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Drivers Leading to the Identification of an Entrepreneurial Opportunity

*Applied to Entrepreneurs in the Food Waste
Management Industry*

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Abstract

Background - Food waste is considered as a major sustainability concern as it has negative social, environmental and economic implications. Among various types of entrepreneurs, sustainable entrepreneurs are acting to resolve conjointly these three issues. Consequently, they should be willing to tackle food waste. An emerging belief in the literature is grounded on the statement that food waste can be a valuable resource and may represent opportunities for business. Despite this observation, just a few companies make use of food waste as a raw material.

Purpose - The purpose of this thesis is to explore the drivers that lead to identify an entrepreneurial opportunity aiming to exploit food waste as a resource.

Method - To fulfill the purpose, this thesis is of qualitative nature and follows an abductive approach. Primary data is collected through semi-structured interviews with ten entrepreneurs or intrapreneurs using food waste as a resource. Secondary data is obtained through scholarly articles, organizational reports or websites. For each of the cases, a within-case analysis is performed followed by a cross-case analysis.

Conclusion - The analysis of the empirical findings resulted in the emergence of factors shared among the entrepreneurs of the sample. We recognized three drivers leading to the identification of an entrepreneurial opportunity aiming to use food waste as a resource: *Awareness of the Food Waste Issue and its Potential Impact*, *Serendipity of Relationships* and *Motivate Societal Changes toward Environmental Transition*. Additionally, it has been found that these drivers are moderated by two contextual factors, namely *Entrepreneurial Curiosity toward Sustainability* and *Prior Knowledge linked to Sustainability*.

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Abbreviations

UNCSD

TBL

NRDC

FWMI

AD

IT (X)

United Nations Conference on Sustainable Development

Triple Bottom Line

Natural Resources Defense Council

Food Waste Management Industry

Anaerobic Digestion

Interviewee (Number)

1. Introduction

Sustainable development is perhaps the most crucial topic of our era. Sustainable development is defined as “development that meets the need of the present without compromising the ability of future generations to meet their own needs” (United Nations Conference on Sustainable Development [UNCSD], 2001). In addition, this notion is usually explained as a development that respects the three pillars, namely Planet, People Profit, defined by Elkington's (1999) Triple Bottom Line [TBL] framework.

As a result from this framework, food waste is acknowledged as one of the most critical sustainability issues that needs to be addressed as it has negative environmental, social and economic effects (Papargyropoulou, Lozano, Steinberger, Wright, Ujang, 2014; Aschemann-Witzel, de Hooge, Amani, Bech-Larsen & Oostindjer, 2015; Ribeiro, Sobral, Peças & Henriques, 2018). When food is thrown away or not used to its end, the resources exploited in its production, storage and transportation are wasted (Beretta, Stoessel, Baier & Hellweg, 2013). Indeed, producing and transporting food require tremendous resources exploitation such as energy, land or water. In 2012, the Natural Resources Defense Council [NRDC] published a report that assesses inefficiencies across the US food system. According to the appraisal, getting food from production to the consumption by the end-customers represents 10% of the total US energy budget. It also uses 50% of US land and 80% of the freshwater consumed in the country (Gunders, 2012). However, 40% of the food in the US is not eaten and left to rot in landfills. This means that Americans are throwing out the equivalent of \$165 billion each year. In addition to the environmental and economic side-effects mentioned above, food waste also has social implications (Salhofer, Obersteiner, Schneider & Lebersorger, 2008). In fact, it is argued that producing food that is not consumed affects society by contributing to food insecurity (Lundqvist, de Fraiture & Molden, 2008; Stuart, 2009; Papargyropoulou et al., 2014).

Moreover, in the recent years, an emerging belief is grounded on the statement that waste can be a resource (Bringezu & Bleischwitz, 2009). In fact, while food waste management was previously handled by non-profit organizations, it appears now that start-ups want to address this problem as it has the potential to create profit (Mourad, 2016). Therefore, food waste management grew an increasingly interest the past years as “there are significant opportunities to valorize a number of the food waste identified” (Garcia-Garcia, Rahimifard, Stone, 2019, 1355). For example, ReGrained is a US company fighting the food waste issue by using waste as an input in its production process. They turn the nutritious grain yielded every time that beer is brewed into protein bars. Moreover, Renewal Mill, a US-based company, aims to reduce food waste by transforming soybean by-products into highly nutritive flour. They are currently in the testing phase to replicate this technique for grapes, pistachios, potatoes, almonds and olives.

These examples show that initiatives are emerging thanks to entrepreneurs driven by different characteristics but around a common idea: tackle the food waste issue. Entrepreneurs are now looking at these residues as valuable resources, rather than waste. They turn problems into solutions by leveraging food waste and converting it into entrepreneurial opportunities.

1.1. Problem

In the literature, it is claimed that entrepreneurial action can contribute to the preservation of the environment (Cohen & Winn, 2007; Dean & McMullen, 2007), while providing social gains (Wheeler, Richard & Bizer, 2005) and creating economic value for investors, entrepreneurs, and economies at the same time (Hart, 2005; Easterly, 2006). Among various types of entrepreneurs, sustainable entrepreneurs are acting to resolve conjointly these three issues (Cohen & Winn, 2007; Dean & McMullen, 2007). Sustainable entrepreneurship differs from conventional entrepreneurship in terms of value creation (Vuorio, Puumalainen & Fellnhofer, 2018). While entrepreneurs are described as focusing primarily on the economic value creation, sustainable entrepreneurship has been claimed to combine economic, social and environmental value creation (Cohen & Winn, 2007; Dean & McMullen, 2007, Schaltegger & Wagner, 2011). Food waste is being considered as a TBL problem (Ribeiro et al., 2018) affecting People, Planet and Profit (Elkington, 1999). Consequently, sustainable entrepreneurs should be willing to create new ventures to tackle this specific issue.

Even if we forget about the different perspectives arguing that opportunities are identified (Barringer & Ireland, 2008), created or discovered (Alvarez & Barney, 2007), there is a paradox in the literature regarding entrepreneurial opportunity identification or recognition. In fact, according to Hanohov and Baldacchino (2018) opportunity recognition is known for being a core part of entrepreneurship and even more of sustainable entrepreneurship. However, it has received much less attention than conventional entrepreneurship (Hanohov & Baldacchino, 2018). It is just recently that the drivers leading sustainable entrepreneurs to an entrepreneurial opportunity identification have gained interest in the literature (Patzelt & Shepherd, 2010; Hanohov & Baldacchino, 2018).

More specifically within the sustainability field, the topic of food waste management is just emerging and has been scarcely covered in the literature. Therefore, there is no explanation of what can trigger the identification of an entrepreneurial opportunity emerging from food waste. To advance the understanding of the phenomenon mentioned above, it is necessary to explore the factors that might influence the entrepreneurial opportunity identification. We thereby conduct a qualitative study on entrepreneurs and intrapreneurs in the specific food waste management industry [FWMI] who use food waste as a resource.

1.2. Purpose

The purpose of this thesis is to explore entrepreneurial opportunities within the FWMI.

1.3. Research question

This thesis is driven by the following research question that guides us in fulfilling the purpose:

Which drivers lead entrepreneurs to identify an entrepreneurial opportunity aiming to exploit food waste as a resource?

2. Frame of Reference

The following section draws on the existing literature and presents the frame of references for this thesis. Firstly, we introduce the notion of food waste, followed by a description of the food waste hierarchy. Further, we present the literature about sustainable entrepreneurship. Finally, we elaborate on the concept of entrepreneurial opportunity, its identification and drivers leading sustainable entrepreneurs to it.

2.1. Food Waste

Within the literature, no real consensus has been reached regarding the terminology to use when referring to food waste. Indeed, food waste is sometimes distinguished from food losses. Food losses is essentially used to describe losses in the production, postharvest and processing of products (Grolleaud, 2002; Gustavsson, Cederberg, Sonesson, van Otterdijk, Meybeck, 2011), while food waste is mainly used to describes the food discarded at distribution or consumption level (Gustavsson et al. 2011; Parfitt, Barthel & Macnaughton, 2010). However, in the literature the term food waste is often used without making this distinction. Therefore, “food waste and losses” is referred in this thesis as “food waste” according to the definition below.

Food waste “are the masses of food lost or wasted in the part of food chains leading to edible products going to human consumption” (Gustavsson et al., 2011). According to this definition, food waste is measured only by products that are directed to human consumption, excluding feed and parts of products which are considered as not edible. Consequently, food that was originally meant to human consumption but that is not used to its end, is considered as food waste. This definition is relevant in the context of this thesis and is acknowledged in the recent literature within the food waste management field (Papargyropoulou et al., 2014).

2.1.1. Food Waste Hierarchy

The food waste hierarchy is a useful tool to rank waste management alternatives by sustainability performance (Garcia-Garcia, Woolley, Rahimifard, Colwill, White & Needham, 2017). It means that the final aim of this model is to prioritize the food waste management options in regard to the better environmental, economic and social outcomes. This model is used to classify the food waste management alternatives within the sample studied in this thesis. As illustrated in Figure 1, the most favorable option is to “reduce” food waste by prevention, and at the bottom of the inverted pyramid, the least favorable option is “disposal”, which mainly refers to landfilling. As an alternative to disposal, several uses for food waste have been recognized as valuable options (Fehr, Calçado & Romão, 2002; Ingrao, Faccilongo, Di Gioia, & Messineo, 2018).

2.1.1.1. Reduce

Reducing is the top action against waste as it tackles food waste at its root by efficiently use materials, enhanced design and reduced operational costs (Monkhouse, Bowyer & Farmer, 2003). However, it suggests that the action

is taken upstream, before the waste is generated. This thesis is focused on how to deal with food waste that have already been produced. Consequently, the alternatives to “reduce” food waste will not be considered.

This thesis is centered around the following food waste management alternatives: reusing and recycling/recovering.

2.1.1.2. Reuse

To avoid landfilling, the model proposes to “reuse” food waste. The first option, “redistribution food human consumption” refers to perishable food likely to be disposed at the retail stage because it is close to the sell-by date. However, in some cases this food is still suitable for human consumption and it could be diverted, for example, to charitable organizations to feed people (Alexander & Smaje, 2008).

Another solution is to contribute to a better redistribution of the food. Too Good To Go, is a French company that is trying to tackle the food waste issue by enabling a better redistribution of food through the use of an mobile app. On the app, restaurants, cafes and grocery stores can sell their food excess to customers for cheap prices. Customers can purchase the food through the app and pick it up directly at the restaurants or stores. It means that these restaurants or stores no longer have to throw away food, customers can eat at a cheap price while reducing food waste and limiting their ecological footprint. This concept is spreading worldwide. For instance, the company, Karma, has launched a similar concept and app in Sweden. An additional solution to reuse food waste is exploited by Babelicot, an organic cannery committed to zero waste. This French company buys surplus vegetable production from organic and local market gardeners to transform them into new finished products (e.g. sauces, condiments, soups or baby food).

The second option, “Animal feed” refers to the reuse of food waste for animal consumption. One example is GrubTubs, a US-based company that recovers food waste from restaurants and grocery stores into nutrient-rich animal feed affordable for the local farmer.

2.1.1.3. Recycle, recover

According to the model, when food waste cannot be redistributed or transformed for human or animal consumption, there are still many available options to recycle or recover it. For instance, companies are extracting components of interest. For instance, Agraloop is extracting fibers from food crop waste and turn them into valuable fiber products (e.g. textiles, packaging).

Moreover, Anaerobic Digestion [AD] is one of the options proposed by the model and is a “technology to treat organic-matter rich biomass, also in the form of residues and waste, that is increasingly being deployed as a renewable energy generation source” (Styles, Mesa Dominguez & Chadwick, 2016; Nayal, Mammadov & Ciliz, 2016). Within the literature, AD seems to have the best potential. With this technology, food waste could be effectively used in energy generation or composting (Nahman & de Lange, 2013). Indeed, food waste has great potentials to be recovered, thanks to AD, into high-value energy, fuel, and natural nutrients (Ingrao et al., 2018). This technique is used by BinHappy, a French startup, which gather all type of food waste from restaurants and catering services, to turn them into biogas and compost.

2.1.1.4. Disposal

Within the food waste hierarchy, the least favorable option is “disposal” (Garcia-Garcia, 2017; Ribeiro et al., 2018). This mainly refers to landfilling which has a high environmental impact (Ingrao et al., 2018). Its economic and social outcomes are also negative. As the purpose of food waste management is to find alternatives to avoid “disposal”, this notion will not be discussed in this thesis.

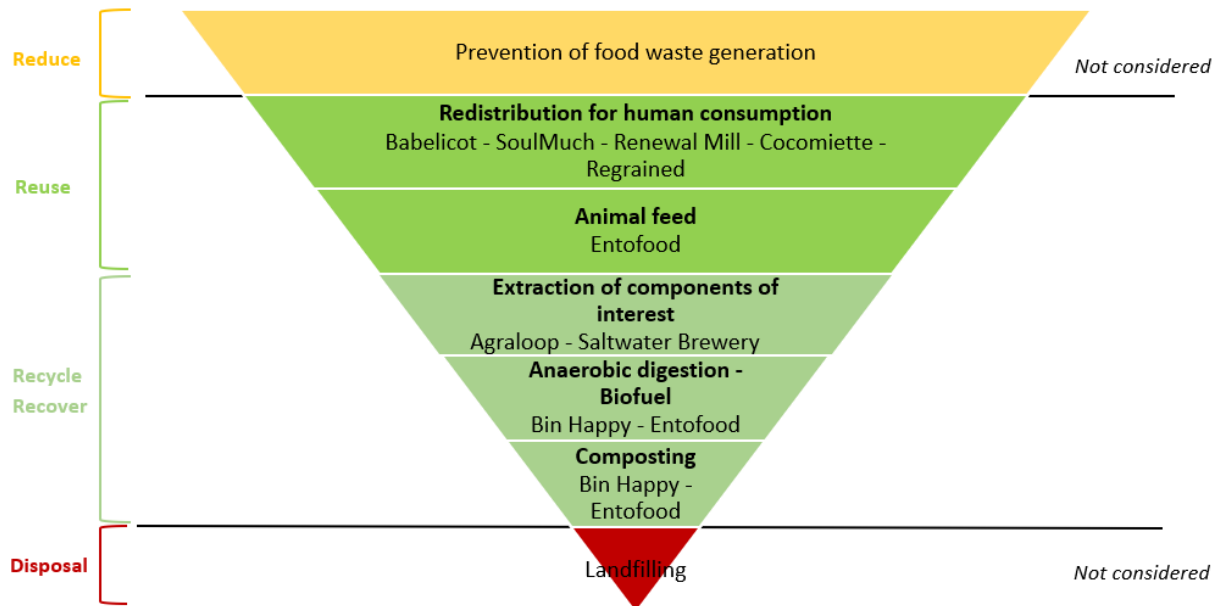


Figure 1: Hierarchy of Food Waste Management Alternatives according to this Thesis Sample.

