

Decision-Making of Female Entrepreneurs – a Perspective on Motherhood

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ABSTRACT

In recent years, entrepreneurial decision-making and gender differences have been in the research spotlight. However, there are gender-specific factors that affect the entrepreneurial experience. According to feminist literature and recent data, motherhood is one factor that imposes additional considerations on female entrepreneurs. This paper examines the decision-making preferences of female entrepreneurs and sheds light on specific aspects of motherhood that may influence entrepreneurial behavior. Previous decision-making research identified two dichotomous types of decision-making behavior: causation and effectuation. In contrast to the focus of causal behavior on business planning, effectual behavior is characterized by adaptation to given circumstances. This study seeks to investigate the connection between motherhood and effectuation. A total of seven female founders were interviewed in semi-structured interviews. The data analysis revealed that female founders generally employ a more effectual approach to decision-making. Instead of defining a business plan, they were more likely to launch their company with the resources at hand and likely to focus on what they could afford to lose rather than on anticipated returns. In addition, this study revealed possible explanations for the extent to which motherhood influences various decisions. Overall, this paper adds to the research on female entrepreneurship and demonstrates the need for further investigation into the specific factors of motherhood that influence female founders' venture creation.

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Keywords

Entrepreneurship, Decision-Making, Effectuation, Causation, Gender, Motherhood

1. INTRODUCTION

Entrepreneurship is one of the most valuable and innovative business fields for a country's economy and determines productivity, innovation, and economic growth (Barot, 2015). The practice has macroeconomic benefits that foster a country's financial, scientific, and technological development (Obschonka et al., 2011). Besides promoting productivity and social welfare by raising the employment rate, innovating products, and increasing national income (Barot, 2015; Diandra & Azmy, 2020; Hessels & Naudé, 2019), the study of entrepreneurship has attracted the interest of academic communities worldwide (Audretsch, 2012; Hébert & Link, 1989). In this field, making decisions is one of the most studied and talked about objectives, which may be why a new business succeeds or fails (Chandler et al., 2011; Dew et al., 2009; Ruiz-Jiménez et al., 2021).

However, the field of entrepreneurship and past research on entrepreneurship is predominantly male-dominated (Ahl, 2004; Brush et al., 2014; Wu et al., 2019). The gender asymmetry in business creation worldwide is caused by the historical position of women, which leaves different starting conditions for the sexes (Pérez-Pérez & Avilés Hernández, 2016). This gender asymmetry is represented in the substantially lower percentage of female entrepreneurship worldwide and is also reflected in decision-making studies (Steigertahl et al., 2018; Strawser et al., 2021). Some scholars have researched how gender plays a role in new venture creation but are missing the various influential factors women face. One example is motherhood and its traditional role models potentially influencing a women's entrepreneurial behavior (Pérez-Pérez & Avilés Hernández, 2016; Wu et al., 2019). Traditional Western values understand mothers as the ideal and primary caretakers of children. At the same time, men are responsible for breadwinning, leaving working women different, often less beneficial, opportunities and growing recognition (Gross, 1998). Social expectations of being a "good" mother are discussed frequently in the media, reflecting societal views on female responsibility for household and family-related matters (Achtenhagen & Welter, 2003; Eikhof et al., 2013). This conventional view of motherhood still leaves many women responsible as the primary caretakers in the domestic sphere and sets different entrepreneurial conditions than for males (Eib & Siegert, 2019). This research investigates the decision-making processes of female entrepreneurs and the eventual influence of motherhood on these.

In terms of entrepreneurial behavior, Saras D. Sarasvathy (2001) presented two procedures that define the decision-making process of new venture founders: (a) the planned approach characterized by pre-defined goals and linearity called causation and (b) the intuitive approach characterized by emerging goals and contingency-exploitation called effectuation. Regarding effectuation, she identified five principles in which the characteristic behaviors of effectual decision-makers are described: (1.) The bird-in-hand principle, meaning that business value is created by what is available. (2.) The affordable loss principle, in which entrepreneurs invest only as much as they are willing to lose. (3.) The crazy quilt principle illustrates how decision-makers consider partnerships as one priority. (4.) The lemonade principle, which means to embrace and leverage contingencies, and (5.) the pilot-in-the-plane principle, in which founders see the future as a co-creation rather than a prediction (Sarasvathy & Botha, 2022). Every principle will be discussed in-depth in chapter two.

The post-structural feminist theory expresses that the business and entrepreneurial world is subject to gendered processes (Ahl, 2004). Gender is viewed as socially constructed obligations and expectations for males and females rather than biological sex

(Ahl, 2004). Typical entrepreneurial success characteristics are widely connoted with stereotypical male adjectives, while female adjectives are not (Shinnar et al., 2012). This consensus has ultimately promoted a male norm in business and entrepreneurship (Gupta et al., 2009; Lewis, 2006). One main contributor to maintaining the gendered processes and the male standard is traditional family roles in which motherhood is a substantial component of the female gender (Ganong & Coleman, 1995).

Numerous international studies have investigated how decision-making is characterized. Several pieces of quantitative research focused on differences between the decision-making of the sexes and, thus, gender and business creation. For instance, Scheepers et al. (2018) focused on the influence of culture and career stages on decision-making preferences, while Frigotto and Della Valle (2018) researched the role of gender and decisions made under ignorance in entrepreneurial choices. According to critics, quantitative research hinders understanding of gender distinctions and the complexity of female entrepreneurship (Wu et al., 2019). Subsequently, the existing research falls short of illuminating the full scope of female decision-making and its unique influences, like being a mother. Motherhood includes societal pressure and demands intensive care for children, potentially influencing actions. Several researchers highlighted the need for further research, implying that gender-related factors can inflict "*gender-related barriers and constraints to the effectiveness of this decision-making ability*." (Brindley, 2005, p. 144). Frigotto and Della Valle (2018) suggested further investigating the role of being a parent and the correlation to decision-making preferences. Additionally, Arend et al. (2015) criticized Sarasvathy's research on decision-making, arguing that her sample was older, more male, and more educated than most entrepreneurs, as well as Perry et al. (2011), who called for broader research on various individuals. Given the lack of behavioral research regarding entrepreneurial mothers, this study aims to investigate the following research question:

To what extent do female entrepreneurs who are mothers use a more causal or effectual decision-making approach in their venture creation?

This qualitative research paper will contribute to the body of knowledge on entrepreneurial behavior by incorporating the motherhood aspect of female founders. This will help address the current shortage of research and provide real-world value to political decision-makers and the male-centered business world. In general, this paper aims to shift the focus to female perspectives and behavior, whereas researchers have mainly highlighted the male perspective in the past.

The present study is divided into six more sections: The theoretical framework, addressing the effectuation and causation approaches and gender studies in entrepreneurship; then the methodology section; the findings section, as well as the discussion and conclusion of the findings; and finally, the further research suggestions and references are presented.

