding the various factors of family influence that we have zeroed in for the model and examining them with the possible environmental impact. When we look at the LTO aspect of family firms, we can see how it closely follows and promotes the idea of ESO within the family firms rather than regulations and societal pressure leading this movement. We should also note that the heterogeneity in families would be evident in the family influence on this factor (Dangelico, Nastasi and Pisa, 2019) and this would be reflected on their approach towards environmental implications as well.

Apart from this, the prominence factor combined with the higher awareness of the society about the risk of environmental degradation can be a trigger towards companies acting faster and more efficiently towards preventing environmental impact as their stand towards the environment would also reflect that of the family. Apart from this, there would be concerns about the continuity factor as causing big impacts to the environment could completely bring down the business. Along

with this, enrichment of family values would be of higher importance as the family influence increases and there would be more focus given to the values of the members of the family which are expected to include the concern for environment and this would mean there would be more focus on avoiding environmental impact.

Proposition 5 (P5): Stronger the family influence, higher the priority given to avoid negative environmental implications.

### **3.2.6 Family influence on Transition Towards Sustainability in Micro Level of The System**

As the family influence on different factors that affect a transition towards sustainability has been examined in detail, we have to see how this effect would be evident in the implementation of the sustainability transition in the different levels of the systems perspective. In this model, we have identified two different tiers in the micro level with steps to be taken by the companies to facilitate a transition towards more sustainable practices in these tiers.

#### **Family influence on Transition Towards Sustainability on The Customer Tier**

In the consumer tier, two steps that have been identified in this model are responsible consumption and collaborative consumption. While responsible consumption may be bound by regulations more, the collaborative consumption implementation is driven by the intention of the firm and the expectations from stakeholders. From the propositions P1, P2 and P5, we can see that responsible

consumption would be implemented and ensured in most family businesses and the higher the family influence, faster this implementation as there would be a faster compliance towards regulations and higher value given to stakeholder pressure along with higher levels of innovation. The company would also give more priority to environmental implications that they and their customers cause and try to act towards preventing it.

Proposition 6 A (P6A): Stronger the family influence, higher the promotion and faster the implementation of responsible consumption.

When it comes to the second part of the customer tier, collaborative consumption has more layers associated with it, increasing the complexity in the effect that family influence may hold on it. From P2, we can see that the stronger family influence would make the company more innovative resulting in higher competitive advantage and this would mean that there would be a higher interest in the adaptation of collaborative consumption into their business model. P3 on the other hand points towards the rigidity in the mental models of the family and how they would be averse to a change in the business model by adapting a collaborative consumption initiative. But it also indicates the lower levels of formalisation meaning once the executives are convinced with the collaborative consumption model, the adaptation would be quick and effective. P4 also plays a role in this as the adaptation of the model would be difficult in case of a requirement for changing or substituting the suppliers or products. Finally, P5 guides us towards how the environmental implications in the current scenario may act as a catalyst towards the implementation of collaborative consumption.



Proposition 6 B (P6B): Stronger the family influence, longer the time for approval but faster the implementation post approval of collaborative consumption provided that it does not involve replacing long term suppliers.

### **Family influence on Transition Towards Sustainability on The Company Tier**

In the second tier of the micro level, we deal with the implementations required within the company to transition towards sustainability with the help of systems perspective. Here, cleaner production and logistics along with reduction of impact by avoiding the use of virgin materials and providing an augmented product lifecycle for the products are the main elements to be implemented. While considering the first two elements, P1, P2 and P5 give signs of positive impact on the transition as the family influence gets stronger. But when we consider P3, we can see that there is a higher rigidity in mental models that would make it difficult to convince the high level executives to make this transition. We can still be rest assured that the transition would happen as the LTO factor would compel the executives to make the change. Taking a deeper look at LTO we can see that P4 also gives ideas about how the LTO could be counter productive for this transition. To avoid the use of virgin materials, there would be a high probability that the suppliers would have to be changed. Family firms are not fond of this transition as they build a long term bond with their suppliers over the years which could result in competitive advantage and they could lose this edge by making changes in their suppliers. Hence, we can conclude that P1, P2 and P5 are positive towards the implementations in the company tier, but P3 and P4 counter acts and negates this advantage.