Source: Own - Adapted from Garcia-Garcia et al. (2017).

2.1.2. Food Waste Management Industry

Nowadays, most of the food waste are placed in landfills which has a negative environmental impact because of the greenhouse gas emissions it releases in the air (Messineo, Freni & Volpe, 2012). Simultaneously, food waste management can have a positive impact in the transition towards a more sustainable society (Kim, Song, Song, Jeong, Kim, 2013; Ingrao et al., 2016), and can play a crucial role for the sustainability of communities or the well-being of humans (Chen, Rojas-Downing, Zhong, Saffron & Liao, 2015).

Food waste is still associated with something dirty in most people's minds. Moreover, large companies do not want to invest in the management of their waste as they do not identify the potential positive returns of doing so. The FWMI is relatively new and underdeveloped as these barriers need to be overcome. However, as mentioned earlier a few entrepreneurs, mostly driven by environmental and social concerns are beginning to recognize the potential benefits of these waste. They create startups using food waste as a core resource in their production process. This is why entrepreneurship is discussed in the next section, as it is inherent to uncover new ideas, methods, products and to the development of new markets (Casson, 1982).

2.2. Sustainable Entrepreneurship

In 1999, John Elkington introduced the concept of TBL. The framework advances the aim of sustainability in business practices, in which companies look beyond profits to include social and environmental concerns to measure the full cost of doing business (Elkington, 1999). He further explains that to remain viable, companies must incorporate the three pillars: Planet, People, Profit. It can be perceived as a tool to measure the balance between economic, environmental and social aspects. Therefore, this model is used in this thesis to reflect on the nature of entrepreneurship.

According to the TBL framework, conventional entrepreneurship can be defined as focusing primarily on economic value creation (Schaper, Füglistaller, Pleitner, Volery & Weber, 2002; Vuorio et al. 2018). In this thesis entrepreneurship is referring to “the discovery and exploitation of profitable opportunities” (Shane & Venkataraman, 2000, p. 217). However, as mentioned in the problem section, entrepreneurship has been proposed to have a central role in solving societal (Wheeler et al., 2005, Vuorio et al., 2018) and environmental issues (Cohen & Winn, 2007; Dean & McMullen, 2007; Vuorio et al., 2018). Thus, these issues allowed the emergence of the following notions: Social entrepreneurship and Environmental entrepreneurship.

According to Zahra, Gedajlovic, Neubaum & Shulman (2009) social entrepreneurship “encompasses the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner” (p. 519). Within this definition we can see that, unlike conventional entrepreneurship - referred in their study as “mainstream entrepreneurship” - there is a social matter that is included. Thus, social entrepreneurship refers to two aspects of the TBL: People and Profit. Then, environmental entrepreneurship is acknowledged as the actions driven by the imagination and the impact of the conventional entrepreneur combined with environmental concern (Beveridge & Guy, 2005). Therefore, the concept of environmental entrepreneurship is linked to two aspects of the TBL Planet and Profit.

Finally, sustainable entrepreneurship differs from entrepreneurship as a result of focusing on combining the three types of value namely: social, environmental and economic (Cohen & Winn, 2007; Dean & McMullen, 2007; Hockerts & Wüstenhagen, 2010; Shepherd & Patzelt, 2011). This thesis refers to sustainable entrepreneurship as “the discovery, creation, and exploitation of entrepreneurial opportunities that contribute to sustainability by generating social and environmental gains for others in society (Hockerts & Wüstenhagen, 2010; Pacheco, Dean & Payne, 2010; Shepherd & Patzelt, 2011). This definition is consistent with the TBL framework as sustainable entrepreneurship is acknowledged to encompass the three variables: People, Planet, Profit.

2.3. Entrepreneurial Opportunity

“Without an opportunity, there is no entrepreneurship” (Short, Ketchen, Shook & Ireland, 2010, p. 40).

2.3.1. Entrepreneurial Opportunity Identification

If the term sometimes lacks clarity in the literature, entrepreneurial opportunity is commonly defined as “situations in which new goods, services, raw materials, markets and organizing methods can be introduced through the

formation of new means, ends, or means-ends relationships” (Casson, 1982; Shane & Venkataraman, 2000; Eckhardt & Shane, 2003, p. 336). Eckhardt and Shane (2003), further specified that entrepreneurial opportunity flow from the creation or identification of new ends and means that were either undetected or unutilized by market actors. So, an entrepreneurial opportunity only exists if people do not agree on the value of a resource (Eckhardt & Shane, 2003).

Despite the amount of research conducted on the opportunity topic in entrepreneurship, literature has still not reached a consensus on the definition and nature of opportunity (Short et al., 2010). We distinguish two main approaches, one stating that opportunities are discovered and the other that they are created (Alvarez & Barney, 2007; Short et al., 2010). However, it is not a binary view. Researchers perceive opportunities as a gradual creative process, synthesizing ideas over time (Dimov, 2007), as a chance to introduce innovative goods, services or processes (Gaglio, 2004) or focus on the opportunities’ role while creating new ventures (Baron, 2008). The two main schools are known as the constructivist and objectivist perspectives (Wood & McKinley, 2010). The widely adopted objectivist perspective claims that opportunities exist independently of the entrepreneur (Kirzner, 1997; Eckhardt & Shane, 2003). In other words, the identification of opportunities implies searching and finding them (González, Husted, Aigner, 2017). More recently, the constructivist perspective has gained interest in the literature (Wood & McKinley, 2010). As opposed to the objectivist view, opportunities are created by entrepreneurs. They are produced through a process of social construction and cannot exist apart from the entrepreneur (Sarasvathy, 2001; Baker & Nelson, 2005; Dimov, 2007; Wood & McKinley, 2010).

To synthesize the two perspectives, Alvarez and Barney (2007) argued that opportunities can be formed by exogenous shocks or by entrepreneurs. Indeed, opportunity identification refers to the way entrepreneurs become aware of an opportunity, whether discovered or created (González et al., 2017). Also, Barringer and Ireland (2008) define an entrepreneurial opportunity as “a favorable set of circumstances that creates a need for a new product, service, or business” (p. 65). They suggested that opportunities are either externally stimulated or internally stimulated. On the one hand, the internal stimulation could be an entrepreneur who decided to start a firm, then searches for and identifies an opportunity and finally exploits it. On the other hand, in the external stimulation, the entrepreneur identifies an opportunity (gap in the external environment) and creates a business to answer it. Here, internal stimulation refers to the creation of opportunities (internal stimuli lead entrepreneur to create the opportunity) while external stimulation relates to identifying opportunities (environmental factors lead the entrepreneur to identify the opportunity).

If entrepreneurial opportunity identification is the first step toward entrepreneurship, we still need to understand what triggers this process. Therefore, the drivers leading sustainable entrepreneurs to identify an entrepreneurial opportunity is examined in the following part.

2.3.2. Drivers Leading Sustainable Entrepreneurs to Entrepreneurial Opportunity Identification

The existing literature is particularly abundant regarding drivers of entrepreneurial opportunities identification. In this domain, three main drivers have been identified. They are known as the entrepreneurs’ prior knowledge of

markets (Shane, 2000; McKelvie & Wiklund, 2004; Shepherd & DeTienne, 2005; Zahra, Korri, & Ji, 2005), technology (Shane, 1996; Dew, Sarasvathy & Venkataraman, 2004; Gregoire, Barr, & Shepherd, 2009), and business in general (Davidsson & Honig, 2003). However, it appears that the identification of sustainable development opportunities might be more complex than the identification of non-sustainable opportunities motivated only by economic gain for the entrepreneur (Patzelt & Shepherd, 2010).

There is a small, but emerging, literature on sustainable entrepreneurship (Patzelt & Shepherd, 2010). It is now acknowledged that identifying opportunities, with the aim to have a sustainable impact, requires that entrepreneurs go beyond personal economic gain (Kirzner, 1997; Baron & Ensley, 2006). These kinds of entrepreneurs who identify opportunities that promote sustainability are more likely to be interested in different aspects of their environment than those who recognize opportunities solely based on economic gains. Consequently, this thesis intends to understand how entrepreneurs from the FWMI are able to identify entrepreneurial opportunities and from where these entrepreneurial opportunities come from.

According to the model developed by Patzelt and Shepherd (2010), a first driver leading sustainable entrepreneurs to identify an opportunity is the individuals' *Prior Knowledge of the Natural/Communal Environment*. Patzelt and Shepherd (2010) defined natural environment as a "phenomenon of the physical world including the earth, biodiversity and ecosystems" (Parris & Kates, 2003; Patzelt & Shepherd, 2010, p. 632). Moreover, they refer to communal environment as "communities in which people live". This first driver can be explained by the fact that entrepreneurs with knowledge of their natural and communal environment are more likely to focus on the latter. Consequently, they are more subject to discover or create opportunities that contribute to the long-run sustainability of these environments.

Then, Patzelt and Shepherd (2010) argue that besides knowledge, *Motivation* is an important determinant of opportunity recognition. They explain that a sustainable entrepreneur's motivation to preserve his natural and communal environment arises when they perceive that these environments can be threatened by unsustainable issues (e.g. high pollution threatens the lives of many people in his community). This perception of threat is described as an attack to the "psychological and physiological well-being arising from declining natural and communal environments" (Patzelt & Shepherd, 2010, p. 643). Thus, *Perceived Threat of the Natural/Communal Environment* is a driver to trigger the recognition of entrepreneurial opportunities, especially because sustainable entrepreneurs aim to tackle these threats.

Moreover, individuals differ in their motivation to direct attention toward the development of economic, environmental, and social gains for others in the society. Patzelt and Shepherd (2010) acknowledge Penner, Dovidio, Piliavin & Schroeder (2005) definition of altruism as "the individual motivation to improve the welfare of another person" (p. 368). It is consistent with the definition of social entrepreneurship being part of sustainable entrepreneurship. Therefore, they assume that altruistic behavior focuses individual attention toward problems of others, thus triggering the recognition of sustainable development opportunities.

Finally, Patzelt and Shepherd (2010) refers to *Entrepreneurial Knowledge* based on the following definition: "knowledge of markets, ways to serve markets, and customer problems" (Shane, 2000; Patzelt & Shepherd, 2010, p. 633). The model demonstrates that *Entrepreneurial Knowledge* has a moderating effect on the identification of

entrepreneurial opportunities linked to sustainability. Indeed, it would enhance the impact of *Knowledge and Perception of Threat of the Natural/Communal Environment* as well as the *Altruism Toward Others*. *Entrepreneurial Knowledge* would, in fine, facilitates the transformation of these types of knowledge and motivation into the identification of entrepreneurial opportunities aiming to have a sustainable impact.

3. Methodology and method

In the following section, we shed light on the method regarding how the research is conducted. A discussion of the research philosophy, approach, design, data collection and analysis are presented. Issues of research quality are also addressed. The purpose is to provide extensive insights about the chosen methodology and rationale behind them. The methodology and method were carefully selected to answer the research question and fulfill the purpose.

3.1. Research Philosophy

Through this thesis, the ambition is to identify common drivers that lead entrepreneurs to identify food waste as entrepreneurial opportunities. As a result, we are developing new knowledge. As stated by Saunders, Lewis and Thornhill (2009), research philosophy is concerned with both the nature and development of knowledge. For this reason, while conducting a study, it is important to understand the underlying philosophy of it as it implies having a particular vision of the reality. However, research philosophy is something complex. The least we can say is that scientific ideologies are various and sometimes explained in several manners. Bryman (2012) distinguishes two main approaches to research philosophy that are ontology and epistemology. This thesis adopts an interpretivist approach on the epistemological level and is constructivist on the ontological one.

Firstly, epistemology could be defined as the theory of knowledge. It is concerned with “what is (or should be) regarded as acceptable knowledge in a discipline” (Bryman, 2012, p. 27). The author further divides it into three thoughts: positivism, realism, and interpretivism.

We claim to be interpretivist since we think the business world is too complex to be generalized by “laws” as in physical sciences (Saunders et al., 2009). This thesis is interested in individuals. More specifically in entrepreneurs from the FWMI and how they interpret their social world. Also, as “feelings” researchers and through the semi-structured interview process, we are part of the data collection process. This is due to the way we frame or ask questions and how we emotionally engage with respondents; which is more an interpretivist approach.

According to Saunders et al. (2009) interpretivism “advocates that it is necessary for the researcher to understand differences between humans in our role as social actors” (p. 116). Researchers continually interpret the world around us and make sense of it. Consequently, we enter the social world of entrepreneurs (research subject) to understand their position and therefore their action (Saunders et al., 2009). Interpretivism is particularly relevant here since each business situations are unique. They are the product of “particular sets of circumstances and individuals coming together at a specific time” (p. 116).

On the other hand, ontology rather focuses on the nature of reality (Bryman, 2012). It is concerned with the question “what is reality?”. It tells the assumption we have regarding how the world operates: reality is socially constructed. Ontological thoughts are subdivided in various ways in the literature, using multiple terminologies. We decided to draw on Saunders et al. (2009) work that breaks them into objectivist and subjectivist aspects, as the distinction appeared to be clearer for us.