2. THEORETICAL FRAMEWORK

This chapter reviews the different decision-making processes of Saras Sarasvathy. In addition, gendered entrepreneurship and feminist perspectives on motherhood are addressed. On this premise, a preposition is formed for this research to study the interconnection of those concepts.

2.1 Effectuation

In the entrepreneurship literature, Sarasvathy's (2001) introduced effectuation model offers an intriguing way to study decision-making and has since been reviewed by many researchers (Arend et al., 2015; Grégoire & Cherchem, 2020; Perry et al., 2011; Read

et al., 2009). In the decision-making model of Sarasvathy, effectuation is empirically grounded in observations of expert entrepreneurs' usual decision-making process (Saras D. Sarasvathy, 2001). Saras D. Sarasvathy (2001) established those as a viable alternative to conventional decision-making models, referred to as causation models. Causal models imply that the decision-maker establishes and commits to a goal, uses predictive tools to anticipate future events to avoid contingencies, and picks strategies based on the highest possible returns. It entails making judgments based on profitability projections and taking preventative measures to avoid unanticipated consequences. This means that causal models presuppose that the future is predictable (Frigotto & Della Valle, 2018). Their efforts will be directed toward acquiring the required means and resources to accomplish their objectives. Effectual models imply that entrepreneurs are less concerned with forecasting a risky and uncertain future than developing and executing a reality that modifies the future (Melo et al., 2019). Effectual entrepreneurs have a range of aspirations but are acutely aware of their available resources; they define achievable goals by first determining what they can accomplish based on the means available. Entrepreneurs exert control over the creation and control of the present rather than estimating the future by factoring in unanticipated scenarios and envisioned failures during the development process (Frigotto & Della Valle, 2018). Here, founders do not seek the maximum predicted returns; instead, they are governed by a minimax criterion based on the affordable loss to deal with imagined worst-case scenarios (Sarasvathy, 2009). There are different problems that the effectual space consists of. The following describes three characteristics of the effectual problem space that can be addressed by the effectual decision-making approach (Sarasvathy et al., 2014):

- (a) The Knightian uncertainty- describes how entrepreneurs organize their mode of action in near-impossible-to-predict conditions (Grégoire & Cherchem, 2020);
- (b) Goal ambiguity- describes how entrepreneurs lack clear definitions of their goals, and
- (c) Isotropy- describes difficulties in identifying relevant information.

Sarasvathy (2014; 2009) tackled parts of the effectual problem space by introducing five principles:

2.1.1 Bird in Hand

This principle is about the starting point of new venture creation. Entrepreneurs start by considering their identity, knowledge, and networks as a basis for entrepreneurial activities. Rather than starting with ends and effective measures to achieve that end, this approach focuses on using all resources available to achieve something potentially undefined (Sarasvathy et al., 2014). The principle is the core value of the effectuation theory, as it encapsulates how effectual entrepreneurs establish and maintain their enterprises. Where the planned strategy implies pursuing a predetermined company, the emergent approach frequently leads founders to new, unplanned business ideas based on what "they have in their hands.". Sarasvathy (2009) gives the example of an effectual cook who looks into the refrigerator and uses the available ingredients to create a meal. The causal approach would be to prepare a grocery list and meal plan to cook only after acquiring the planned ingredients. Concluding, this principle describes how available means drive effectual decision-makers.

2.1.2 Affordable Loss

The affordable loss principle states how entrepreneurs pursue opportunities without investing more resources than they can and are willing to afford to lose (Saras D. Sarasvathy, 2001). The op-

tions of action are determined by the best way to use held resources to create new means and ends and dictate the direction of the efforts. The goal is to create future business options and experiment with as many strategies as possible while limiting downside risk. It is the opposite of the causal approach, driven by expected returns and predetermined aims and characterized by accurate options analysis. On an individual level, this principle varies from entrepreneur to entrepreneur. It considers the current capital available and the personal commitment in worst-case scenarios without the need for future business predictions. Thus, the principle is not confined to financial risks but also considers the emotional impact of risky actions on entrepreneurs. Sarasvathy (2009) provides the example of an entrepreneur that decides to invest two years of time and part of her savings in her new business, regardless of what she earns. This principle helps entrepreneurs choose between different actions by considering if a direction is worth taking, considering the affordable loss. It thus partly tackles the problems of isotropy (Sarasvathy & Botha, 2022).

2.1.3 Crazy Quilt

The unknown outcome of an actual quilt production, in which the crafter can choose and ensemble fabrics as creatively as possible, inspires this principle. The quilt will eventually need the help of several other crafters to achieve its purpose of looking beautiful and providing warmth. This metaphor describes the effectual way of attracting partnerships where stakeholders self-select themselves into the business process: being committed without having a prediction of the business ends and promised upsides (Sarasvathy & Botha, 2022). One crucial role is played by self-selected outside stakeholders that the entrepreneur may use to creatively cut slack in resources and get investments to construct new opportunities and widen the affordable loss (Sarasvathy & Botha, 2022). Entrepreneurs that follow the effectual approach use incremental goals that include customers and business partners rather than, as is usual for the causal method, using strategic goal planning and competitive analysis. Partnerships do design opportunities and new possibilities by using their available means. Interactions with stakeholders and new partnerships bring out new commitments, options of action, and deals. New alliances will reduce uncertainty and extend the means of the "bird in hand principle" (Sarasvathy & Botha, 2022). For example, an architect with entrepreneurial aspirations meets a writer and a graphic designer, and together, they decide to create a book about architectural landscapes. In a metaphorical sense, this quilting project produces something completely new and eventually unexpected.

2.1.4 Lemonade

Failures and unexpected events define all entrepreneurial processes, but how entrepreneurs deal with contingencies differs considerably. It lies in the hand of the entrepreneur how to react when "life throws lemons at you [...]" (Sarasvathy, 2022, p. 39). When facing the unexpected, the causal approach relies on pre-existing knowledge and a detailed business plan to form a competitive advantage. Even if unforeseen events occur, the goal is to follow the plan and achieve the set goals within the set time frame. In contrast, the effectual framework suggests embracing surprises and leveraging contingencies instead of trying to control an unpredictable future. Effectual entrepreneurs see the possibilities of transforming failures into positive opportunities and transformations that may end in innovation. Unexpected circumstances affect individual processes and possible options for action. Contingencies are less likely in the effectual space to become a problem because they are not tied to specific goals or targeted stakeholders (Sarasvathy & Botha, 2022). Effectual entrepreneurs will likely change and adapt plans to make things work by exploiting instead of resisting. Goal ambiguity serves as a solution to unexpected failures and events that eventually result in

innovation that was not anticipated initially (Sarasvathy & Botha, 2022).