Proposition 7 A (P7A): Stronger the family influence, longer the time for approval, but higher and faster the implementation post approval of cleaner production methods and exclusion of virgin raw materials provided that it does not involve replacing long term suppliers.

Augmented product lifecycle on the other hand is gaining relevance in recent years and is strongly recommended by the EU as of 2019. From P1, P2 and P5, we expect that family firms would be highly interested in making this implementation as it would also pave a way to connect better with the customers while improving their prominence. For this reason, the level of formalisation may not affect this transition negatively and hence P3 is expected to show negligible levels of negative effect. Since the augmented product lifecycle is concentrated more on the after sales experience and support, we also expect P4 to not have a direct impact on this implementation.

Proposition 7B (P7B): Stronger the family influence, higher the implementation of augmented product life cycle.

### **3.2.7 Family influence on Transition Towards Sustainability in Meso Level of The System**

The meso level of the system mainly refers to the supply chain and hence, in this level, we would be talking about the supply chain tier and how changes can be made to improve the sustainability initiative regarding the supply chain. Industrial symbiosis with joined supply and handling along with a CLSC with the use of similar materials and a modular design are the basic elements of the supply chain tier. When it comes to establishing a joint supply and handling setup, we can see that P2 and P4 are negatively impacting the transition as the family influence grows stronger. This

could be because family firms' competitive advantage is often closely linked with the characteristics of the family it is a part of. This could be in the way of secret recipes, trade secrets, etc. While implementing industrial symbiosis, they would have to let these advantages go or share it with other businesses making it no longer an advantage. In either case, this counter promotes this implementation.

Proposition 8 A (P8A): Stronger the family influence, slower the implementation of industrial symbiosis.

On the other hand, closed loop supply chains could be positively backed by P1, P2 and P5. The current regulations around the world are promoting a more circular supply chain with minimal waste and maximum avoidance of virgin materials. An adaptation of CLSC would be greatly beneficial in meeting the standards and abiding by these regulations. Adapting some level of circularity in the supply chain would also be helpful in providing competitive advantage for the business by means of “differentiated cost savings” and “increased revenue and market share” (Willard, 2002). Along with this, the environmental implications that could be avoided by using a CLSC would be very beneficial for the prominence factor of the family influence and thus, it would be promoted as the family influence gets stronger within the firm.

Proposition 8 B (P8B): Stronger the family influence, faster the implementation of CLSC.

### **3.3 System Boundaries and Limitations of The Model**

The model for transition towards sustainability and circularity in family businesses is developed especially considering the family influence and the interaction and co-existence of the family and the business in family businesses. As a result, the arguments and propositions made in this model would be more effective as the family influence in the firm increases. Nevertheless, the factors affecting the transition towards sustainability and the three-level adaptation of systems perspective based transition towards sustainability can be implemented in businesses of all nature. Furthermore, the heterogeneity in the family and the resulting heterogeneity in the family influence on businesses hold a certain level of uncertainty which could result in deviations of how different family firms pursue a sustainable transition to that detailed in the model. Finally, the highly theoretical nature of the model means the propositions are based on the explanatory and predictive capacity incorporated into the theoretical framework generated during theory development.

#### **4. Discussion and Conclusion**

The family business literature has been associating the term sustainability with viability of the business. In recent years, we have seen multiple dimensions originating for the term sustainability, differentiating it from the first definition of the idea of sustainability in the Brundtland Report in 1987. We have broadened the outlook of sustainability towards economical, environmental and social sustainability goals. This outlook is evident even in the Sustainable Development Goals (SDGs) set by the European Union. On the contrary, the term has been widely used in the long term orientation perspective of the family businesses and “sustainable family business” in literature often meant a family business with income necessary for the survival across generations.