A subjectivist position has been adopted since this thesis purposely include personal perspectives of entrepreneurs. Different factors such as previous experiences or childhood shape these unique perceptions. Those different perspectives imply that there is no single reality. In addition, the research output is created by the subjective interpretation made from the exchanges with entrepreneurs. While understanding those different perspectives held by respondents, we enquire the nature of the world.

The subjectivist view claims that our perceptions and consequent actions shape the reality and social phenomena. This process is not frozen as our perceptions evolve over time through the process of social interaction (Saunders et al., 2009). This approach is similar to Bryman's (2012) ontological constructionism (or constructivism). Within the entrepreneurship field of research, this constructivism approach is gaining interest as seeing entrepreneurial opportunities from this perspective could lead to new insights and discoveries (Ramoglou & Zyglidopoulos, 2015).

3.2. Research Method

On the one hand, qualitative research is associated with non-numerical data collection and analysis where the meaning is drawn on words (Saunders et al., 2009). On the other hand, quantitative research emphasizes on the collection of numerical data where the analysis can be derived from numbers. Whereas qualitative research seems to be the most appropriate strategy to the generation of theories (Bryman, 2012), in quantitative research the emphasis is placed on the testing of theories (Bryman, 2012). Therefore, as the purpose of this thesis is to elaborate a theory to highlight the factors that drive entrepreneurs to identify opportunities in the FWMI, qualitative research seems to be the most suitable.

Additionally, this thesis' perspective is based on the participants point of view. This perspective can be assimilated to qualitative research. For the quantitative approach the concerns are brought by the researchers and structures the investigation process. Then, to elaborate a theory and adopt the participants perspective, we need to have a contextual understanding. This can only be achieved through a close involvement with the people being studied. So, a close involvement has been promoted with the people being investigated in this thesis, to be genuinely able to understand and interpret their answers according to their vision.

Regarding the nature of this research, we opted for an exploratory study as it aims to explain and assess the relationships between variables (Saunders et al., 2009). In addition, according to Robson (2002), exploratory work is a valuable means of finding out "what is happening; to seek new insights; to ask questions and to assess phenomena in a new light" (p. 59). Bryman (2012) added that new theoretical ideas are mostly generated through exploratory work (Bryman, 2012). Because existing researches on the waste management industry are scarcely abundant and that the major focus of this thesis is to uncover new insights to elaborate a theory, we adopted an exploratory research.

In scientific reasoning there are three types of research approaches: deductive, inductive and abductive (Mantere & Ketokivi, 2013; Saunders, Lewis & Thornhill, 2015). They explain the nature of the relationship between theory and social research (Bryman, 2012). Deductive reasoning is used by researchers willing to test and validate an existing theory. Whereas this approach implies to draw a conclusion about the particular based on the general

(Mantere & Ketokivi, 2013), the inductive approach is based on observations about the particular to establish a general rule. Indeed, researchers are collecting data to identify common patterns through observations to come-up with a theory (Saunders et al., 2009; Bryman, 2012). For this thesis, we started by collecting information in the existing literature to have a theoretical understanding of the contexts and people we studied. As a second step, we collected empirical data about the drivers that lead entrepreneurs to identify opportunities in the FWMI. We wanted to identify common patterns and compare them with the existing theories. The final aim is to elaborate a theory to highlight the factors that drive entrepreneurs to identify opportunities in the FWMI. To sum-up we started deductively to move to an inductive approach which, in overall, can be labeled as an abductive approach. Indeed, abduction is assimilated to a mix of both inductive and deductive approaches (Venskute & Rashid, 2017).

3.3. Research Strategy

Through the study of a sample of entrepreneurs belonging to the FWMI, the purpose of this thesis is to uncover the drivers that led them to identify an entrepreneurial opportunity in this specific industry. Therefore, a case study has been conducted as it enables to understand the behavior of the individuals among a sample (Yin, 2003) while conjointly considering the context in which the studied phenomenon is investigated (Baxter & Jack, 2008).

Among the actual case study designs, four major types have been identified, following a 2 x 2 matrix discussed by Yin (2009, p. 46). Since the purpose is to identify common patterns among the studied cases, the multiple case-design is the most appropriate. The analytical benefits of having two (or more) cases can be considerable in the elaboration of this thesis theory (Yin, 2009). For instance, data collected from a second or third case can fill a gap left by the first case and corroborate or deny the findings. In the end, since the data is collected from a diversity and plurality of sources, the reliability of this thesis is enhanced (Gustafsson, 2017). However, the multiple-case method presents some constraints. Indeed, it appears that this type of research method is more expensive and time-consuming to conduct (Yin, 2009; Gustafsson, 2017). Then, according to Yin's (2009) matrix, research designs can be further classified as holistic or embedded, which corresponds to the number of units analyzed. Units correspond to sub-parts studied within each case. In this thesis, the companies in which the interviewees are working are the context and the interviewees are considered to be the cases. As this thesis does not aim to compare projects within a same company, a holistic design has been followed.

3.4. Sampling Criteria

3.4.1. Case Criteria

In this thesis, the non-probability technique has been used as it is widely considered as a qualitative research technique (Bryman, 2012; Palinkas, Horwitz, Green, Wisdom, Duan & Hoagwood, 2015). The participants were selected based on specific criteria, which is referred as purposive sample in the literature (Palys, 2008; Bryman, 2012). They should be entrepreneurs or intrapreneurs working in the FWMI for a company that creates product using food waste as a resource. As advised by Bryman (2012), the participants and their organizations were selected according to their relevance to this thesis.

A crucial point of this thesis was to bring pertinence through the sample size of the interviews. Indeed, to validate the size of the sample, the criteria was to have participants developing various food waste management alternatives either for human or animal consumption, energy creation, clothing manufacturing and fertilizer making. It is relevant with the following Patton's (2002, pp. 242-243) statement "there are no rules for sample size in qualitative inquiry. Sample size depends on what you want to know, the purpose of the inquiry, what's at stake, what will be useful, what will have credibility, and what can be done with available time and resources". Saltwater Brewery is not concerned with the food waste management alternatives mentioned above. However, as ReGrained revalorize food waste from beer processing for human consumption, it appeared interesting to have another alternative to reuse these specific waste (e.g. packaging). Two co-founders from the same company (Cocomiette) have been interviewed. While interviewing one of the co-founders, it appeared that the second one played a major role in identifying the entrepreneurial opportunity. Hence, discussing it with both co-founders separately allowed a deeper understanding of the identification process.

Consequently, the sample is composed of ten cases within the FWMI which, considering the time and other resources available, is a relevant sample size to fulfill the thesis purpose.

3.4.2. Cases' Context Description

3.4.2.1. Babelicot

Babelicot is a young organic cannery and activist for zero waste, located in France. Babelicot was created in 2016 by Eléonore and Benjamin Faucher; passionate about cooking and activists for the development of organic farming in Finistère. The company's goal is to avoid wasting vegetables, which is done by processing production surplus from organic market gardeners. Once the vegetables are processed, they cook them and transform them into new products ready to be sold. They have 4 types of products: small jars for babies, soups, sauces and condiments as well as vegetable creams to spread on toasts.

3.4.2.2. SoulMuch

SoulMUCH is a US based company that creates and distributes healthy, organic snacks made out of quinoa, grains, and other high nutritive food. Founded by Kristian Krugman and Reyanne Mustafa in late 2018 after witnessing a significant waste of rice and juice from the restaurant in which they were working.

3.4.2.3. Cocomiette

Cocomiette is a French food brand that fights food waste by producing according to the principles of the circular economy. The company was founded by Amandine Delafon and Charlotte Desombre in 2018. Cocomiette products are made from bread crumbs recovered after being processed by their partners. Their objective is to produce quality and tasteful products, reusing unsold bread in all recipes and prioritizing local distribution network for manufacturing the products.

3.4.2.4. Saltwater Brewery

Saltwater Brewery is a US based microbrewery founded in 2013 by Chris Gove, Dustin Jeffers, Peter Agardy and Bo Eaton. More than just handcrafted beers, Saltwater Brewery get its inspiration from the ocean, to reflect the

passion of the Founders. Their goal is to maintain the world's greatest wonder by giving back through ocean-based charities (CCA, Surfrider, Ocean Foundation, MOTE). More specifically they created the Edible Six Pack Rings, which is made out of the byproduct from beer processing. They hold that dual purpose of making unique beers while having a positive impact on the environment and protect their beloved ocean.

3.4.2.5. BinHappy

BinHappy is a company based in France, founded in 2017 by Maëlis Lassarat - De Witte and Ophélie Spanneut. The company sorts and collects restaurant food waste, to recycle them into compost or energy. BinHappy recovers all leftovers from the preparation and serving of meals from kitchens, as well as expired food products (animal or vegetable origin, cooked or raw). The idea behind the company is to reuse food waste into energy (biofuel) or compost instead of incinerating it and thus reduce the gas emissions it generates.

3.4.2.6. Circular Systems (Agraloop)

Agraloop Technology is a project within the company Circular Systems. Based in the Netherlands, Circular Systems is focused on the development of innovative circular and regenerative technologies. The purpose of the project Agraloop is to create low cost and highly scalable bio-fibers. These fibers are entirely made out of food-crop waste such as oilseed hemp and oilseed flax straw, as well as pineapple leaves, banana trunks and sugar cane bark. They produce different types of products such as textiles, packaging, organic fertilizer and bio-energy out of these waste. Agraloop being a project within Circular Systems, its Manager is considered as an intrapreneur.

3.4.2.7. Company X

Company X was founded in 2011 by Entrepreneur X. They create high value insect proteins for animal feed and organic fertilizer for plants nutrition, through insect bioconversion and this without threatening Earth's natural resources. They convert organic waste into sustainable products (e.g. fishmeal, animal feed, fertilizer).

3.4.2.8. Renewal Mill

Renewal Mill was founded by Claire Schlemme in 2016. The US based company is targeting fibrous byproducts that can be transformed through drying and milling. They produce, at the moment, two types of products that are Okara flour and Cookies made out of Okara flour. Beforehand, there are 4 steps to create the end-product starting by processing organic soybeans into soymilk to create Okara. Then, the Okara is dried on stable-shelf to be milled into flour later on. Finally, the products are packaged and ready to be eaten.

3.4.2.9. ReGrained

ReGrained was founded in 2013 by Daniel Kurzrock and Jordan Schwartz in the USA. Their idea came up while they were still undergraduate students. The company rescues the nutritious grain created every time that beer is brewed. Brewing beer processes the sugar out of the grain which gives ReGrained optimal access to protein, fiber, and a whole bunch of micronutrients. They upcycle this grain into SuperGrain⁺ flour using a special technique that is patent-pending and then incorporate SuperGrain⁺ into all their products.

3.5. Data Collection

3.5.1. Primary Data Collection

In this thesis, we used a semi-structured interview process that allowed us to create a series of questions, on a specific domain, and vary from it on the interview day (Bryman, 2012). This thesis aims to gather trustworthy and personal answers from the participants, so the semi-structured interview was used as it enables participants to feel comfortable, to give accurate answers and feelings (Easterby-Smith, Thorpe & Jackson, 2015).

Thus, we created an interview guide (see Appendix 1) that we proposed to each and every participant before the interview to make sure they would feel comfortable, informed and prepared on the interview day. As a result, we used this interview guide as a guideline during the interviews. Participants were aware of the purpose of the study, its ins and outs (i.e.: possibility to be anonymous). Moreover, we asked for their permission to record the interviews, provided them with a transcript of it and a consent form to be signed electronically (available in Appendix 2). They also have been informed about how we would use the data collected.

Furthermore, the interviews lasted between 28 and 54 minutes for an average of 33 minutes. Interviews were conducted in rooms previously booked at Jönköping University or in the authors' apartments to ensure a quiet and comfortable atmosphere for both interviewees and interviewers.

IT (NB)	Interviewee	Company	Position	Age	Date	Mode of interview	Length	Interviewers
1	Benjamin Faucher	Babelicot	Co-Founder	38	04/04/19	WhatsApp Call	54 min.	M.G.
2	Kristian Krugman	SoulMUCH Food	Co-Founder	27	08/04/19	WhatsApp Call	39 min.	T.C., V.D. & M.G.
3	Charlotte Desombre	Cocomiette	Co-Founder	38	09/04/19	WhatsApp Call	45 min.	T.C. & M.G.
4	Dustin Jeffers	Saltwater Brewery	Co-Founder	31	09/04/19	WhatsApp Call	36 min.	T.C. & M.G.
5	Ophélie Spanneut	Bin Happy	Co-Founder	36	10/04/19	WhatsApp Call	42 min.	T.C. & M.G.
6	Ricardo Garay	Circular-Systems (Agraloop)	International Project Manager	29	17/04/19	Zoom Conference	28 min.	V.D. & M.G.
7	Entrepreneur X	Company X	Founder	61	17/04/19	WhatsApp Call	55 min.	T.C. & V.D.
8	Claire Schlemme	Renewal Mill	Founder	34	22/04/19	WhatsApp Call	36 min.	T.C., V.D. & M.G.
9	Daniel Kurzrock	ReGrained	Co-Founder	29	23/04/19	WhatsApp Call	20 min.	T.C. & M.G.
10	Amandine Delafon	Cocomiette	Co-Founder	38	26/04/19	WhatsApp Call	40 min.	V.D. & M.G.

Date format	DD/MM/YY
Interviewers	Tangui Conrad (T.C.)
	Vincent Duvignacq (V.D.)
	Mathieu Gauthier (M.G.)

Table 1: Summary Table of the Interview Sample.

Source: Own.

3.5.2. Secondary Data Collection

According to Saunders et al. (2009), secondary data is a source of information that is primarily collected by other researchers. The use of secondary data allows researchers to build a strong understanding about the topic and to make comparisons with the primary data collected (Donellan & Lucas, 2013). Within this thesis, the secondary data used was collected through Jönköping University library, Kedge Library or Google Scholar. It allowed us to come up with a better understanding of the researched fields as well as pertinence in writing the theoretical framework and interview guide. It also enabled us to understand and analyze the primary data.

3.5.2.1. Literature Review

This thesis draws on a literature review to gather the secondary data (See Table 2). According to Donellan and Lucas (2013) it enables a thorough and comprehensive view of existing concepts used.