2.1.5 *Pilot-in-the-Plane*

Causal entrepreneurs try everything to predict and control the uncertain future rationally and accurately based on their knowledge. They believe that if one can predict the end, one can also control it. Effectual entrepreneurs, on the other hand, think that the future is nothing that can or should be expected but instead is something to try controlling and cocreating (Sarasvathy & Botha, 2022). The crucial point of the venture's future is a non-predictive future in which the entrepreneurs themselves hold the future with the means that are in their actual control. Activities that lie within the entrepreneur's control can help achieve desired goals. Sarasvathy (2009) states the example of a plane flight where people are happy to know that, besides the auto-pilot, an actual experienced human pilot sits in the plane that can react to arising problems. Like a pilot, entrepreneurs can detect issues and opportunities by being the pilot of their enterprise without the need to predict the flight but with the lever in hand to control it in uncertainty. With this principle, the entrepreneur decides on actions based on their own abilities and aspirations, not on predictions. In this way, the isotropy problem can be solved by focusing only on what is possible and not on predictions or other outside factors (Sarasvathy & Botha, 2022). The pilot-in-the-plane principle is the fifth and final effectuation principle.

2.2 Female Entrepreneurship

2.2.1 *Gendered Processes*

The influence of gender on entrepreneurial processes and motivation has been studied in various world regions, such as in the study by Haus et al. (2013). This study revealed no difference in entrepreneurial intention between men and women but a difference in the ability to realize entrepreneurial intentions. Several other comparative studies of men and women have determined that female entrepreneurs confront different institutional barriers when launching a new business, such as access to capital, cultural perceptions, less education, access to networks and training, and significantly higher perceived barriers (Chowdhury & Audretsch, 2014; Fay & Williams, 1993; GERA, 2021; Malmstrom et al., 2017; Shinnar et al., 2012). Several barriers that female entrepreneurs face are the result of historical contexts such as the traditional family construct and gender segregation, which resulted in different social and professional relationships for men and women, ultimately promoting a male norm in the business world (Duffy, 2007; Marlow & McAdam, 2013). Even after the feminist movements of the 1960s and the rise of female entrepreneurship globally, a gender disparity in business development persists (Brush et al., 2014; Koellinger et al., 2013; Melo et al., 2019; Mills & Williams, 2021). This suggests that, despite women's increased motivation to start businesses, their ability to do so is distinct from that of men.

To fully grasp the dimensions of female entrepreneurship and the burdens women experience, the concept and influence of gender need to be understood (Ahl, 2004; Henry et al., 2016). The post-structuralist feminist theory (PSF) states that while biological sex is inherited, gender is socially constructed and "done" by society (Ahl, 2004). Upbringing, education, and social norms created characteristics that today are considered masculine and feminine adjectives. Thus, biological sex is detached from the feminine and masculine, which society sees as genders. The PSF states that the male norm, which was upbrought by social constructions of gender, is not easily overcome by women adapting to it but by society changing gender-related stereotypes (Ahl, 2004). Gender-related stereotypes are a fundamental factor in women's unequal formation of new businesses (Rubio-Bañón & Esteban-Lloret, 2016). In contrast to the typical features of the male norm

worker, women are stereotypically linked to mother-like dispositions like a warm and nurturing nature (Ganong & Coleman, 1995; Gupta et al., 2009). Masculine characteristics are considered aspirational traits that entrepreneurs must possess, making it more difficult for women to conform to the entrepreneurial norm (Gupta et al., 2009). PSF also suggests that the social mother role is one main contributor to why women are more challenged in the labor and entrepreneurial sectors (Williams, 1989; Wu et al., 2019).

2.2.2 *Motherhood and Decision-Making*

The concept of traditional motherhood sees women as the ideal and primary caretakers of children by sacrificing personal interests and providing intense child care (Gross, 1998). In this view, the father is the traditional breadwinner providing financially, leaving mothers responsible for family matters and constraining women in the working sphere (Pérez-Pérez & Avilés Hernández, 2016). Still, there are numerous female entrepreneurs who establish and own businesses for a variety of reasons. One motivator for mothers to start a new venture is to combine the working life and the responsibilities of being a mother (Banikema & Tite, 2018). Being a mother and an entrepreneur requires women to adjust their plans and business creation to a greater number of variables than men (Pérez-Pérez & Avilés Hernández, 2016). Due to being the primary caretaker, balancing family and work-related responsibilities requires skillful venture creation. Entrepreneurship is defined by flexible working hours and location, giving women autonomy in balancing their family obligations and professional aspirations (Semerci & Volery, 2017). Even though the start-up environment is less suited for mothers (Startbase, 2021): In a 2017 study of 99 Designs, 69% of mothers stated that they see the flexibility of owning a business as the main advantage (Designs, 2017). The effectuation logic is well-known for its adaptability, constant use, and exploitation of unexpected contingencies. Consequently, this paper argues the following preposition:

Proposition 1 (P1): Entrepreneurial mothers utilize a more effectual decision-making approach.

Working mothers face various kinds of discrimination in the professional sphere. Discriminating societal views of working mothers are reflected in the media, where entrepreneurial women are frequently portrayed in relation to and asked about family and household matters, while male entrepreneurs are not (Achtenhagen & Welter, 2003; Eikhof et al., 2013; Ljunggren & Alsos, 2006). Furthermore, discrimination against mothers being socially seen as the primary caregiver is reflected in the statistics showing that women work more part-time or not at all after having children compared to fathers (Alakeson, 2012). Data also shows that mothers working in traditional employment are less likely to be hired, are offered lower salaries, and are perceived as less committed but more incompetent (Correll et al., 2007). Additionally, a recent study showed that the time of paternity leave influences a woman's chance of getting hired: the shorter the paternity leave, the higher the chance of not getting employed and being classified as egocentric and incompatible to work with (Hipp, 2018).

In the home sphere, most working mothers today are burdened with the "double-shift" of working in their jobs and working extra hours in their households, as reflected by a study in which women state that they are the primary childcare providers (Designs, 2017). The work-family conflict is seen as a significant transcendental component of starting a new venture with current resources available for mothers (Wu et al., 2019) and is one barrier that women face in full-time employment, motivating them to seek alternatives (Banikema & Tite, 2018; Elam & Terjesen, 2010). Those facts lead to several push factors why

mothers establish businesses. The assumption of this paper is that women start businesses out of necessity to combine work and family, flee discrimination in conventional employment, or simply seek more freedom in making flexible decisions. This paper assumes that this will happen based on the available knowledge and resources at hand, even if those are eventually restricted. Accordingly, this paper argues the following:

Proposition 2 (P2): Entrepreneurial mothers will start a new venture with a given means instead of a detailed business goal.