While this makes it evident that there has not been enough focus given in the literature for the importance of social and environmental sustainability in regard to family businesses, we can see from the socio-emotional wealth perspective that these are important values for the family businesses. One of the main goals of a family business is the search for continuity over time. The family will take decisions to achieve this continuity and they are conscious of the problem of resource exhaustion which is one of the side effects of a linear economy. Thus, the family has more than just regulatory reasons to pursue circularity and sustainability as it is pivotal in ensuring the continuity of the business.

From the different literature available on family businesses, we are able to see that environmental sustainability is a topic that has not been explored in much detail. The same can be seen in the perspective of family businesses and their approach towards making a transition

towards sustainability. We can address this with the main reason that sustainability and circularity as a whole is a topic that was not considered important from a business perspective until recently when it gained considerable traction. The changes in our environment causing its rapid degradation, like the greenhouse effect and the exhaustion of non-renewable sources, have made the society more aware of the importance of sustainability and circularity. Hence, the importance for the same has risen immensely in recent years.

The research on Henokien group members, which are family businesses who are at least 200 years old, by Bakoğlu et al. (2016), shows this lack of consideration of different types of sustainability even in successful long term family businesses and how it does not seem to affect their survival. But the age of this paper and other few available ones shows a gap in research in the recent years where this radical growth in importance for sustainability has occurred. Apart from this, we have also come across situations where family businesses and the families associated with them were criticised for actions that were not considered sustainable. Unlike general public companies, the damage these issues may cause the family businesses are different and sometimes higher as it affects their SEW. The prominence, enrichment and continuity factors which we identified as the key SEW factors that turn family firms towards sustainability may be damaged and, in some cases, this damage would be beyond repair. Thus, we were able to ascertain that the transition towards sustainability and circularity is particularly different and very relevant in case of family businesses compared to non-family firms and this transition has to be done in a more methodological and organised manner. The systems perspective model for transition towards sustainability is a result of this realisation and is designed specifically for family businesses. Hence, to conclude the work, we present hereafter a discussion of the model that articulates around

two questions, one theoretical and the other practical. The questions are as follows: “*How do the factors affecting transition towards sustainability and circularity impact family firms differently?*” and “*How can family firms follow a step by step approach to transition towards a more sustainable business?*”. We will analyse these questions around the model in detail.

#### **4.1 Implications for Theory and Research**

The first question that is expected to be answered by the model is more theoretical in nature and this deals with how the factors affecting the transition towards sustainability and circularity impact family businesses differently compared to non-family organisations. In line with these requirements, the first two dimensions of the model were chosen as “family influence” and “factors affecting the transition towards sustainability”.

Towards the choice of the third dimension, multiple options were presented upon which, the multiple loops of circularity and systems perspective were prioritised. This was done in order to have a more incremental approach to the transition as it was recognised that family firms thrive under incremental innovation and tend to struggle more while undergoing radical changes. While the multiple loops of circularity have well defined loops which have different levels of impact on the environment and different levels of savings, the adaptation of this from a business perspective was more complicated as there is a higher difficulty to implement the actions of a single loop at a time if the decision was made to pursue a single loop at a time. Also, the loops are more effective when multiple organisations in the same industry and industries that interact with each other adapt to sustainability at the same time as the waste of a loop could act as raw material for another. For

example, hunting and fishing can both take post harvest and post consumer waste as input. Due to these reasons, the use of multiple loops approach for a step by step transition in the model was not considered effective and the systems perspective tool was chosen to form the basis of the model.