The keywords used in the search were: *drivers, entrepreneurship, entrepreneurial opportunity, sustainable, sustainability, opportunity identification, food waste, food losses*. In addition to these keywords, other references regarding for instance the methodology or the analysis, helped us gathering information to write this thesis.

<u>Article name:</u> The full name of the article	<u>Author(s):</u> List of authors	<u>Publication:</u> Where the article was published	<u>Themes:</u> Example: Entrepreneurship, Opportunity, Waste	<u>Purpose:</u> What is the purpose of the article?
<u>Theory:</u> What theory is used for the article?	<u>Methodology:</u> What is the methodology used to collect information for the article?	<u>Results:</u> The result concluded in the article.	<u>Contributions:</u> What is the article's contribution	

Table 2: Table followed to classify literature review.

Source: Own.

3.6. Data Analysis Procedure

In the analysis of the empirical findings, the aim was to identify common patterns or differences among the thesis sample. To carry out this step, the transcripts of the interviews that needed to be coded were distribute between

the members of the group. For us, coding implied reviewing the transcripts and giving names (i.e. “labels”) to the parts of the transcripts that have a potential theoretical implication for the thesis. The analysis of the data is based on Charmaz’s (2006) vision of coding. According to her, there are two main forms or phases of coding: “initial coding” and “focused coding”.

The initial coding phase consisted in a detailed “line by line” coding approach (Charmaz, 2006). A code was assigned to every lines or group of lines in the transcripts to express the initial impressions of the data. This step was conducted individually by each author, to get different views and avoid biased perception of the empirical data. During this phase of initial coding, we have created memos which are notes regarding elements such as key concepts (Bryman, 2012). We used them as reminders, especially to define specific terms, for instance, when an interviewee mentioned a factor that led him to the identification of his entrepreneurial opportunity. Memos included an explanation of the identified factor, a description of the context in which the interviewees mentioned it, some sample comments from the interviewees and the potential emergent themes or theories. This work was done separately, for each case, in other words each interviewee.

Then, to organize and reduce this large number of codes, the next step was to find connections between codes to combine them into more global notions or concepts. In order to do that, in group we reviewed the codes created during the initial coding for each case. While reflecting on concepts and theory from the literature, we renamed, grouped or deleted some codes which enabled us to elaborate the codes that were relevant for this thesis. In the literature this step is referred as focused coding (Charmaz, 2006). Moreover, by comparing the factors identified in the memos, we have seen the emergence of common themes between the cases. We grouped some drivers under the same name, determined their level of influence on the identification of an entrepreneurial opportunity (driver, sub-driver, sub-sub-driver) and examine the potential relations between them or relations with theories from the literature.

However, we are aware that coding presents some critics and limitations which take roots in the fact that this technique implies to fragment empirical data into codes. This is perceived by some scholars as a loss of sense regarding the context and the narrative flow (Coffey & Atkinson, 1996).

3.7. Quality

Quality is a central issue in research that needs to be thoroughly examined. Given that the nature of the study is qualitative and knowing that different criteria should be used to establish and assess its quality in qualitative study from those used by quantitative research (Lincoln & Guba, 1985; Bryman, 2012), we opted for trustworthiness. Lincoln and Guba (1985) initially identified this gap (between quality in qualitative and quantitative studies) and proposed an alternative by specifying terms and ways of establishing and assessing quality in qualitative studies. Therefore, trustworthiness has been proposed as a criterion that measures a study’s quality. Trustworthiness is a set of four different criteria, namely credibility, transferability, dependability and confirmability (Bryman, 2012).

3.7.1. Credibility

Credibility deals with how close to the reality the findings of a study are. This is intimately linked with the multiple accounts of the aspect of social reality. It is the credibility of this account to which a researcher arrives that determines the acceptability of the study to others (Bryman, 2012). To increase credibility, Bryman (2012) suggests two main techniques: respondent validation and triangulation. Respondent validation seeks to corroborate, or not, the findings to which a researcher has reached. In this thesis, following each interview we provided the transcript of the interview to the interviewee to make sure they were accurate. The latter, triangulation, recommends that sources or methods of data have to be multiplied to validate the results (Bryman, 2012). Following Denzin (1978) explanation, the triangulation technique can be done using the same data collection method but by combining several sources. Thus, we conducted ten semi-structured interviews with participants from different locations, ages, cultures... This sample diversity increases the credibility of the study. Finally, all interviews were recorded (with interviewees' consent) which helped us reviewing respondents' answers and cross-check each researchers' interpretation.

3.7.2. Transferability

Transferability is affiliated to the potential extrapolation of findings. This criterion assesses the extent to which findings can be generalized or transferred to other settings or groups (Bryman, 2012; Elo et al., 2014). Typically, transferability is a main issue in qualitative studies because of the small samples size (Bryman, 2012). If researchers can provide suggestion of transferability, in the end it is the reader that decides whether or not the results are transferable to another context (Elo et al., 2014). As researchers, the aim is to provide the reader with the most accurate and complete information possible so that he or she can make a better decision. We achieve that through the application of a full transparency regarding the methods and processes used. Also, we thoroughly described and supported the methodological choices made. Mariotto, Zanni & Moraes (2014) further explain that using statistical generalization, where results can be transferred under the exact same conditions, is not the most appropriate. Instead, we draw on analytical generalization as it is best suitable for cross-case findings (Yin, 2013). As stated by Yin (2009), "In analytical generalization, the investigator is striving to generalize a particular set of results to some broader theory" (p. 43). As said by Thorne et al. (2009) and enriched by Polit & Beck (2010), "When articulated in a manner that is authentic and credible to the reader, (findings) can reflect valid descriptions of sufficient richness and depth that their products warrant a degree of generalizability in relation to a field of understanding" (Thorne et al., 2009, p. 1385; Polit & Beck, 2010, p. 1453). Ultimately, cases descriptions were produced to provide readers with a database that allows them to form an opinion on the possible transferability of this thesis results (Bryman, 2012).

3.7.3. Dependability

Dependability refers to the existing records of how and why the study was conducted (Bryman, 2012). It also deals with the stability of data. It is associated with the extent to which data change over time but also during the analysis phase with the possible alterations that result from researcher's decisions (Graneheim & Lundman, 2004). Transparency appears to be an important factor for ensuring the dependability criterion. To address it, we gave an in-depth description of the research methodology and processes adopted. Records of research phases and processes

are accessible (Bryman, 2012). This helps peers to act as auditors (Bryman, 2012) but also future researchers to duplicate the study (Graneheim, & Lundman, 2004). In the meantime, we remained critical by reflecting upon choices made. We explained the elements that led us to adopt the chosen methods. Finally, we carefully kept interview transcripts.

3.7.4. Confirmability

Confirmability inspects that empirical findings are true to the explanations and experiences of participants and not biased by researchers' influences (Lincoln & Guba, 1985). To minimize the possibility for bias, we meticulously planned and prepared the interviews. As described in the interview process, we used different strategies prior the interviews to make sure respondents would be comfortable, not in a hurry and free to respond in the way that was most convenient for them. Also, we gave them the choice of anonymity and confidentiality. It helped us gain their confidence and increase the data quality of this thesis. As biases can also occur during the interpretation phase, we actively engaged in triangulation, converging all three researchers' perspectives to increase the confirmability of this thesis. Again, we carefully documented the processes and choices made, including methods applied to collect and analyze data, for transparency purposes. If complete objectivity is unreachable, the researcher can still prove he acted in good faith and did not deliberately allow personal beliefs or values to interfere with the research and its results. This bias can appear during the data collection process or analysis and can be generated by both interviewers and interviewees (Saunders et al., 2009). Following Saunders et al.'s (2009) explanation, the former is generated when the comments, tone or non-verbal behavior of the interviewer affect the interviewees' answers. The latter, also known as response bias, may flow from perceptions of interviewer or perceived interviewer bias. It is produced when interviewees purposely provide a partial answer. Nonetheless, the cause may differ from that of the interviewer. Several factors can also be at the root of the bias, such as the intrusive format of semi-structured interviews or the fact that they are time consuming (Saunders et al., 2009).

3.8. Research Ethics

Saunders et al. (2009, p. 184) stated "Research ethics [...] relates to questions about how we formulate and clarify the research topic, design the research and gain access, collect data, process and store the data, analyses data and write up the research findings in a moral and responsible way". In recent years, research ethics issues have become more critical (Saunders et al., 2009). Because they directly affect the integrity of this thesis, it is important (as researchers) to examine and resolve ethical issues. Also, awareness of the issues involved is the very first step towards making better decisions (Bryman, 2012). Simultaneously, we believe that engaging in ethical behavior enhances the quality of this thesis. As a result, ethical considerations have been prioritized all along the study.

We used different methods across the research process to adopt the most ethical behavior possible. According to Bryman (2012) and following Diener and Crandall's (1978) work, ethical transgression in social research can be subdivided into four main categories: harm to participants, lack of informed consent, invasion of privacy and deception.

We address them firstly while gaining access to the potential participants. We used emails and LinkedIn as the first contact points. Our emails (or LinkedIn messages) acted as an introductory letter that clearly provided potential respondents with an account of the purpose and the type of access we aimed for (Saunders et al., 2009). By positioning ourselves as researchers, well informed both on the topic and the respondents' companies, we increased this thesis credibility. Following Easterby-Smith et al. (2015) suggestion we made clear that the estimated amount of time needed was indicated. To anticipate any concerns regarding confidentiality, and prevent any potential harm to participants, we also stated that we could ensure both confidentiality of data provided and anonymity of participants. Therefore, all respondents made an informed consent, by freely and fully consciously accepting to participate in this thesis. An informed consent forms seal this up.

Secondly, during the data collection process (the semi-structured interviews) we re-introduced the purpose of the study. We confirmed their consent regarding data publication (anonymous or not) and the recording of the interview. After a careful transcription of every interviews, we engaged in a second-layer checking process. Following data collection & before their interpretation, we forwarded the interviews transcripts to every participant for approval. For security matters, recordings and transcripts of interviews have been stored on a cloud. We thought it was safer, as the risk of being robbed, hacked or losing data was the lowest. Later on, we used codes to provide anonymity and confidentiality to Entrepreneur X. Ultimately, before submitting this thesis, we made sure all data collected and analyzed have been responsibly managed.

4. Empirical Findings

In this section, we present the empirical findings in relation to the research question. They are the result of interviews we conducted with ten entrepreneurs and intrapreneurs in the FWMI. We are going to outline the findings related to the drivers that led to identify food waste as an entrepreneurial opportunity. Thereby, we highlight emerging patterns in all cases as the analysis is based on them. Secondly, the findings from interviews are summarized and displayed in Table 3. Note that we refer to the interviewees as IT (interviewee number).

4.1. Awareness of Unsustainable Issues in Natural Environment/Community

Some entrepreneurs highlighted the importance of events arising from their childhood, previous travel experiences or even from their studies. It enabled them to recognize and understand unsustainable issues in their natural environment and/or community. IT (9) explained that, growing up in Northern California (US) made him aware of recycling and unsustainable issues. He has always been aware of the environmental threats that represent pollution, global warming and the overall degradation of the Nature. For IT (4) this awareness arised when he was living in South Florida (US). His love for the beach and ocean environment brought him to notice the damaging effect of plastic:

“the ocean is here, the beach is here, so we see first-hand the problem with the plastic and stuffs with the environment”

While scuba-diving in the Seychelles, IT (7) mentioned that he observed the effect of human activity on his natural environment:

“In the Seychelles, I have been there several times [...] now there are lots of corals that have died: the coral is white. [...] there is a predatory human activity that is absolutely incredible”

Prior to the identification of the opportunity, IT (1), IT (2), IT (3), IT (5), IT (6), IT (7), IT (10) also testified that they witnessed such unsustainable issues in their natural environment or community through their education or past experiences.

4.2. Awareness of Environmental Issues linked to Food Waste

Throughout different experiences, entrepreneurs outlined their consciousness of environmental issues specifically linked to food waste. Indeed, thanks to their personal background (childhood, studies, interests) or working experiences, many entrepreneurs mentioned having concerns regarding food waste and how it damages the environment. For example, IT (5) moved back to France and realized she could not keep sorting out her food waste where she was living. As she explained, it frustrated her to leave food waste be incinerated knowing its adverse effect on the environment.

Moreover, as IT (6) was aware of unsustainable issues linked to food waste such as climate change, pollution and the overall degradation of the environment, he studied and graduated from a degree in Sustainable Agriculture and Food Systems.

“[talking about food waste] a lot of these have really a moisture content and create a lot of methane which we do not want to go into the atmosphere. These problems aren’t just a loss of potential and values but also contributing to climate change.”

In addition, IT (1), IT (2), IT (3), IT (7), IT (8), IT (9), IT (10) experienced the adverse effects of food waste during their childhood, by doing some researches, or while working. As a result, it led them to gain awareness of the environmental issues that food waste implies. For instance, as IT (2) did some researches on the impact of food waste, she found out that food waste emits a lot of greenhouse gases:

IT (2): “I love the statistic that if food waste was a country it would be the third largest contributor [...] to greenhouse gas producers”

4.3. Awareness of the Food Waste Market Trends, Policies, and Regulations

The recognition of market trends, regulations and policies linked to food waste has been identified as a common denominator for some of the entrepreneurs. Indeed, as IT (9) explained, while he was studying and making his own beer, a new law passed in California (US) allowing people to legally start a food business from their home kitchen. He mentioned that being aware of this law made him think about what he could do with his beer waste:

“California voters passed a law that made it so that we were legally able to start a food business out of our home kitchen. [...] In fact, if policy had not come into play, in the time that it had, it would have been much more difficult to get our business going in the early days.”

Moreover, IT (5) mentioned during the interview that while discussing with local actors facing food waste and thanks to her working background in European law, she has concurrently identified favorable market trends and regulations:

“[...] we felt it was the right time. It was the right time because first, the regulation and [...] I think the actors were ready”

In addition, IT (1), IT (2), IT (3), IT (5), IT (6), IT (7) IT (10) expressed such awareness during the interviews by highlighting the role of their study, curiosity and working experiences in gaining understanding of the food waste market trends, policies and regulations.