Researchers found that women focus more on what is potentially lost, fear adverse outcomes more than men, and are generally more risk-averse (Caliendo et al., 2009; Weber et al., 2002). The effectual entrepreneur focuses on affordable loss rather than expected returns, securing only to invest resources available to lose. One might assume that women use the affordable loss principle. Controversially, Frigotto and Della Valle (2018) discovered that women do not rely more on the effectual criterion of affordable loss than men but did not include the role of being a parent. Having dependent children necessitates massive financial commitment and may shift the economic focus on family provisioning (Alakeson, 2012). Consequently, entrepreneurial mothers might tend to focus more on affordable losses because they are subject to a high level of responsibility towards family and children. This paper assumes that if investments or high-risk decisions need to be made, the propensity to focus on what is at stake might be higher than the expected return. Therefore, this paper suggests:

Proposition 3: Entrepreneurial mothers will focus more on affordable loss than on expected returns.

3. METHODOLOGY

3.1 Research Design

A semi-structured interview was designed to qualitatively assess the respondent's preference for causation versus effectuation as her entrepreneurial decision-making reasoning. The procedure of semi-structured interviews was chosen because of its unique characteristic of flexibility and response to individual situations (Fylan, 2005). This practice enabled modification of the interview plan. Instead of strictly planned questions, open-ended questions with follow-up questions were used to work around the research area with the respondent and find out why and what seemed important to them. Besides, semi-structured interviews are well suited for sensitive topics (Fylan, 2005). Through its fluid structure, the interviewee can respond with follow-up questions to what has been said. Previous comparative research on effectuation and causation used qualitative measurements (Melo et al., 2019; Scheepers et al., 2018). Those scale measurements only present differences in male and female experiences but exclude an in-depth understanding of female experiences and barriers. All the data were collected cross-sectionally to compare all findings at the same point in time.

This research used Germany as a case study for female entrepreneurial decision-making. In 2018, only 15.1% of German start-ups were founded by women, whereas the E.U. average was 15.6% (Kollmann et al., 2017; Steigertahl et al., 2018). Further, Germany is known for its traditional view of motherhood and family responsibilities, promoting a more stereotypical view of women (Gottschalk & Niefert, 2013; Jurczyk et al., 2019; Welter, 2004). Other comparable qualitative research studies on German entrepreneurial decision-making used predominantly male subjects in their sampling and excluded the female perspective (Hillmer, 2020; Kraaijeveld, 2015; Uphues, 2013).

3.2 Data Collection

3.2.1 Interview Information

In total, 7 interviews were conducted. Even though the sample size is 7, the depth and quality of the interviews provided valuable data for validating the proposed proposition. All interviews were conducted in the founder's mother tongue, German, and lasted an average of 30 minutes. The variety of female founders was diverse. In Appendix 1, a summary of the entrepreneurial profiles, including the numerous control variables to comprehend the data set fully, is attached. The respondents of this study were not informed about the different effectuation principles or interview questions to prevent bias. The interview was recorded, and the parts corresponding to the theoretical framework were transcribed and translated for validity.

3.2.2 Inclusion Criteria

The entrepreneurs were selected based on the following characteristics: German nationality, founder of a German start-up, female, and mother. Being a mother is categorized as having a dependent child under 18. This study's sample consists of five female entrepreneurs who launched their businesses while already being a mother; one entrepreneur who already had a business became a mother and founded several more; and one entrepreneur who became a mother within three years of the original enterprise foundation. As of time constraints, the chosen sampling strategy was convenience sampling. The entrepreneurs were selected based on ease of access and those who could be interviewed the soonest. In total, seven German founders provided valid responses for this research. Their average age was 44 years; the youngest was 36 years, and the oldest was 56 years. The entrepreneurs had, on average, two children, ranging from having 1 to 4 children. On average, the age of the established businesses was seven years, with an average number of three employees ranging from 0 to 11. The participants engaged in various markets, from the beverage to consulting sector.

3.2.3 Interview Questions

In total, the interviewees were asked 12 questions (Q1 to Q12; see Appendix 3). The first 9 questions were designed to determine respondents' decision-making practices based on theoretical implications. The intent and design of these were to determine the respondent's decision preferences. Each of the five principles was addressed by at least one question. The question items were inspired by the effectuation measurement dimensions retrieved from Brettel et al. (2012) and elements from Sarasvathy (2001). Further, two questions (Q10 and Q11) were dedicated to being a mother and how that has eventually influenced entrepreneurial decisions. The answers to the motherhood-related questions assisted in determining the eventual influence of motherhood on the respondent's decision-making. In addition, question 12 was posed as a control variable to determine whether the entrepreneur considers their decision-making practice, in general, to be more causal or effectual in comparison to their achieved score.

3.3 Data Analysis

The qualitative data sets were analyzed using deductive content analysis. According to Mayer (2015), this analysis type uses a specific theory that has been verified to test it against data. This paper uses the existing theories of the theoretical framework (see section 2) to test them against the emerging propositions. Data preparation was carried out for the analysis of the results. To apply and connect the theoretical framework smoothly to the questions asked, the set was sorted into five categories inspired by the five effectuation principles (see Appendix 2). The reason for this categorization was to keep the terminology consistent with prior effectuation research by Sarasvathy (2001). This standardization

allows potential future research to build upon the findings of this paper.

Similar to the question categorization, the answers of the interviewees were analyzed and categorized into a rather effectual or causal decision-making preference (see Appendix 2 and 3). Those preferences were inspired by the methodological considerations of the quantitative effectuation research of Brettel et al. (2012) and helped operationalize responses. Brettel et al. (2012) covered four out of five effectuation principles by utilizing four preference dimensions. However, for this research, this paper added a preference dimension of "predictive vs. non-predictive control" to analyze the fifth effectuation principle of Sarasvathy (see section 2 (5)) and complete the preference dimensions. The usage of preferences assisted in differentiating respondents' answers easily, in line with prior research. Based on gained knowledge from papers and interpretation of respondents' answers, preferences were determined. The following examples demonstrate how respondents' preference choices were assigned: If one entrepreneur gave answers and a situation in which their business was "*specified on the basis of given means/ resources*" (Brettel et al., 2012, p. 181), a preference for means was noted. Consequently, the entrepreneur would have received an effectual answer score. A preference for goals was detected if the entrepreneurs' answers claimed that their business was "*specified on the basis of given project targets*." (Brettel et al., 2012, p. 181). As a result, the entrepreneur would have obtained a causal answer score in the answer outcome table. The theoretical implications of Sarasvathy and Botha (2022); (Sarasvathy, 2009) in section 2.1.5 were employed to determine the fifth preference of predictive or non-predictive control. Entrepreneurs received answer scores based on these. If a response could not be categorized as either, a hybrid approach of effectuation and causation was added. This resulted in some entrepreneurs receiving higher scores than the questions asked.