According to the systems perspective, every system can be considered as separate levels with tasks and implementations associated with it that would make the transition of the whole system effective while also making every level more accountable. Systems perspective on sustainability was first introduced by the Ellen MacArthur Foundation as a tool to identify the key issues related to sustainability while also acting as a medium for the conceptual understanding of sustainability. According to this we have three major levels which are micro, meso and macro. In this model, we have actively decided to not consider the macro level as this deals with steps that can be taken by actors like countries and major organisations like the EU towards a sustainable transition and this may be outside the scope of the initiative of a business. We have identified two main actors in the micro level as consumers and companies. In the meso level, we would be focusing on one main actor, the supply chain. This model would address the steps that should be taken with respect to these actors by the business to ensure a more sustainable transition. Hence, the third and final dimension of the model was designed as a multi level transition based on the systems perspective on sustainability.

In the second dimension, factors affecting transition towards sustainability were chosen by considering all the factors that could have an effect on a sustainable transition towards sustainability and circularity in any given company and then focusing on the ones which could be impacted by the family influence which separates family businesses from non-family ones. Five



factors were recognised as of the utmost importance and they are as follows: “Regulations and Stakeholder Pressure”, “Innovation and Competitive Advantage”, “Formalisation and Rigid Mental Models”, “Supply Risk and Limited Substitution” and “Environmental Implications”. After understanding each of these factors in more detail, we used the elements of the first dimension to see how these factors affect family firms differently compared to non-family businesses.

To conduct this analysis of understanding the different ways that family influence could affect the factors related to sustainable transition, we had to understand the factors within family influence that could impact the sustainable transition. The first dimension of the model deals with breaking down family influence into factors that are responsible for the family influence to create a difference in how a family firm would approach sustainability compared to non-family firms. Three important factors were identified to account for the long term orientation, the heterogeneity in different families and the value of SEW as there are key reasons for a family business to be different from non-family ones in the concept of sustainability. The factors are as follows:

- High focus on long term orientation which could in turn inculcate environmental sustainability orientation in family businesses.
- Overlap between family and the firm leading to the firm often representing the heterogeneity in values of different families.
- High value given to SEW leading to focus on prominence, enrichment and continuity of the family and the firm.

Further on, different propositions were made by analysing the factors of transition with its dependence on the family influence factors with the available literature. These propositions are key in understanding if different factors affecting sustainability hold a concrete positive or negative relationship with the family influence. If it does, the reason is identified in detail by connecting it with the three elements of family influence. While the first and third element directed us with certainty in either direction, the second element of family influence regarding the heterogeneity of family business pointed towards a possibility of variance with respect to every family due to the heterogeneity leading to one of the limitations of the system. The propositions identified are provided in the table 3.

| No. | Proposition  |
|-----|--|
| P1  | Stronger the family influence, higher and faster, the compliance towards regulations and higher the value given to stakeholder pressure. |
| P2  | Stronger the family influence, higher the level of incremental innovation and competitive advantage.                                     |
| P3  | Stronger the family influence, higher the rigidity of mental models and lower the level of formalisation in a business.                  |
| P4  | Stronger the family influence, higher the supply risk and lower the ease of substitution.  |
| P5  | Stronger the family influence, higher the priority given to avoid negative environmental implications.                                   |

**Table 3** Propositions Connecting Family Influence and Factors Affecting Transition Towards Sustainability.

Furthermore, the comparison of the factors with the different levels of systems perspective enabled us to relate it with the elements of family influence to form extensions of the first five propositions resulting in new propositions that directly links the family influence and its effects to the transition towards sustainability by taking the second dimension into consideration. These extended propositions are provided in the table 4.