4.4. Serendipity of Relationships

Some entrepreneurs pointed out the importance of relationships in their entrepreneurial journey, especially unexpected but fortunate encounters. This concept has been brought up by the entrepreneurs through different ways. For example, IT (3) explained that it was thanks to her network and close relationship that she was able to identify her entrepreneurial opportunity. More precisely, her meeting with IT (10) when they were students in the same business school was crucial.

Another illustration of serendipity of relationships is IT (8) mentioning that meeting a factory owner in the food industry and looking at the same time for potential entrepreneurial opportunities drove her desire to use food waste as a resource:

“it was just [...] the serendipity of relationships, [...], just being out in the world of food and kind of looking for what opportunities were out there, [...] and having a really great relationship with the owner of the tofu factory was like an important piece that kind of let me to create everything.”

In addition, other entrepreneurs such as IT (1), IT (4) and IT (5) also outlined having experienced serendipity of relationships as a milestone in the identification of their entrepreneurial opportunity. Such fortunate event is the result of relationships and knowledge created during the entrepreneurs' personal and working experiences. One further example is IT (2) highlighted this key notion of serendipity as follow:

“my business partner, kind of serendipity moment of walking a protein aisle and picking up nutrition products. So, she picked up a protein powder [...] she looked in the back and it was literally said dehydrated rice, dehydrated quinoa, etc [...] this is labelly everything our restaurant was wasting”

4.5. Altruism toward Others

While reflecting upon the underlying mechanisms triggering the opportunity identification during the interviews, many entrepreneurs expressed their willingness to help others. Indeed, IT (10) said during the interview that having children made her realize that to ensure the future of her children, and overall the next generations, she should contribute to create social gains and preserve the environment. IT (3), IT (7) and IT (8) also supported this idea that having children exacerbated their altruism toward society as a whole.

Then, IT (8) explained that, even though she already created other companies, the next company she would build was going to be more oriented toward the people and create social gain in addition to environmental benefits:

“it was like knowing that my next business, I wanted to be doing something that was [...] more like socially equitable in adding to being [...] obviously better for the environment.”

IT (6) further underlined how he envisions the individual's role in society to act for common goods:

“Yes, I would say that, as individuals we all have some kind of responsibilities and try to change things for the better for the most people on the planet as quickly as possible. It is a race against the clock”.

Interviewees like IT (1), IT (2), IT (5) and IT (6) also shared their desire to act for the society at large through other ways such as being involve in social associations or projects, promoting societal ideals or personal initiatives.

4.6. Educate Consumers and Other Companies toward Sustainable Practices

The entrepreneurs interviewed share the same desire to educate consumers and companies to start consuming and producing differently. For instance, IT (2) explained that no matter what the product was going to be, the only thing she was aiming for was educating people about food waste and sustainable practices. She wanted to influence companies through educating customers to sustainable practices:

“we really want to show other companies [...] “hey, we are these small players in these fields and we are making these impacts and we are creating demand from consumers and then if you don’t stay on, if you don’t catch up or if you don’t change [...] you won’t be able to keep up with demand”. So, also creating this demand of sustainable food systems.”

IT (4) explained that what triggered his willingness to use food waste as a raw material to make his packaging was to educate customers to sustainability:

“with the six pack rings, sure, it’s not the number one thing in the ocean. However, if we can change that and get people start thinking about it [...] then, it’s just in their mind and maybe they will do something else”.

Furthermore, other entrepreneurs such as IT (1), IT (3), IT (5), IT (6), IT (7), IT (8) and IT (10) also expressed this need to educate consumers and companies toward sustainable practices. Their will to act upon it came from their personal background or concerns, prior knowledge of these issues as well as their working experiences.

4.7. Entrepreneurial Curiosity toward Sustainability

In the process of identifying their entrepreneurial opportunity, all the entrepreneurs mentioned being curious about food waste and sustainability as a whole.

For example, IT (2) explained the importance of researches and surveys addressed to consumers to gain a better understanding of the sustainability field. Moreover, IT (5) explained that while being unemployed, her curiosity led her to attend forums and discovered a food waste management solution:

“I had to create this opportunity myself. Quite quickly I attended the forums of the positive economy [...] there was a discussion about waste. Someone explained that in Paris, a company [...] collects organic waste from restaurants to make compost. [...] I heard that, I started doing some research.”

IT (10) stated that she first started to read books on sustainability. Her curiosity led her to attend conferences, which strengthened her overall sustainable awareness. She explained that this process was important in the identification of her entrepreneurial opportunity:

“[talking about sustainability] it's also the readings, I've read a lot too and then [...] conferences there's been a democratization of all this for some time now and it allows us to have a real awareness”

Finally, IT (1), IT (3), IT (4), IT (6), IT (7), IT (8) and IT (9) also expressed that their curiosity toward sustainable issues was key to identify innovative sustainable solutions.

4.8. Prior Knowledge linked to Sustainability

Before identifying their entrepreneurial opportunity using food waste as a resource, most of the entrepreneurs highlighted the importance of their knowledge linked to sustainability throughout time. Indeed, IT (9) grew up in a very sustainable community and preserved natural environment. Further, he studied sustainable business which enabled him to acquire knowledge linked to sustainability.

“I grew up in the bay [Silicon Valley] [...] I think that is influential [...] being raised to really not waste and to be really mindful about our planet's resources.”

“I did end up going to business school on 2014, I got a degree in sustainable business”.

Then, IT (6) explained that he has always lived in a sustainable community and environment. In addition, he improved his knowledge linked to sustainability thanks to his previous work experiences:

“now that I live in Berlin there is a really big community of people that are working on these types of problems [linked to food waste] which for me is another driver”

“I have been working in different types of industries related to sustainability for about over 10 years”

Entrepreneurs such as IT (1), IT (2), IT (3), IT (5), IT (7), IT (8) and IT (10) also share the same point of view regarding the role played by their educational background or past experiences linked to sustainability.

4.9. Summary of the Common Factors Leading the Interviewees to the Identification of their Entrepreneurial Opportunity

Common factors shared among ITs	Empirical findings
Awareness of Unsustainable Issues in Natural Environment/ Community	- <u>IT (10)</u>: <i>"I've always been very sensitive to the environmental cause, since always. [...] in recent years, we have also realized that it directly affects our children's generation, so uh, here is a desire [...] to preserve the environment"</i> - <u>IT (7)</u>: <i>"In the Seychelles, I have been there several times [...] now there are lots of corals that have died: the coral is white. [...] there is a predatory human activity that is absolutely incredible"</i> → Similar empirical evidence was found for: IT (1), IT (2), IT (3), IT (4), IT (5), IT (6), IT (9).
Awareness of Environmental Issues linked to Food Waste	- <u>IT (2)</u>: <i>"I love the statistic that if food waste was a country it would be the third largest contributor [...] to greenhouse gas producers"</i> - <u>IT (6)</u>: <i>"[talking about food waste] a lot of these have really a moisture content and create a lot of methine which we don't want to go into the atmosphere. These problems aren't just a loss of potential and values but also contributing to climate change."</i> → Similar empirical evidence was found for: IT (1), IT (3), IT (5), IT (7), IT (8), IT (9), IT (10).
Awareness of the Food Waste Market Trends, Policies, and Regulations	- <u>IT (9)</u>: <i>"timing is really important with business. It is almost the most important factor [...] California voters passed a law that made it so that we were legally able to start a food business out of our home kitchen. [...] In fact, if policy had not come into play, in the time that it had, it would have been much more difficult to get our business going in the early days."</i> - <u>IT (7)</u>: <i>"the regulations that are being put in place in Europe will change the landscape of organic food waste [...] there is a law that will come out in 2020, I believe, is that in France and Europe, we will no longer have the right to dispose of organic waste in landfills."</i> → Similar empirical evidence was found for: IT (1), IT (2), IT (3), IT (5), IT (6), IT (10).
Serendipity of	- <u>IT (8)</u>: <i>"it was just [...] the serendipity of relationships, [...], just being out in</i>

Relationships	<i>the world of food and kind of looking for what opportunities were out there, [...] and having a really great relationship with the owner of the tofu factory was like an important piece that kind of let me to create everything.”</i> - <u>IT (2)</u>: <i>“my business partner, kind of serendipity moment of walking a protein aisle and picking up nutrition products. So, she picked up a protein powder [...] she looked in the back and it was literally said dehydrated rice, dehydrated quinoa, etc [...] this is labelly everything our restaurant was wasting”</i> → Similar empirical evidence was found for: IT (1), IT (3), IT (4), IT (5), IT (10).
Educate Consumers and Other Companies toward Sustainable Practices	- <u>IT (4)</u>: <i>“So with the six pack rings, sure, it’s not the number one thing in the ocean. However, if we can change that and get people start thinking about it [...] it’s just in their mind and maybe they will do something else and that can get with food waste also.”</i> - <u>IT (2)</u>: <i>“we really want to show other companies [...] “hey, we are these small players in these fields and we are making these impacts and we are creating demand from consumers and then if you don’t stay on, if you don’t catch up or if you don’t change [...] you won’t be able to keep up with demand”. So, also creating this demand of sustainable food systems.”</i> → Similar empirical evidence was found for: IT (1), IT (3), IT (5), IT (6), IT (7), IT (8), IT (10).
Altruism toward Others	- <u>IT (6)</u>: <i>“Yes, I would say that, as individuals we all have some kind of responsibilities and try to change things for the better for the most people on the planet as quickly as possible. It is a race against the clock”</i> - <u>IT (8)</u>: <i>“it was like knowing that my next business, I wanted to be doing something that was [...] more like socially equitable in adding to being [...] obviously better for the environment.”</i> → Similar empirical evidence was found for: IT (1), IT (2), IT (3), IT (5), IT (7), IT (10).
Entrepreneurial Curiosity toward Sustainability	- <u>IT (10)</u>: <i>“[talking about sustainability] it’s also the readings, I’ve read a lot too and then [...] conferences there’s been a democratization of all this for some time now and it allows us to have a real awareness”</i> - <u>IT (5)</u>: <i>“I had to create this opportunity myself. Quite quickly I attended the forums of the positive economy [...] there was a discussion about waste. Someone explained that in Paris a company [...] collects organic waste from restaurants to make compost. [...] I heard that, I started doing some research.”</i>

	→ Similar empirical evidence was found for: IT (1), IT (2), IT (3), IT (4), IT (6), IT (7), IT (8), IT (9).
Prior Knowledge linked to Sustainability	- <u>IT (6)</u>: “I have been working in different types of industries related to sustainability for about over 10 years” - <u>IT (9)</u>: “I did end up going to business school on 2014, I got a degree in sustainable business [...] then genuinely [...] I have always been pretty entrepreneurial” → Similar empirical evidence was found for: IT (1), IT (2), IT (3), IT (5), IT (7), IT (8), IT (10).

Table 3: Summary of the common factors leading the interviewees to the identification of their entrepreneurial opportunity.

Source: Own.

5. Analysis

In the following section, we draw on the literature leveraged in section two to analyze the empirical findings and contribute to the literature with the results. Therefore, we investigate the drivers identified across the different cases. Note that we refer to the interviewees as IT (interviewee number).

5.1. Drivers Leading to Entrepreneurial Opportunity Identification within the Food Waste Management Industry

As mentioned previously (see section 2), there is a limited, but emerging, literature on opportunity identification for sustainable entrepreneurs (Patzelt & Shepherd, 2010). Moreover, the latter is considered as more complex for this kind of entrepreneurs. Indeed, as explained by Elkington (1999) through the TBL framework, sustainable entrepreneurs are focusing on three pillars: People, Planet and Profit. This thesis addresses the lack of research regarding the opportunity identification for entrepreneurs in the specific FWMI. The purpose is to identify common drivers that lead entrepreneurs to identify an entrepreneurial opportunity using food waste as a resource.

The theoretical framework provided by the Food Waste Hierarchy (Garcia-Garcia et al., 2017), the TBL (Elkington, 1999) and the Model of Recognition of Sustainable Development Opportunities (Patzelt & Shepherd, 2010, p. 634) is applied for analysis purpose. Based on this thesis' sample and the empirical findings gathered, we identified eight common factors shared among interviewees that are shown in Table 3.

After the analysis, the eight common factors have been gathered into three drivers as shown in Figure 2. Besides, it has been found that two contextual factors namely *Entrepreneurial Curiosity toward Sustainability* and *Prior Knowledge linked to Sustainability*, influence the three drivers mentioned above.