Regarding the answer outcome table (see Appendix 3), "E" was used for an effectuation preference and "C" for a causal preference. If ambidexterity in decision-making approaches was noticed, the answer boxes were marked with an "E+C" and consequently added to the scores. If a respondent did not provide a clear answer, an "x" denotes the answering field to prevent using and interpreting inexplicit answers. If the respondents included terms around the concept of motherhood, an "*" was added to the answer box. This measurement was used to see if entrepreneurs mentioned their motherhood through questions that only related to effectuation and causation. This coding will aid the analysis by drawing links between specific decisions and motherhood. The answer scores consist of the frequency of how respondents answered effectual or causal and are added up.

To better analyze all the findings, the answer scores were utilized to test the propositions. A table was created with the scores related to the propositions (see table 1). This table summarizes all questions regarding the propositions. P1 was made up of the total answer score of each entrepreneur, P2 of the scores of Q1, and P3 of Q2 and Q3. Based on the higher effectuation or causation score, the proposition was either supported ("S") or not supported ("NS"). The total of S's and NS's confirmed or denied the stated propositions. This qualitative content practice allowed to find precise results and input for the proposition testing.

4. FINDINGS

The findings of the interviews were structured within the given principles of effectuation by Sarasvathy (2001). Within the core principles, additional responses were listed as some entrepreneurs mentioned motherhood even if not explicitly asked after. Additionally, section 4.6 comprises the questions pertaining to

motherhood, while section 4.7 is devoted to further questions. Finally, section 4.8 covers the emerging stories of the entrepreneurs while being interviewed. Due to this paper's limited scope, only results directly related to the research subject and prepositions could be included.

4.1 Bird in Hand

4.1.1 Entrepreneurial Answer

The following section describes how entrepreneurs (E1 to E10) utilized the bird in hand principle. In this analysis, five responses from entrepreneurs contained effectual factors, two contained causal factors, and one was a mixed approach. Both entrepreneurs stated that they built their ventures upon an emerging business idea. As demonstrated by E1, who stated, "*I rather think I saw the gap in the market. [...] I didn't set up the company to become an entrepreneur. The goal-setting followed the product. First, there was the product idea and then the goal.*" E7 was already a business owner before starting her own company. She had prior business with her then-husband. After it was clear they would divorce, she took her part and her ideas of the company and established her own. She concluded, "*So the foundation was already in place, and I only became self-employed because I said I'd [...]. Then do everything under my name [...].*"

The owner of multiple businesses, E4, declared her intention to become an entrepreneur. Prior to approximately twenty-five years ago, she stated that her primary objective was to amass wealth as quickly as possible. However, she later stated that plans change, and new opportunities arise over time. While her initial plan was to open a bar, she realized and developed other businesses (see Appendix 1) with the assistance of partnerships and numerous contacts. She said, "*And then over the years [...] I've had a good network and contacts, whether that was with the bank or with customers, so that I could build on that.*"

E3 and E5 explain the objective setting in detail. E5 stated that she had no extraordinary ideas beyond the desire to be self-employed. This objective served as the starting point for her business creation, and she outlined her strategy for achieving it, such as joining a transfer company. E3 specified her desire to become an independent attorney by identifying each step required to achieve this objective. She recalls moving from a city to a town to increase her chances of success and studying all the necessary legal fields in advance to become an independent attorney. E3 reflects both entrepreneurs, stating, "*It was not like I had a great business idea [...] the goal was to be self-employed.*"

4.1.2 Influence of Motherhood

Three business owners mentioned their mother roles in response to Q1. E2 remarked that she discovered an entirely different endeavor than she anticipated. E2 explained that she had experience in food industry start-up creation and business consulting. She said, "*I always thought I would launch a food product, but after I got my child, I wanted to launch products for children.*" Likewise, E6 stated that a playground inspired her business idea, "*A country's future sits at the playground: the children in the middle and the mothers around.*" This finding motivated her to focus on coaching mothers and fostering untapped potential. She observed many mothers transitioning into part-time employment and stereotyping working mothers as no longer employable. E5 acknowledged that her desire to spend more time with her children than she could as an employee was a major factor in her decision to pursue entrepreneurship. She said it was hard to meet both her employer's and her own needs as a mother.

4.2 Affordable Loss

4.2.1 Entrepreneurial Answer

The section that follows describes how entrepreneurs apply the principle of affordable loss. Three respondents included effectual elements and two causal elements in their responses to Q 2, while two took a mixed approach. E2, E3, and E6 were all strictly effectual. E3 added that she founded her business with a partner because she was risk-averse and did not follow the capital increase. Both E2 and E6 expressed a dislike of bank loans. E2 stated that profit always takes precedence, regardless of its size. She had her equity, which she was okay with losing if something went wrong, but she refused to invest beyond that amount, stating, *"I had €10,000 and said, 'Okay, I now have €10,000; either it works, or it doesn't.'"*

Both E1 and E7 adopted a mixed strategy, stating that they would rely on expected returns and precise financial planning while being cognizant of the projects' potential drawbacks. E7, the founder of a print magazine, exemplified both viewpoints by stating, *"I can only print a magazine [...] if I know it is financed, but if there is any doubt, it must wait another month [...]."*

E4 and E5 were arguing causation, stating they were focusing on the upsides of their investments and that years of experience assisted in investment decisions. A reflection of this attitude was given by E4, who remembers her trust and optimism at the beginning of her first venture when a bank denied her a loan for her first shop, *"I put the hall down anyway, even without the bank support. Something like that is growing. And when the banks then see, okay, they're serious, then the next loan is secured."*

In Q3, one respondent had a purely effectual factor, three had causal aspects, of which one was mixed, and two answers were not related to the theoretical framework. E1 and E2 were purely effectual reasoners. E1 referred to her responsibility for her investors and that she would give everything to prevent downsides, expressing her feelings as, *"It would be horrible if there were loss at the end."*

E3 had ambivalent views and states that she is generally reserved in making investments but that there are moments in which she shoots in money to get rewards back, referring to the COVID-19 pandemic, saying, *"The economy has, of course, gotten drastically worse and then better again. It's up and down, and you have to be willing to take risks."*

E4, E5, and E7 had causal reasons. E5 and E7 explained that they grew with their entrepreneurial experience. E5 stated that she has become more interested in investments and has faith in them, but she still evaluates each step, whereas E7 indicated faith in her gut instinct. Conversely to E7's attitude, E4 describes herself as bold, optimistic, and risk-taking, explaining that she has great concepts and is confident about their return but only knows if it pays out in the end. She described the story of signing her latest credit saying, *"[...] you have to have the guts to sign a 1 million (loan)."*

4.2.2 Influence of Motherhood

Three entrepreneurs mentioned their mother role while answering Q2 and one while answering Q3. E2 described how the paternity leave allowed her to try out self-employment without risking too much because she would have been able to return to her old job afterward. E5 described in Q2 that she is eager to focus on the financial upsides of her business investments and finds this a defiant reaction against former employers that underestimate the potential of mothers. She also mentioned that she could focus on those because, *"[...] we are two earners in the family. Of course, that also plays a role. The pressure would be completely different if I became a single parent."*

E2 and E7 indicated in Q2 and Q3, respectively, that because of the responsibilities of being a single mother, they are less open to financial risk, represented by a statement of E2, *"I am a single parent, I have to somehow feed my child from it. So that's why I'm less willing to take risks now."* E6, who is in a relationship, described that she is aware that she needs to bring in money because she has many children to feed that get more expensive with age. She and her partner share the same financial responsibility.