| <b>Number</b> | <b>Proposition</b>  | <b>Positive Influence</b> | <b>Negative Influence</b> |
|---------------|---|---------------------------|---------------------------|
| P6A           | Stronger the family influence, higher the promotion and and faster the implementation of responsible consumption.   | P1,P2,P5                  | -                         |
| P6B           | Stronger the family influence, longer the time for approval but faster the implementation post approval of collaborative consumption provided that it does not involve replacing long term suppliers.   | P2, P5                    | P3, P4                    |
| P7A           | Stronger the family influence, longer the time for approval but higher and faster the implementation post approval of cleaner production methods and exclusion of virgin raw materials provided that it does not involve replacing long term suppliers. | P1, P2, P5                | P3, P4                    |
| P7B           | Stronger the family influence, higher the implementation of augmented product life cycle.   | P1, P2, P5                | P3                        |
| P8A           | Stronger the family influence, slower the implementation of industrial symbiosis.   | -                         | P2, P4                    |
| P8B           | Stronger the family influence, faster the implementation of CLSC.   | P1, P2, P5                | -                         |

**Table 4** Propositions Connecting Family Influence and Levels of Systems Perspective

These propositions combine and connect the various levels of family influence identified in this model and illustrate how they are affecting the transition towards sustainability. Researchers can use this as a framework to analyse different family firms and to predict how they would react differently to implementations made towards a sustainability initiative. Furthermore, they can use the model to analyse the actions taken by a family firm in the perspective of sustainability and elaborate it with respect to their level of family influence.

## **4.2 Implications for Practice**

The second question of how a family business should undertake the transition towards sustainability and circularity can be addressed with a more practical approach. This could be in the form of a consultancy intervention in guiding the firm towards a greener future. The model could be used as an assessment tool to understand how the given family business performs in different levels. It could also be used as an analytical tool to identify and prioritise opportunities or even projects that could be fast tracked. Finally, it could also be used as a monitoring tool to see if the actions undertaken are effective or if modifications should be made. Hereafter, we will take a deeper look at these opportunities.

In the event of assessing a family business using the model, the primary step would be to analyse the family influence and heterogeneity. This step would be crucial in determining two factors which are the level of family influence and the existence of exceptional heterogeneity which may alter the effect of family influence. In case of high levels of heterogeneity, the particular case may not be viable for the model as mentioned in the system limitations. Nevertheless, this

step would also help evaluate the level of family influence. The stronger the family influence, higher the correlation with the propositions of the model. Once the level of family influence is ascertained, the evaluator can move forward and assess the different factors that would facilitate and hinder the transition based on the level and type of family influence. Here, the age of the business and long term partners like suppliers should also be considered. Furthermore, the different activities related to sustainability that the business is priorly involved in should be considered as well and this should later be cross examined with the propositions. At this point, the propositions P1-P5 along with factors like age of the business can be used to derive the effect on propositions P6-P8 which can in turn be used to predict how the business would perform in different levels of systems perspective based transition. A step by step guide on this approach is provided in table 5.

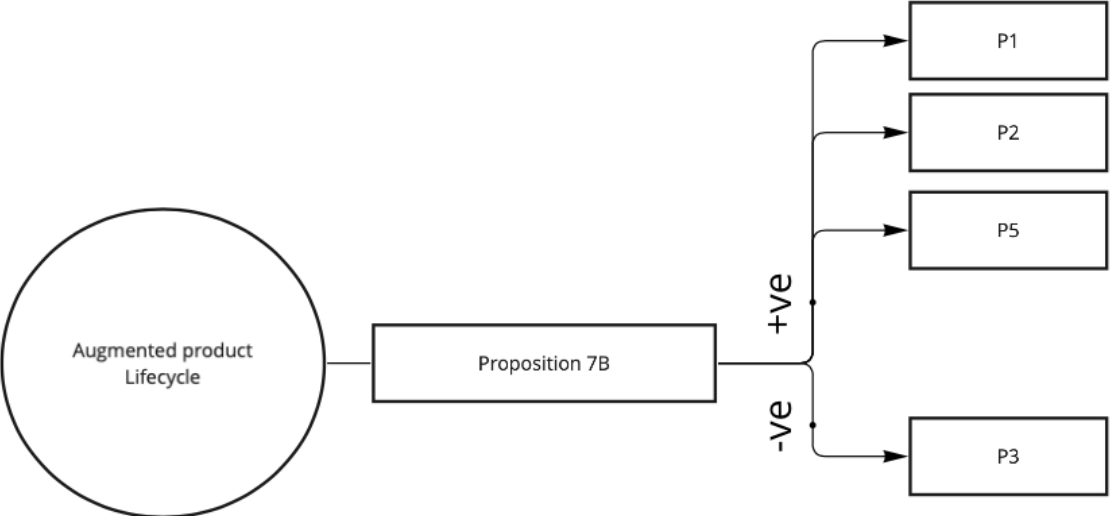
| No. | Step  |
|-----|---|
| 1   | Analyse the family influence in the business  |
| 2   | Analyse the level of heterogeneity in the family compared to considerations in the model  |
| 3   | Ensure the business satisfies the conditions under consideration in the model   |
| 4   | Analyse the different factors of second dimension in relation with the family   |
| 5   | Compare the prior sustainability efforts of the business to verify if it corresponds to the model   |
| 6   | Use the propositions connecting first two dimensions to identify how the factors would be differently affected                                    |
| 7   | Use the result of the previous step to derive propositions P6-P8 while accounting for specific heterogeneity of the business under consideration. |
| 8   | Identify the expected performance in each level by using the combinations of propositions   |