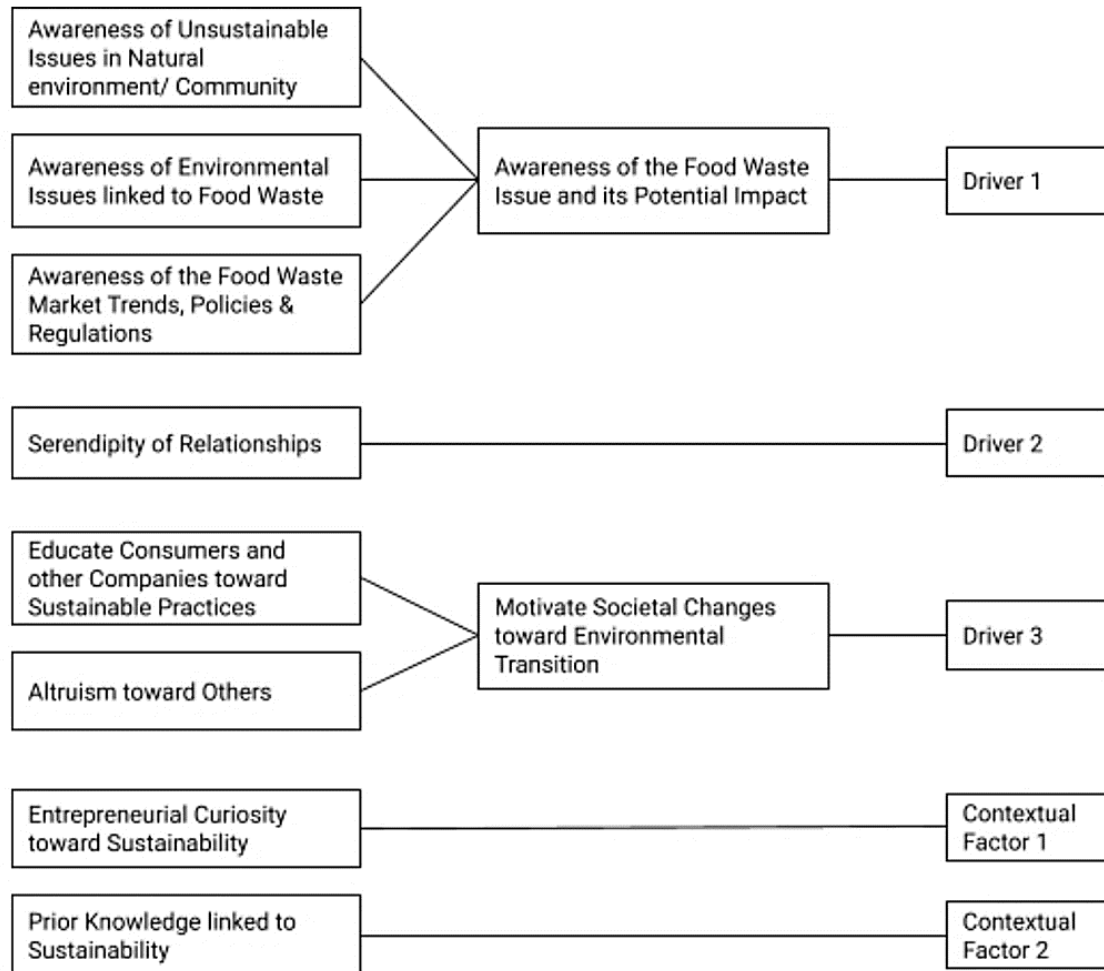


Figure 2: Explanation of the Process Followed to Uncover the Three Drivers Leading to Entrepreneurial Opportunity Identification and their Two Contextual Factors - Applied to Entrepreneurs in the Food Waste Management Industry.

Source: Own.

Finally, to fulfill the purpose of this thesis, a theory has been elaborated to understand how entrepreneurs are able to identify entrepreneurial opportunities in the FWMI. This theory is visually displayed in Figure 3. It explains the relationships between the three drivers and their two contextual factors, that lead to the identification of an entrepreneurial opportunity using food waste as a resource. Each driver and its contextual factors are further explained in the sub-sections below.

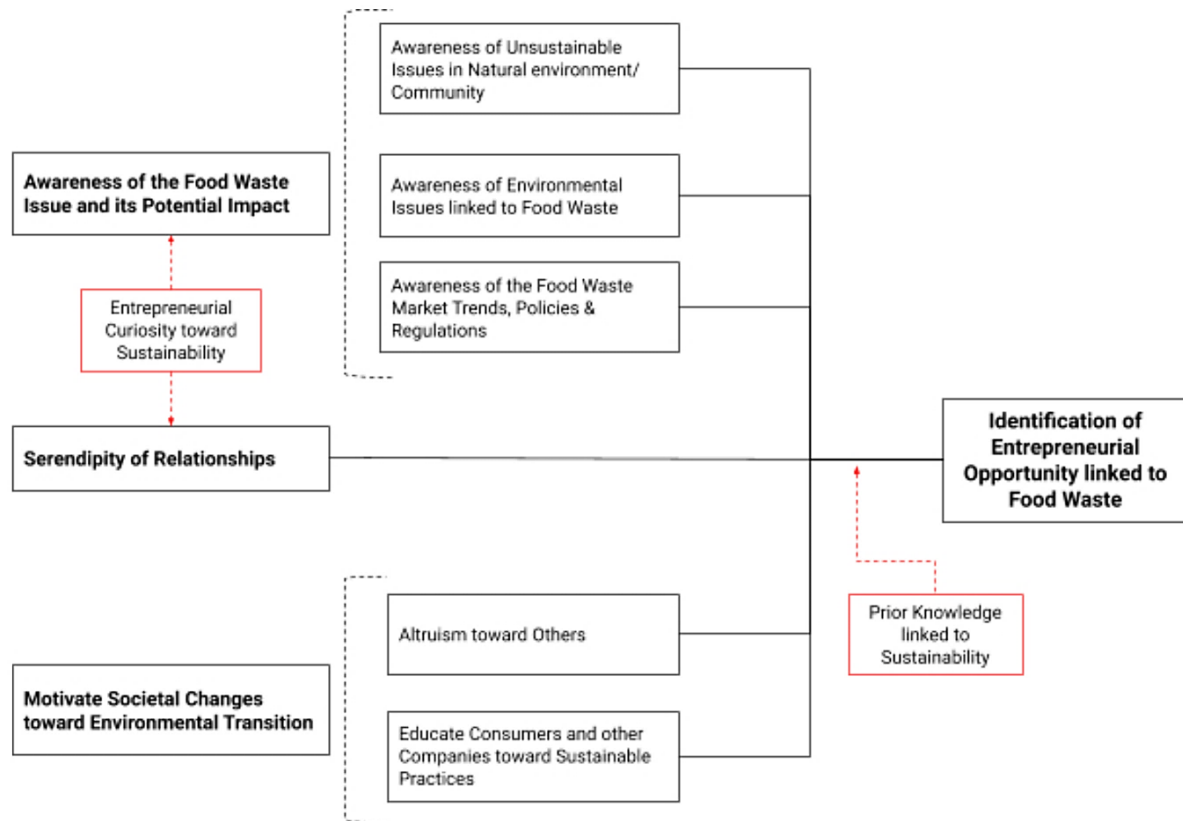


Figure 3: Theory of Identification of Entrepreneurial Opportunity using Food Waste as a Resource - Applied to Entrepreneurs in the Food Waste Management Industry.

Source: Own.

5.1.1. Driver 1: Awareness of the Food Waste Issue and its Potential Impact

In the entrepreneurship literature, prior knowledge is known for being a key driver of opportunity identification (Shane, 2000; Baron, 2006). Shane (2000) explained that because of the knowledge they have developed during their life, some people are more inclined to identify opportunities than others.

The empirical findings revealed that a main driver leading entrepreneurs to identify food waste as an opportunity was the awareness of their environment. It appeared both at the global level and at the very specific food waste level. It means that entrepreneurs possess great awareness of their natural and working environment as well as their community. This observation presents similarities with the *Prior Knowledge of Natural/Communal Environment* that Patzelt and Shepherd (2010) or Hanohov and Baldacchino (2018) recognized while looking into sustainable entrepreneurship. Patzelt and Shepherd (2010) also argue that those opportunities for sustainable entrepreneurship arise from perceived changes in the entrepreneur's natural and communal environments.

As a consequence, knowing their environment helps entrepreneurs to be aware of the food waste issue which, combined to market trends and regulations, results in identifying opportunities linked to food waste. It is possible to draw a parallel with the qualitative study led by Ardichvili and Cardozo (2000). The latter concludes that entrepreneurs, which are alert and sensitive to information in their environment and community, are more likely to identify opportunities. Additionally, we acknowledge that in their study, awareness and alertness are merged under one common terminology. Nonetheless, in this thesis, it has been deduced that alertness is tied to the

contextual factor *Prior Knowledge linked to Sustainability*. In addition to Ardichvili and Cardozo's (2000) *Prior Knowledge of Markets and Customer Problems*, driver 1 also encompasses *Awareness of Unsustainable Issues in Natural Environment/Community* and *Awareness of Environmental Issues linked to Food Waste*.

We mainly distinguished three sub-drivers which builds this main driver, these are further discussed below.

5.1.1.1. Awareness of Unsustainable Issues in Natural Environment/Community

According to the model developed by Patzelt and Shepherd (2010), the first driver leading sustainable entrepreneurs to the opportunity identification is their individuals' prior *Knowledge of the Natural and Communal Environment*. According to Patzelt and Shepherd (2010), natural environment is a "phenomenon of the physical world including the earth, biodiversity and ecosystems" and communal environment refers to "communities in which people live" (Parris & Kates, 2003; Patzelt & Shepherd, 2010, p. 632). This first driver can be explained by the fact that entrepreneurs aware of their natural environment and community are more likely to identify changes and therefore recognize opportunities that contributes to their long-run sustainability.

In this thesis, we identified this characteristic for 8 participants. IT (1), IT (3), IT (4), IT (5), IT (6), IT (7), IT (9) and IT (10) were found to be aware of unsustainable issues in their natural environment and community. The main recurring consequence is global warming which damages the environment as a whole.

However, this awareness was not found for IT (2) and IT (8). The main reason being that they live in high sustainable environment, so they are not directly affected by those changes and threats. Although, they agreed on the negative overall environmental situation, they could not really perceive it in their environment.

5.1.1.2. Awareness of Environmental Issues linked to Food Waste

Since this thesis is focused on a specific industry, almost all of the participants are aware of issues related to food waste and its impact on the environment in general. However, this awareness occurs in various forms.

We identified for all interviewees, with the exception of IT (4), that this particular interest for food waste and its environmental issues or implications was predominant. It is usually the starting point of a specific alertness in the industry that drive them to the opportunity identification.

Further, different levels of understanding and awareness among the cases have been identified. IT (8) introduced the notion of hierarchy among waste management alternatives. According to her, anyplace where the food system is moving inefficiency, is a form of waste. It means that waste could also be defined as a food that has not moved up the hierarchy (see Figure 1) as high as it could. The model developed by Garcia-Garcia et al. (2017) supports this idea, by explaining that some food waste management alternatives should be preferred over others. Therefore, the best use for food waste is to be eaten by humans, then by animals, then composted, then sent to landfills. In the end, we could argue that the higher the entrepreneurs' awareness is, the higher the solutions would be placed in the food waste hierarchy.

The only exception is IT (4) who is more concerned about plastic waste and its damaging effect on oceans, than on the food waste issue itself. He has no specific knowledge or awareness regarding it. Tackling this issue was a mean to reduce the plastic waste since he no longer uses plastic in his beer packaging and hopes to influence the whole industry.

5.1.1.3. Awareness of the Food Waste Market Trends, Policies, and Regulations

Hanohov and Baldacchino (2018) explained in their study that prior *Knowledge of Natural and Communal Environment* has a great influence for sustainable entrepreneurs while identifying opportunities. As underlying compartments of it, the authors highlighted that negative or positive trends and conditions were part of the explanation. The authors highlighted that this prior knowledge is partly built by negative or positive trends and conditions of the entrepreneur's environment.

Throughout this thesis, it has also been identified that *Awareness of Market Trends, Policies and Regulations* is greatly involved in the opportunity identification process. Shane (2000) highlighted three dimensions of prior knowledge that holds a predominant role in the process of entrepreneurial identification: prior knowledge of markets, prior knowledge of ways to serve markets, and prior knowledge of customer problems. In this thesis we called that *Awareness of the Food Waste Market Trends, Policies, and Regulations*. It comprises the three sources of prior knowledge identified by Shane (2000). For example, IT (5) knew that the Grenelle II regulation which brought her to the opportunity identification. IT (2) explained that when looking at the demand side she knew people wanted on-the-go nutritive snacks, which helped her to identify the opportunity for making cookies out of food waste. This is true for IT (1), IT (2), IT (3); IT (4), IT (5), IT (6), IT (7), IT (9) and IT (10).

This awareness stems from several sources such as work experiences, hobbies or education, which is consistent with Ardichvili and Cardozo's (2000) driver *Prior Knowledge of Markets and Customer Problems* and their sub-drivers.

5.1.2. Driver 2: Serendipity of Relationships

The term "serendipity" has been stated during the interviews by IT (2) and IT (8) while talking about the identification of their entrepreneurial opportunity. In the literature, some scholars already linked the notions of entrepreneurial opportunities and serendipity (Dew, 2009; Mirvahedi & Morrish 2017).

According to Dew (2009), serendipity occurs when individuals are involved in some kind of search effort which led them to accidentally discover something that they were not looking for. Nonetheless, this concept slightly differs from the notion of serendipity expressed by the entrepreneurs of this thesis' sample. For instance, prior to the identification of her entrepreneurial opportunity, IT (2) and her partner were trying to find a way to revalorize the food waste produced in the restaurants they were working in. IT (2) mentioned that her business partner while randomly looking at the components of a vegan protein powder, realized that it was made out of the same food materials as the ones their restaurant was wasting. Therefore, she referred to this accidental discovery as a "moment of serendipity" which led them to identify an entrepreneurial opportunity linked to food waste. What she refers to as a "moment of serendipity" seems concurrent to Dew's (2009) definition of pseudo-serendipity, which according to him occurs "when someone is looking for something in particular, but the route by which they discover it is accidental and unanticipated".

Yet, it is important to distinguish it from the Austrian perspective of the literature. The latter assumes that entrepreneurial opportunities are always discovered without purposeful research upfront (Kirzner, 1997). In other words, the discovery happens by surprise through the "aha" or "Eureka" moment (Gaglio & Taub, 1992; Hills,

Shrader & Lumpkin, 1999). This is consistent with this thesis findings that what is searched could be known, it is rather the path to the finding that is unknown.

In addition to Dew's concept of pseudo-serendipity, we want to add the notion of *Serendipity of Relationships* as an influential factor leading to the entrepreneurial opportunity identification. In this thesis, this notion refers to the lucky encounter of people along the entrepreneurial identification journey. IT (8) explained that she wanted to find a way to valorize by-products generated from food processing. As she said, "the serendipity of relationships" led her to meet the owner of a tofu factory, who was struggling to eliminate the huge amount of by-products he was producing. This encounter made her realize that she could align her mission goal of reducing food waste while solving the problem of by-products treatment for many food manufacturers. Therefore, this unexpected meeting led her to identify an entrepreneurial opportunity.

Consequently, in this thesis, we acknowledge Dew's (2009) definition of pseudo-serendipity by adding that the route by which individual discovers something can be shaped by unexpected but fortunate encounters. Therefore, this definition corroborates the "moments of serendipity" that drove IT (2), IT (3), IT (4), IT (5), IT (7), IT (8), IT (9) and IT (10) to the identification of their entrepreneurial opportunity using food waste as a resource.