4.3 The Crazy Quilt

4.3.1 Entrepreneurial Answer

The following is an analysis of the extent to which entrepreneurs embraced the crazy quilt principle. For Q4, all respondents had mixed answers. E3 and E5 stated that they were aware of market analyses and carried out small analyses but relied more on partnerships and customer contact. E3 further explained that partnerships for her were crucial and prioritized before opening her law firm and that her market analysis was relatively small by checking the numbers of practicing lawyers and potential clients. She described that she needed several measures to secure a relatively smooth start in her new East-German home as a West-German woman (see section 4.1.1). She said her contacts in her new home gave her confidence to find clients and helped respond to sexist customers who would not work with a female lawyer. She described the advantages of business partnerships in her starting phase, *"I also had a man on my side, i.e., a colleague and an East German colleague, and, of course, his acquaintances came to the law firm as clients."* In addition to previously established partnerships, E1 and E6 described detailed market analysis and planning, required by their start-up grant, represented by the statement of E1, saying, *"Business plan, liquidity plan, profitability forecast, i.e., the market is at the critical point."* E2 and E4 stated they did not use market analysis, but they described measures to explore their business markets were causal elements of market analysis. The women explained how they were analyzing and checking competitors. At the same time, both stated that partnerships were crucial in establishing and significantly shaping their businesses. E7 described taking advantage of alliances and studying the competition by evaluating their publishing numbers but pointed out the following, by telling, *"I think I'm less of a commercial person. Strategy? Well, I think a lot comes out of the gut and from the experience I have."*

Regarding Q5, two responses were solely effectual, four were inconsistent, and one was unusable. Both E4 and E5 stated that they utilized their partnerships and clients to mitigate risk. E4 emphasized that her employees are the most critical stakeholders and that she makes every effort to reflect herself as a leader and foster a positive work environment. E5 stated that she values her clients and said, *"[...] that you have certain [...] network where you say you could always get one or the other order in an emergency if things aren't working at all."*

E2, E3, E6, and E7 had a mixed approach. E6 and E7 both planned and analyzed competitors and emphasized good networks. E2 and E7 added that they minimize risks through pre-agreements, contracts, and detailed financial planning. E3 stated that she analyzed what law field it takes her to become successful, already accepting jobs while studying to gain practical knowledge to become an independent lawyer. Besides, the agreement to cooperate with another lawyer before starting the business, she stated, was the main risk-minimizer, saying, *"Jumping in at the deep end alone or in pairs (...). And that was, of course, certain security because the law firm was already established."*

4.3.2 Influence of Motherhood

There have been no responses related to motherhood.

4.4 Lemonade Principle

4.4.1 Entrepreneurial Answer

The following is an evaluation of the degree to which entrepreneurs have adopted the lemonade principle. For Q6, six entrepreneurs contained effectual factors in their reasoning, while one had a mixed approach. E1, E3, E4, E5, and E6 described their businesses as agile and lean, able to pivot quickly. E1 described failed loans or changing partner expectations and requirements by stating, *"We are not a giant steam engine that turns indefinitely [...], but we can react very quickly."* E7 said that she has trouble sleeping when bad things happen out of the blue but that her experience and ability to rethink help her find solutions, even if they are different from what she had planned.

E2, the toy company owner whose majority of products are paper-based, had causal and effectual factors described. She tries to follow her plan without orientating on unplanned events or competitors. Simultaneously, she brought the example of how the current paper shortage and price increase challenged her paper-based business and taught her to develop smaller products without a huge need for paper. She said she tries, *"[...] to manage the company in a way that I always stand on several legs so that if something breaks, the whole company doesn't collapse."*

In Q7, four were purely effectual, two entrepreneurs had purely causal reasoning, and one was mixed. E3, E4, E5, and E7 were all effectual reasoners. E4 stated that things frequently occur differently than desired, stating that some goals must be reassessed but that new opportunities arise that bring something new. Based on her knowledge from initially focusing on a single target group, E5's goal-setting shifted to include adapting to a different coaching target group. Reflective of all the effectual answers, she said, *"The goal-setting changed. [...] The way to achieve the goal has changed again and again. The strategy itself."*

E7 stated she did not modify her original business objective but adapted the means to achieve it and factored in delays, stating, *"What doesn't work [...]. Then I'll plan it in for the next year."* E1 and E2 stated that their plans did not change and did not evaluate further.

4.4.2 Influence of Motherhood

Regarding Q6, E3 indicated that one major disruptive event happened within the first years of her business creation and shortly after her child was born. She stated that she had only recently started her firm and that her co-lawyer had committed fraud. She could not have paternity leave, was a single mother, and therefore needed to react to those circumstances by focusing on partnerships with other lawyers and working remotely to take care of her child, saying, *"You have to deal with the situation and grow."*

E3 added to Q7 that having her child challenged her time management. She states that the wish to spend time with her child fostered her ambition. She describes how she rescheduled or gave court appointments in the evenings away to spend time with her child, *"In '96, I was absolutely career-oriented also in the years afterward. But I also wanted to spend time with my child. This combination worked."* E5 stated that her original goals of having time for her family and being an entrepreneur "on the side" changed to, *"Of course, my children are bigger now and more independent, so my focus shifted to being an entrepreneur and having my own business."*

4.5 Pilot in the Plane

4.5.1 Entrepreneurial Answer

In Q8, two respondents had effectual elements in their answers, three were using mixed approaches, and two responses were not valid. E2 and E6 were purely effectual and said they were influencing their markets, even on a small scale. E2 illustrated her

influence by saying, *"At Amazon [...], we are probably one of the market leaders for our area [...] because many simply copy us."*

E4s, E5s, and E7s answers were mixed. Both said they were chasing opportunities already in the market but simultaneously creating a new market. E4 believes that her market is rather old and steady but that she influences the status quo by bringing quality products. E7 gave a representative statement, *"The market is very old and entrenched, especially the print media. And I think my goal is to do something against that."*

In Q9, all respondents had effectual elements in their answers; one was purely effectual, four were mixed, and two were purely causal. E3, purely effectual reasoning, stated that she could only react to market changes and believed, *"It (the market) is hard to judge. We can only respond."*

E2 and E4 describe their market's future as predictable based on past knowledge. In contrast, E2 does not weigh predictions; instead, she influences the future by creating new products. E4 describes that she is sure of predicting some of her business fields with the help of her past knowledge. Simultaneously, she says that planning is excellent but often fails and is not practical, *"I can create the most fantastic plans. But if I don't have these little building blocks that keep it all going, everything just sounds good."*

E5 and E7, responding causal, see trends in their market and huge potential, both speaking optimistically. E5 states that she is sure of future control based on her acquired knowledge and considers the market stable, saying, *"I don't see the future as uncertain."*

4.5.2 Influence of Motherhood

E2 stated that she does not focus on predicting the toy market because doing so provides her with no benefit; in general, she rarely considers it. As long as she has a young child, she is not willing to work 50 to 60 hours to expand her business.