**Table 5** Steps of Evaluating the Firm's Performance Using the Model

The second important practical implication would be to identify and prioritise the different opportunities or projects for the business such that they can be implemented without affecting the family's and, in turn, the business's prominence, continuity and enrichment. Here, we would have to classify the different opportunities and projects into one of the main levels of the systems perspective and compare it to the level of family influence. This can be done with the use of the propositions and the type of family influence. Table 4 illustrates the different propositions connecting the family influence and the systems perspective transition along with the negative and positive influence on these by the propositions connecting the family influence and different factors can be used to classify these opportunities based on the different factors and type of family.

Finally, the model can also be used to monitor the progress of implementations towards sustainability and circularity and the factors that have to be monitored for every implementation can be derived from the model. This can be visualised with the use of figure 4 where the implementation of "augmented product life cycle" is considered. From the figure, it can be identified that the factors "regulations and stakeholder pressure", "innovation and competitive advantage" and "environmental implications", which are positively impacted by the increase in family influence, would improve the implementation, while "formalisation and rigid mental models", which may also increase with increasing family influence, may negatively affect the implementation and should be kept in check especially during the approval phase. Hence, there should be higher care taken in the approval phase that family influence does not hinder the implementation and in later stages, the positive effects of family influence and their outlook on each of the previously mentioned should be appreciated for a faster and smoother implementation.

Similarly, the factors can be localised and monitored for every implementation with the help of the model.



**Figure 4** Visualisation of Propositions Affecting Augmented Product Lifecycle

### 4.3 Conclusion

Family business is a highly researched topic and there is a significant increase in the amount of research regarding sustainability and circularity, thanks to the increase in relevance of the same recently. But there is seldom research combining both sustainability and family business together due to the lack of awareness about the sustainability aspect (Clauß, Kraus and Jones, 2022). Hence, there are major research gaps in family business literature regarding sustainability even though the importance given to SEW by family firms indicate that transition towards sustainability is a topic that would be near and dear to family firms. Apart from this, investing in sustainability would result in competitive advantage and should not be considered a cost (Dangelico, Nastasi and Pisa, 2019). Considerable time has passed by after literature that directly compares the survival of family firms with their environmental sustainability orientation has been published. So, we have attempted to develop a model which would account for the transition of family businesses towards sustainability and circularity. We also consider how the family influence makes a difference in the way the factors affecting the transition are impacted, making the process different and, in most cases, more cumbersome than that of non-family firms.

We hope our model will be able to bridge the gap in the literature regarding sustainability and family businesses. We also hope that the model will act as a framework to conduct more empirical study in this topic to improve the outlook on family businesses in regards to sustainability.



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