5.1.3. Driver 3: Motivate Societal Changes toward Environmental Transition

The notion of initiating societal change is often attributed to social entrepreneur. In fact, according to Makhoulf (2011) a social entrepreneur can be assimilated to an "agent of change" willing to cope with societal problems and aiming at social change. As a social entrepreneur, the primary objective is not anymore to profit himself but to profit society as a whole.

IT (1), IT (2), IT (3), IT (5), IT (6), IT (7), IT (8) and IT (10) have expressed their willingness to contribute to the enrichment of society as a driver leading them to identify their entrepreneurial opportunity. It is generally expressed by a desire to "do good" by helping others (Petrovskaya & Mirakyan, 2018) and offer a solution to actors that are struggling to find their way in the market. For instance, IT (1) explained that his willingness to empower farmers drove him to discover his entrepreneurial opportunity. In a concrete way, he identified that by revalorizing surplus or "ugly" vegetables, he could help farmers to generate a revenue on products that were unsaleable to supermarkets.

Nine out of ten interviewees from the sample explicitly outlined that the identification of their entrepreneurial opportunity was driven by their will to motivate societal changes. However, based on our analysis, this motivation to change the society seems to be more globally inspired by a desire to protect the environment. Elkington's (1999) TBL framework helped to reflect on this assumption, which is further explained below.

Two factors are driving the interviewees to stimulate societal changes toward environmental transition. On the one hand, the entrepreneurs' altruism, incites the identification of their entrepreneurial opportunity. On the other hand, entrepreneurs in the FWMI claim to have an educational mission toward consumers and other companies to improve their sustainable practices.

5.1.3.1. Altruism toward Others

Altruism is defined as the individual motivation to improve the welfare of another person (Penner et al., 2005, p. 368). This thesis extends this desire to contribute to the benefit of another person to the society at large. In the literature, altruism is a characteristic often attributed to social entrepreneurs (Tan, Williams & Tan, 2005; Petrovskaya & Mirakyan, 2018). As defined in this thesis, social entrepreneurship “encompasses the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner” (Zahra et al., 2009, p. 519).

In this sample, eight out of ten participants mentioned the identification of their entrepreneurial opportunity was driven by the willingness to contribute to the improvement of society as a whole. This observation is consistent with the model from Patzelt and Shepherd (2010). Their model highlights that altruism can explain why some individuals, more than others, are able to recognize sustainable opportunities for business (Patzelt & Shepherd, 2010).

Moreover, IT (1), IT (2), IT (3), IT (7), IT (10) shared an associative background or are involved in charity projects to help others, outside their entrepreneurial activity. For instance, IT (2) explained that her previous initiative to distribute food waste (brown rice or quinoa) from the restaurant she worked in, to homeless people in San Diego, fostered the identification of her entrepreneurial opportunity. Because of a lack of education on the nutritive benefits of these products, people refused to eat the food she was offering. So, it helped her to identify a lack of education toward nutrition which drove her to undertake and act upon it. IT (10) also explained that even as a student she was involved in associative projects. For her, it was the first step that made her realize that there were many opportunities in the social and solidarity economy sector.

Therefore, social entrepreneurs’ prior experience is key for the identification of their entrepreneurial opportunity. Indeed, Scheiber (2016) explains that specific experiences involving volunteer work and social activism helped shape how entrepreneurs picture social problems, and as a consequence shape their approach to entrepreneurship.

To sum-up, it seems that the entrepreneurs from the FWMI shared a characteristic inherent to social entrepreneurs. As explained by Elkington (1999), social entrepreneurship refers to two aspects of the TBL: People and Profit. However, our analysis testifies that we cannot limit the entrepreneurs investigated in this thesis to these two pillars. This is why, the nature of the social concerns of entrepreneurs from the FWMI is further discussed in the following part.

5.1.3.2. Educate Consumers and Other Companies toward Sustainable Practices

From the empirical findings, three sub-drivers explaining the desire to change the society for the benefit of the planet have been identified. First, IT (1), IT (3), IT (5), IT (7) and IT (10) expressed that they were focusing on a local scale. The purpose is to recreate a whole local ecosystem between the different actors of the industry. This model is in total contrast with the actual globalized model prone to by big corporations. It is linked with the desire to have an impact on consumers and on other companies. This can be explained by the fact that entrepreneurs with sustainable concerns often self-associate an educational role to their function.

IT (2), IT (4), IT (7) and IT (8) explained that the real challenge is to show, to other actors of the market, that they can build a company that's financially viable, socially responsible and environmentally respectful at the same time. While educating the consumers, they create a new form a demand, more aware of the environmental issues linked to food waste. Therefore, they want to constrain the supply to improve their sustainability practices. In other words, by initiating new ways of producing, they implement new ways of thinking and new ways of consuming for the customers. Consequently, it becomes a proof for the other companies of the sector that they should improve their sustainable practices to keep up with the demand.

This observation is consistent with Patzelt and Shepherd's (2010) vision which explains that, to allow sustainable products to become more competitive, sustainable entrepreneurs may actively modify markets and institutions towards more pro-environmental concerns. This was supported by Thompson, Herrmann and Hekkert (2015) in a comparative case study based on four entrepreneurs working in biomass torrefaction in the Netherlands. They argue that to legitimate sustainable products or services, sustainable entrepreneurship often requires to change the existing business environment, market regulations, societal norms and values. For IT (3), IT (7), IT (8), IT (10) this desire to modify a market toward more environmentally practices was partly triggered by the fact of being parents. They explained that it played an important role to act for the preservation of the environment, the end-purpose being to ensure the future of their children.

To sum-up, the analysis led us to think that, in most of the cases, the notions of altruism and education are more short-term focuses for entrepreneurs in the FWMI. These notions are generally attributed to social entrepreneurs, but while reflecting on Elkington's (1999) TBL framework we recognized that the participants also embrace the environmental pillar. By motivating societal changes, thanks to education among others, their end-purpose appears to initiate a more global environmental transition. It seems that entrepreneurs from the FWMI, can be assimilated to sustainable entrepreneurs which are acting to resolve conjointly social, environmental and economic issues (Cohen & Winn, 2007; Dean & McMullen, 2007). It is consistent with our findings, where ten out of ten participants defined themselves as sustainable entrepreneurs but with different degree of involvement toward each of the three pillars of the TBL.

5.2. Contextual Factors

Patzelt and Shepherd's (2010, p. 634) model proposed that *Entrepreneurial Knowledge* plays a central role by moderating the drivers identified in their study. They refer to *Entrepreneurial Knowledge* as a variable that influences the strength of the relation between two other variables (Patzelt & Shepherd, 2010). Our analysis highlighted similar type of relationship among the factors identified, that are referred as contextual factors. In this thesis, contextual factors are broadly defined as the characteristics of the individual and his environment, that influence the effectiveness of the relation or collaboration between the drivers and the identification of an entrepreneurial opportunity. Two contextual factors, namely *Entrepreneurial Curiosity toward Sustainability* and *Prior Knowledge linked to Sustainability*, have been identified.

Then, we refer to the term of "Sustainability" and not "Food waste" in the two contextual factors identified. These contextual factors are relevant in this thesis in which the drivers uncovered are specific to the identification of

entrepreneurial opportunities aiming to use food waste as a resource. As stated in the introduction of this thesis, food waste is acknowledged as one of the most critical sustainability issues as it has negative environmental, social and economic effects (Papargyropoulou et al., 2014; Halloran, Clement, Kornum, Bucatariu & Magid, 2014; Aschemann-Witzel et al., 2015; Ribeiro et al., 2018). Consequently, the link between food waste and sustainability is acknowledged in the literature. According to this thesis' analysis, having an overview of sustainability enables an individual to realize that food waste has negative implications in the three aspects of the TBL.

In this section, we discuss the extent to which these two contextual factors strengthen the relationship between the identification of an entrepreneurial opportunity, in the context of this thesis, and its drivers.

5.2.1. Entrepreneurial Curiosity toward Sustainability

In the existing literature, the notion of curiosity is associated to entrepreneurship. Jeraj and Marič (2013) define the entrepreneurial curiosity as “a desire that motivates individuals to learn how to perform tasks which are related to entrepreneurship” (p. 291) and explain that curiosity is a characteristic which stimulates an individual to undertake.

In the literature, the notions of food waste and sustainability are interlinked. In fact, the food waste issue is known to have unsustainable implications. In this thesis, sustainable development is defined as “development that meets the need of the present without compromising the ability of future generations to meet their own needs” (UNCSD, 2001). This concept is further explained thanks to Elkington's (1999) TBL framework. Therefore, in the context of this thesis, *Entrepreneurial Curiosity Toward Sustainability* is acknowledged as an individual's desire to learn how to undertake while aiming to solve issues linked to the three pillars of the TBL namely: Planet, People, Profit.

We have recognized that, among the sample, *Entrepreneurial Curiosity Toward Sustainability* has a moderating effect on the identification of an entrepreneurial opportunity aiming to exploit food waste as a resource. It appears that, the drivers affected by this contextual factor are the *Awareness of the Food Waste Issue* and its *Potential Impact* and *Serendipity of Relationships*.

With regard to the driver *Awareness of the Food Waste Issue and its Potential Impact*, *Entrepreneurial Curiosity toward Sustainability* influenced all the entrepreneurs in different forms. For example, IT (1), IT (4), IT (5), IT (6) and IT (7) mentioned that doing some research, reading books, attending talks or conferences about circular economy or food waste management, led them to acquire knowledge on these topics. It also contributed to better understand the impact or environmental issues linked to food waste. Meanwhile, for IT (3), IT (9) and IT (10), this curiosity toward new food waste policies or market trends, results in a better understanding of the sustainable issues at stake in the FWMI.

Therefore, an individual's degree of curiosity toward sustainability contributes to his awareness of the food waste issue and the side effects of it, which contributes to the identification of opportunities in this market.

For IT (1), IT (2), IT (3), IT (4), IT (5) IT (8) and IT (10) their curiosity and openness toward others facilitates the identification of an opportunity. For instance, without his curiosity and willingness to help the charities working for the preservation of the oceans, IT (4) would not have met the research agency which gave them the idea to use innovative raw materials to create their beer packaging. Moreover, for IT (5) her curiosity toward sustainability brought her to a forum about positive economy. She was informed during a discussion that a company in Paris was collecting food waste from restaurants to make compost out of it. Finally, this whole process triggered the identification of her entrepreneurial opportunity.

As a result, it seems that the more an individual wants to learn about sustainability and is open to meeting new people, the more likely the phenomenon of *Serendipity of Relationships*, as described in this thesis, can occur. Consequently, *Entrepreneurial Curiosity toward Sustainability* moderates the effect of the *Serendipity of Relationships* in opportunity identification while using food waste as a resource.

To sum-up, based on the analysis of the empirical findings, it appears that entrepreneurial curiosity is linked to sustainability among entrepreneurs of the food waste management. Their interest into sustainability and willingness to educate themselves on this topic enhance their awareness about the food waste and its drawbacks. Moreover, an individual's *Entrepreneurial Curiosity toward Sustainability* also facilitates unexpected but fortunate encounters that might influence him to identify an entrepreneurial opportunity linked to food waste.

5.2.2. Prior Knowledge linked to Sustainability

Prior knowledge can be defined as “the sum of all knowledge that an individual may (consciously or not) possess at a given moment in time” (Arentz, Sautet & Storr, 2013, p. 462). Regarding conventional entrepreneur, the literature states that prior knowledge of markets is a determinant factor leading to opportunity identification (McKelvie & Wiklund, 2004; Shane, 2000; Shepherd & DeTienne, 2005; Zahra et al., 2005). As defined in this thesis, conventional entrepreneurs are assumed to primarily focusing on economic value creation (Schaper et al., 2002; Vuorio et al. 2018). However, entrepreneurs aiming to use food waste as a resource are focusing on social, environmental, and economic value creation at the same time. Therefore, we acknowledge Patzelt and Shepherd (2010) vision stipulating that different types of knowledge may impact the identification of an entrepreneurial opportunity that go beyond economical gain.

Within this thesis, the notion of *Prior Knowledge linked to Sustainability* is acknowledged as the sum of individuals' education and previous experiences related to the TBL pillars. By education we embrace education gained through childhood and studies. Various forms of previous experiences exist, such as work-related experiences or personal projects.

From the empirical findings we identified *Prior Knowledge linked to Sustainability* as being a contextual factor influencing the drivers leading to entrepreneurial opportunity identification linked to food waste. Nonetheless, its influence on the opportunity identification is not direct. It rather facilitates respectively, the gain of *Awareness of the Food Waste Issue and its Potential Impact*, the appearance of *Serendipity of Relationships* and the willingness to *Motivate Societal Changes toward Environmental Transition*.

The interviews conducted shed light on the underlying mechanism triggered by this prior knowledge. It appears that it plays a facilitator role for gaining awareness on food waste and its issues. As a consequence, entrepreneurs of the FWMI are more or less eager to gain knowledge about food waste depending on if their childhood, educational background, previous experiences is linked to sustainability. For instance, IT (6) explained that as a child, the time he spent with his grandmother gardening triggered his interest in nature, food and food waste. Then, he acquired an extensive educational background regarding sustainability. Indeed, he holds a bachelor in “Sustainable Agriculture and Food System” and a master in “Sustainability in Fashion”. Finally, IT (6) has been working in different types of industries related to sustainability for about over ten years.

The *Serendipity of Relationships* is also more or less affected by the *Prior Knowledge linked to Sustainability*, depending on the level of the latter. It seems that entrepreneurs of the FWMI increase the possibility for serendipity of relationships to happen while acquiring knowledge in sustainability. IT (3) and (10) both defined themselves as nature lovers, engage in zero waste practices within their households and shared an associative background in social integration. They already met while studying in the same Business School. However, they both explained that without acquiring these sustainable concerns and experiences related to social integration, they would never have identified an opportunity to use food waste as a resource, 15 years later.