4.6 Motherhood

Regarding Q10, E3 and E4 were not influenced by motherhood as their businesses were already when they became mothers. E1 and E2 stated that their children were the main inspiration for their businesses. E1 stated that her children give her constant inspiration, and she was uncertain if she would have found the same company without being a mother, stating, *"The company would not exist without my children."* E2 said that the security of her paid paternity leave gave her the time and room and that being a mother influenced her to establish a company. E4, E6, and E7 stated that they wanted to create more flexibility for their family. This flexibility was characterized by spending more time with the family and scheduling their schedule. A representative for all three respondents was E7's argument, *"Basically, I can take my time when I need it."* E5 said that after working full-time in cooperation before becoming a mother, she returned part-time. She experienced male workers "admiring" her for being able to leave after two pm to go home to care for the kids. She stated that many ignored the fact that she had the same work burden as them at work and would return home to two children with another workload. After quitting this job and looking for other part-time jobs, she often heard that she was overqualified and was unable to find a suitable job. This job situation then influenced her to establish her firm.

In Q11, E1, E4, and E5 stated that they consider their children when it comes to organizational decisions. But do not consider them when it comes to financial decisions. Represented by E5's statement, *"I separate them very strictly because that's dangerous if my moral quandary becomes: your family should be more important to you than the investment. So, I separate that in this case."* E5 also stated that self-employment allowed her to schedule and extend her daily work breaks so she can be there for her

children. E3 also said that she canceled court dates if they were far away and could not bring her child. E2, E6, and E7, single mothers, said that with their children, they become more risk-averse because of the responsibility to take care of them and have a huge financial obligation. Besides, E2 stated, *"If we had wanted, we could have been much further if I didn't have a small child."*

4.7 Further Question

Question 12 was concerned with the self-assessment of the entrepreneurs of their decision-making preferences. All entrepreneurs included the effectual decision-making approach, while three clearly stated that they use a mixture of both. E3, E4, and E7 stated they act purely effectual. E3 stated that she decides more effectually and uses no concrete planning but drifts more. She also mentioned that she was aware that being an entrepreneur brings her many benefits and severe disadvantages. Being a single mother with no family support in her adopted home, she knew she needed to be agile. She often handled hurdles like a sick child through constant adaption and rescheduling. E7 justified her decision-making by her experience and by saying, *"I think I'm always more out of my stomach. So with everything, no matter what."* E1 remarked that her gut feeling helps her catch nuances, but this does not exclude her causal thinking. E2 had a similar process and stated that she is, on the one hand, focused on numbers and balance sheets and is fact-based, and only grows out of cash flow, but also intuition. Conversely to E2, E7 says she has strong causal reasoning but relativized these claims by saying, *"But it's not like I have the goal first and then think about how to get there, it's a very strong impulse that also exists, and then I go after it."* Similarly, E5 said she prefers to act causal and follows her business goals but is frequently overtaken by an effectual change of plans.

4.8 Emerging Stories

During interviews, respondents shared relevant stories about effectuation and motherhood. While introducing their businesses, E5, E6, and E7 explained that they target women with their businesses. All three emphasized the importance of providing support and opportunities for networking. They were all constructing their firms on the premise that the future would bring more opportunities and empowerment for women. These statements were echoed by E7, who stated, *"I am dealing with the topic of equality, i.e., the advancement of women, and empowerment. I believe that there is massive movement and will be done and that change cannot be stopped. And I think that will also have a positive impact on the market at some point."* E1 reported that she never felt that being a woman and a mother handicapped her regarding financing possibilities. Instead, her previous job confronted her with men who told her that her upcoming promotion was off because she had given birth to her second child, thus contributing to her becoming an entrepreneur. Superiors said to her that this would hinder her availability, describing, *"My previous jobs have often brought me to this borderline where men have told me, 'Sorry, but unfortunately promotion is no longer an option because you have now had your second child and that means for the next three years you will probably then only be available to a limited extent.'"* E2 states that starting a business evolves out of an emergency for many women because they cannot manage the sick times of their children with the employer's conditions. Many women are unable to get a job then. She often experiences this ideal picture of mothers founding a business while on paternity leave. While it worked out great for her as she had an "easy" child and financial security, she noticed many women struggling and unable to succeed. E6 was talking about a similar situation and added that part-time work is a massive burden for mothers because family and household chores, besides working, are still put on women, saying, *"They were no longer able to have time to set*

up a start-up." E5 and E6 both described their environments where women struggle with constant stress and the feeling of being unable to satisfy their work or family. Also, they are unable to satisfy themselves because women need to hold back in all parts of their lives. E5 sees that as one of the push factors for females to become entrepreneurs. But she noticed that if mothers found businesses, they were put in stereotypical boxes, stacked too deep, played themselves down, and asked for too low prices in salary negotiations. E1, E2, E3, E5, and E7 all talked about how sick children are a recurring theme in their entrepreneurial lives and influence. E1 talked about one talk she gave in front of university students to pick up her children because the daycare called that both children were sick. E3 spoke about the conflict of conscience when important meetings were scheduled, but her child was ill at home. E7 said she is glad she has after-school care but stated that the pandemic was stressful with three children at home, saying, *"At times I only worked in the evenings when the children were in bed."* E1, E2, E3, and E5 also emphasized that relationships and partnerships are crucial in difficult times. At times, especially if children are sick, a family and nanny network is essential to keep the business running. E1, whose husband is equally busy with work, illustrated the importance of private care networks by stating they moved back near the town of their parents, *"[...] because our families are the main support here."*

The findings show a preference for effectuation. Besides, the analysis showed that being a mother has some influence on decision-making preferences.

	E1	E2	E3	E4	E5	E6	E7	Outcome
P1	S	S	S	S	NS	S	S	P1 confirmed
P2	S	S	NS	S/NS	NS	S	S	P2 confirmed
P3	S/NS	S	S	NS	NS	S	S/NS	P3 confirmed

Table 1: Outcomes of Propositions

5. DISCUSSION AND IMPLICATIONS

The success of entrepreneurial endeavors depends in part on decision-making processes. One possible identified factor influencing the decision-making of female entrepreneurs is motherhood. According to the literature reviewed for this paper on mothers, they face specific hurdles in the business world that influence their employment and entrepreneurial ventures. This study's purpose was to identify the decision-making preferences of entrepreneurial mothers. For that, three hypotheses were tested based on the findings section.