Therefore, the more extensive knowledge about sustainability an entrepreneur has, the more likely he may do unexpected encounters, which would lead, in fine, to the identification of an entrepreneurial opportunity. In a way it is a conscious or unconscious networking process.

Moreover, through past experiences and education, entrepreneurs might have faced unsustainable issues. Consequently, depending on the propensity of an entrepreneur to be altruist or his desire to educate consumers, he would be more or less eager to tackle unsustainable issues linked to food waste. IT (1) explained that he grew up in the countryside developing concerns about Nature. He has some work experiences related to farming and developed personal interests toward food waste and sustainability field. Throughout these different experiences, he noticed political and corporation inactions regarding sustainability. Therefore, he attributed to himself an educational mission toward sustainability.

In the end, for entrepreneurs using food waste as a resource, *Prior Knowledge linked to Sustainability* moderates their willingness to *Motivate Societal Changes towards Environmental Transition*.

6. Conclusion

In the following section, we summarize the findings and answer the research question. We also conclude on the purpose of this thesis.

This thesis intends to determine the drivers leading to the identification of an entrepreneurial opportunity aiming to use food waste as a resource. Our findings emerged as a result of the data collected from interviews with ten entrepreneurs or intrapreneurs selected on determined criteria.

The findings suggest that entrepreneurs are particularly aware of their environment and the problems associated with it, both globally and at the very specific level of food waste. This environment includes the natural environment, the community and the FWMI. Additionally, the findings pointed out that the route by which an individual identify an entrepreneurial opportunity using food waste, can be shaped by unexpected but fortunate encounters. The findings further showed that the propensity to be altruistic towards others and the educational mission toward sustainability practices, are more short-term focuses for entrepreneurs in the FWMI. The major argument being that their willingness to motivate societal changes appears to be driven by environmental concerns.

When weighing the evidence, it appears that an individual's desire to learn how to undertake in a sustainable manner as well as the sum of his education and previous experiences linked to sustainability are contextual factors. The most reasonable interpretation is that they both facilitate the emergence of the drivers leading to entrepreneurial opportunity identification in the context of this thesis.

The theory elaborated in this thesis suggests that the interdependency of the *Awareness of the Food Waste Issue and its Potential Impact*, the *Serendipity of Relationships* and the will to *Motivate Societal Changes toward Environmental Transition* lead to the identification of an entrepreneurial opportunity aiming to use food waste as a resource. These drivers are facilitated by two contextual factors namely: *Entrepreneurial Curiosity toward Sustainability* and *Prior Knowledge linked to Sustainability*.

7. Discussion

In this final section, we reflect on the contributions, implications, limitations and suggest avenues for future research.

7.1. Contributions and Implications

Food waste (Papargyropoulou et. al., 2014, Aschemann-Witzel et al., 2015; Ribeiro et al., 2018) and the drivers leading sustainable entrepreneurs to identify an opportunity (Patzelt & Shepherd, 2010; Hanohov & Baldacchino, 2018), are two topics that concomitantly received increasing attention in the recent literature. However, there is a lack of research regarding the identification of entrepreneurial opportunity aiming to use food waste as a resource. Our findings essentially make three key contributions to the literature:

Serendipity of Relationships

This thesis acknowledges the influence of the pseudo-serendipity defined by Dew (2009) as playing a role in the identification of an entrepreneurial opportunity. In fact, we observed that prior to the identification of an entrepreneurial opportunity, the actors of the FWMI are often looking to solve an issue in particular, but the route by which they discover it is accidental and unanticipated. The findings suggest that social encounters, mainly unexpected, are key in the identification of entrepreneurial opportunities aiming to use waste as a resource. We refer to this notion as the *Serendipity of Relationships*. Therefore, the most accurate interpretation is that the route by which an individual discovers an entrepreneurial opportunity linked to food waste, can be shaped by unexpected but fortunate encounters.

Motivate Societal Change toward Environmental Transition

The notion of societal change is often attributed to social entrepreneur that are mainly willing to cope with societal problems. Moreover, the notion of *Altruism toward Others* in Patzelt and Shepherd's (2010) model explains why some individuals, more than others, are able to recognize sustainable opportunities for business. Nonetheless, in this thesis it is acknowledged as a characteristic shaping the entrepreneurial approach of the entrepreneurs from the FWMI.

The findings suggested that the propensity to be altruist and the willingness to educate consumers or other companies, are more short-term focuses for entrepreneurs in the FWMI. Therefore, by motivating societal changes, it appears that their end-purpose is to initiate a more global environmental transition. This observation seems accurate as all the participants considered themselves as sustainable entrepreneurs who embrace the three aspects of the TBL into consideration.

Prior knowledge linked to Sustainability

While comparing the theory elaborated in this thesis with the models proposed by Ardichvili and Cardozo (2000) or Patzelt and Shepherd (2010), we came out with two observations.

Firstly, the former model suggests that experiences and education enable *Prior knowledge of Markets and Customer Problems* which is a driver for opportunity recognition.

For entrepreneurs in the FWMI, we acknowledged that experiences and education do play a role, but not on the identification of an entrepreneurial opportunity. Indeed, we believe it is rather a contextual factor facilitating the gain of *Awareness of the Food Waste Issue and its Potential Impact*, the appearance of *Serendipity of Relationships* and the willingness to *Motivate Societal Changes toward Environmental Transition*.

Secondly, Patzelt and Shepherd (2010) identified a similar influence of the *Entrepreneurial Knowledge* as “moderating the impact of other knowledge and motivation variables on the recognition of sustainable development opportunities” (Patzelt & Shepherd, 2010, p. 643).

7.2. Limitations

For the sake of transparency and to increase the overall quality, it is important to address the limitations of this thesis.

Since this thesis is of qualitative nature, the transferability of findings appears to be difficult. Generalizing the findings might be complicated due to a limited sample size. Therefore, we tried to provide the most accurate information possible to suggest a degree of transferability to entrepreneurs in the FWMI. Nonetheless, we believe that the number of cases selected in this thesis provide a fair level of credibility.

Because of its qualitative nature, this thesis does not reflect upon the degree of influence of each driver on the opportunity identification for the entrepreneurs. It is consequently impossible to determine and compare the degree of influence among drivers or contextual factor and among cases.

Another limitation of this thesis might have occurred firstly during the data collection and secondly during its analysis. Indeed, as we have a personal interest in food waste management, the interview guide might have been, unconsciously and involuntarily, created in order to collect expected data. For the same reason, it may be possible that we have guided the conversation toward the purpose of our thesis, which might have influenced and biased participants’ answers. Then, when analyzing the data collected, it is possible that the desire to highlight common patterns shared among the participants biased our interpretation (e.g. thin line between drivers leading to the identification of an entrepreneurial opportunity or drivers leading to creation of a company).

Even though complete objectivity is hard to reach, we actively engaged in reducing the biases both between the data collection process and the analysis of empirical findings. Therewith, we claim to provide a good level of confirmability.

Lastly, an additional limitation may be grounded in the lack of diversity among our sample. Even though we demonstrate and outline how we selected our cases, we can concede that our findings are mainly based on French and US companies. Depending on the countries, the drivers leading to identify an entrepreneurial opportunity might differ. This is especially important because we noticed the influence of an individual’s environment (community and natural environment) in our theory.

A greater diversity in the cases would have strengthened the credibility and generalizability of our thesis.

7.3. Further research

Arising from our limitations, conducting quantitative researches would enable to empirically test and perhaps confirm the model elaborated in this thesis. It would also be interesting to test the level of influence of each driver on the opportunity identification. Moreover, we propose to conduct such research on a geographically wider sample, not mainly based on French and US-based entrepreneurs.

The main contribution of this thesis is the observation of the importance of *Serendipity of Relationships* in the opportunity identification process for entrepreneurs using food waste as a resource. Therefore, it would be interesting to know if this specific driver is applicable to any other type of entrepreneurs or only to entrepreneurs using food waste as a resource.

8. References

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9. Appendices

Appendix 1: Interview Guide.

1. General background 1.1. How old are you? 1.2. How many years have you been working? 1.3. Can you tell us about your personal background? (e.g. childhood, studies, your interests/hobbies...)
2. Entrepreneurial background 2.1. Can you tell us about your entrepreneurial background? 2.2. What circumstances contributed to you becoming an entrepreneur? 2.3. Whereas “conventional” entrepreneurs are considered to focus mostly on the economic value creation, sustainable entrepreneurs generate social and environmental gains for others in society. 2.3.1. Do you agree? 2.3.2. Do you consider yourself as a sustainable entrepreneur?
3. Food Waste 3.1. Can you elaborate on the notion of waste and especially about food waste (definition)? 3.1.1. What do you include under the term “food waste”? 3.2. To what extent do you consider food waste as a valuable resource? 3.3. What are your motivations to tackle the food waste issue?
4. Drivers leading to Entrepreneurial Opportunity identification 4.1. Can you elaborate on the starting point of your idea/concept? (e.g. the willingness to use wastes as resources, the final product in itself, etc) 4.2. Were there other specific factors that led you to identify your entrepreneurial opportunity? 4.3. Before creating your company, did you identify changes in the community or natural environment in which you live? If yes, do you believe it impacted your entrepreneurial perception and how? 4.4. Do you believe that the community or the natural environment in which you live was threatened by unsustainable issues? If yes, do you believe it impacted your entrepreneurial perception and how? 4.5. Did you feel responsible to help others and create social gain? If yes, do you believe it impacted your entrepreneurial perception and how? 4.6. To what extent do you believe that your previous entrepreneurial knowledge and background influenced you? 4.7. Do you believe there were any other factors, that you did not mentioned earlier, which led you to recognize an opportunity for business?

Appendix 2: Consent Form Example.

INTERVIEW CONSENT FORM

I, the undersigned, have read and understood the study Information provided. . . .

- I have been given the opportunity to ask questions about the study.
- I understand that taking part in the Study will include being interviewed and audio recorded.
- I have been given adequate time to consider my decision and I agree to take part in the Study.
- I understand that my personal details such as name could be used in the study.
- I understand that my words may be quoted in publications, reports, web pages and other research outputs.
- I agree to assign the copyright I hold in any material related to this project to Tangui CONRAD, Vincent DUVIGNACQ and Mathieu GAUTHIER

I understand that I can withdraw from the study at any time and I will not be asked any questions about why I no longer want to take part.

Name of Participant: Ricardo GARAY
Date: Apr 24 2019
Signature:



Researcher Signature: Mathieu GAUTHIER
Date: Apr 23 2019



Appendix 3: One Page Transcript Example.

Date: 22/04/2019

Interviewee: Claire Schlemme, Founder of Renewal Mill

Interviewers: Vincent Duvignacq, Mathieu Gauthier and Tangui Conrad, Jönköping International Business School students

Duration: 36 min

V.D.: We would like you to elaborate on the notion of waste and especially on the notion of food waste and what do you include under the term of food waste?

C.S.: Yes, so, hm, so I see food waste as being, hm, you know anything, basically, any place where the food system is losing efficiency, is, is a form of waste. So whether, and you know, it can come across the entire Food system, so anywhere from the farm to the personal refrigerator.

V.D.: Yes.

C.S.: So, anytime that you are not harvesting an entire crop, all the way to, you know, you buy a whole head of lettuce, and you just never had to eat it and so you're throwing it out. So, those are points where nutrition was produced and never consumed. That's, that's really how we see it. I think I will just go one step further and just say, you know, I would also see waste as being a, as, being defined as a food that hasn't moved up the hierarchy of use as high as it could. So, you know, the best use for food is to be eaten by humans, then by animals, then composted, then sent to landfills. Hm, so I think there is even a case to be made, you can also say that waste exist when let's say, yes it has been composted so at least it's not being landfilled but if it's still, if it was perfectly good before it was composted that's still a waste because it wasn't used for human consumption.

V.D.: Yes, ok, alright and we want to know what are your motivations to tackle the food waste issue?

C.S.: Oh, so that actually came from my first venture with the juice business I had in Boston.

V.D. : Ok.

C.S. : So, hm, if you juiced before you know what I am talking about, there is like, I mean you get so much pulp from the fruits and vegetables that left over.

Source: Transcript of the interview with Claire Schlemme (Renewal Mill)

Appendix 4: Coding Results – Drivers, Sub-Drivers and Contextual Factors.

IT Number	Name	Position	Company	Sustainable entrepreneur	Drivers identified						Contextual factors	
					Awareness of the Food Waste Issue and its Potential Impact			Motivate Societal Changes toward Environmental Transition				
					Awareness of Unsustainable Issues in Natural Environment/Community	Awareness of Environmental Issues linked to Food Waste	Awareness of the Food Waste Market Trends, Policies, and Regulations	Educate Consumers and Other Companies toward Sustainable Practices	Altruism toward Others	Serendipity of Relationships	Entrepreneurial Curiosity toward Sustainability	Prior Knowledge linked to Sustainability
1	Benjamin Faucher	Co-Founder	Babelicot	YES	YES	YES	YES	YES	YES	YES	YES	YES
2	Kristian Krugman	Co-founder	SoulMuch Food	YES	YES	YES	YES	YES	YES	YES	YES	YES
3	Charlotte Desombre	Co-founder	Cocomiette	YES	YES	YES	YES	YES	YES	YES	YES	YES
4	Dustin Jeffers	Co-Founder	Saltwater Brewery	YES	YES	NO	NO	YES	NO	YES	YES	NO
5	Ophélie Spanneut	Co-Founder	Bin Happy	YES	YES	YES	YES	YES	YES	YES	YES	YES
6	Ricardo Garay	Manager	Agraloop	YES	YES	YES	YES	YES	YES	NO	YES	YES
7	Entrepreneur X	Founder	Company X	YES	YES	YES	YES	YES	YES	NO	YES	YES
8	Claire Schlemme	Founder	Renewal Mill	YES	NO	YES	NO	YES	YES	YES	YES	YES
9	Daniel Kurzrock	Co-Founder	ReGrained	YES	YES	YES	YES	NO	NO	NO	YES	YES
10	Amandine Delafon	Co-founder	Cocomiette	YES	YES	YES	YES	YES	YES	YES	YES	YES