5.1 Proposition 1

Data confirmed that entrepreneurial mothers utilized a more effectual decision-making approach (P1). Several clusters of decision-making reasoning have been identified. First, evidence suggests that effectual decision-making helps mothers leverage contingencies. Data described not only business-related contingencies but also children-related ones. According to the data, mothers must be able to adapt quickly to unforeseen events involving their dependent children. These findings suggest that effectual decision-making aids in adjusting and rescheduling more than sticking to a more static plan, comparable to a causal approach.

Overall, these findings are consistent with the findings reported by Designs (2017) and let one conclude that the flexibility of working hours might be the greatest benefit of effectual entrepreneurship for mothers.

Second, following the theoretical framework, most entrepreneurs emphasized the significance of partnerships for establishing and expanding their businesses. Results indicate that partnerships were not only tied to the commercial side of venture leadership but also to the private side. These results provide evidence to suggest that mothers require a network of acquaintances for child-care in order to mitigate unforeseen circumstances. In addition, findings suggest that a focus on networks may compensate for the lack of female support that is lacking in the general business world.

Third, the results indicate that entrepreneurs behave ambidextrously when it comes to making decisions. Data indicates that mothers not only self-evaluate their decision-making majority as a mixed approach but also frequently employ both causal and effectual elements. These results indicate that both approaches can coexist in a hybrid model without the entrepreneur focusing on one exclusively. These findings are consistent with Sarasvathy's (2001) assertion that both approaches *"can occur simultaneously, overlapping and intertwining over different contexts of decisions and actions"* (p.245).

Lastly, the data indicate that entrepreneurial decision-making is not always influenced by children. Some mothers handled the majority of their responsibilities without much adaptation or mention of their children. These results may lead one to conclude that an entrepreneur with children is "just" an entrepreneur who does not need to take children into account in every decision.

5.2 Proposition 2

Instead of a specific business objective, entrepreneurial mothers were expected to launch their businesses based on a set of resources (P2). The data confirmed that entrepreneurial mothers utilize available resources to launch a new business. These findings are consistent with research by Dew et al. (2009), which indicates that the objectives of effectual entrepreneurs emerge from action plans based on emerging opportunities and their resources. The narratives of the interview responses revealed three prevalent patterns that supported the successful emergence of the business. First, venture formation findings suggest that entrepreneurs' children influence the available knowledge and resources. These results conclude that children might influence the idea generation and identification of market gaps as mothers gain new expertise and opportunities when having children.

Second, findings suggest that paternity leave can be a catalyst for the creation of a business. During maternity leave, it was seen as a given means to try out self-employment and exploit time on hand. These results indicate that the available time at hand might be one push factor for women to start and try out self-employment, even when this undertaking might be stressful.

Third, the participants discussed a variety of tensions between the demands and challenges of being a mother and a traditional employee. Part-time work was a recurring theme, burdening mothers with high expectations and an exhausting balancing act between work and family. These results are consistent with prior research by Alakeson (2012), Designs (2017), and Banikema and Tite (2018), indicating that unmet family and personal needs in traditional employment motivate women to transition careers with the aid of self-employment. Similar findings in this paper provide evidence that employers discriminate against mothers, impede promotions, and undervalue potential. This aligns with the findings of discrimination against mothers by Correll et al. (2007). A conclusion might indicate that traditional employment

is seen by mothers as a negative experience while having small dependent children. This may inspire them to overcome career obstacles by launching a business.

Nonetheless, certain data points contradicted the majority of the findings. These results indicated that entrepreneurs who became mothers shortly after launching their businesses did not employ the effectual bird-in-hand principle. Instead, they organized their venture creation with the help of one over-arching objective and sub-goals. These results support the conclusion that entrepreneurs without children may have different motivations than those with children and might not have experienced the downsides of motherhood in traditional employment. It suggests that business goals, instead of leveraging the stated contingencies and obstacles of having children inspire their new venture creation.

5.3 Proposition 3

Entrepreneurial mothers were expected to think less about expected returns and more about what they could afford to lose (P3). In line with Sarasvathy (2001), the findings demonstrated an effectual approach and showed that most mothers described focusing on affordable losses. Firstly, the data suggest a connection between emotions and risk-averse behavior. Entrepreneurs highlighted the negative emotional impact of potential financial losses and unforeseen events. The findings go hand in hand with Caliendo et al. (2009) and Weber et al. (2002), who observed more risk-averse behavior in women. As the findings suggest being a mother increases the attention on affordable loss. Noticeably, single mothers connected their risk-averse behavior more often to their children than mothers with partners. A difference between these findings might be attributed to the fact that single mothers bear greater responsibility than mothers with partners to share responsibilities.

Secondly, the entrepreneurs were not only considering the affordable loss of their business but also included the responsibility for their children, financially and time-wise. The amount of time spent with children was, on one hand, the main reason for becoming an entrepreneur but also a factor determining the amount spent on businesses. Mothers accepted a business loss if that meant spending time with their children, especially if those were younger. The results provide evidence that the loss of time with children is considered broadly in effectual decision-making. In line with the findings of Lewis (2006), the data of this paper hints that with their children's age progression, entrepreneurs would shift their entrepreneurial focus. One could reason that with increasing age, the priorities of mothers shift from being more family-centered to more business-focused.

Thirdly, the suggestions by Scheepers et al. (2018) that mature entrepreneurs in later business stages adopt effectual behavior towards affordable loss were not confirmed. Contradictory, the entrepreneurs with the most experience and in later business stages were focusing more on expected returns and were investing more in riskier projects than the owners of novice ventures. Based on identified patterns, this research speculates that experience and boldness of character are triggers to rely on expected returns.

Furthermore, data shows that a large group of business owners does not think about the affordable loss in terms of family but rather in terms of business. These findings conclude that entrepreneurial mothers do not consistently consider or are influenced by family responsibility, as predominantly advocated by society. These findings highlight the diversity of entrepreneurial motherhood.

5.4 Implications

5.4.1 Theoretical Implications

This paper expanded the academic knowledge of the decision-making processes of entrepreneurial mothers. The results of this study enrich the literature on entrepreneurial behavior and highlight the importance of female entrepreneurship research. It contributes to the literature and suggestions by Frigotto and Della Valle (2018) by empirically demonstrating the relationship between effectual behavior and motherhood. As academic research in this field is limited, this paper is a starting point to further explore motherhood's influence on decision-making in entrepreneurship.

5.4.2 Practical Implications

The findings of this paper illustrate the decision-making dispositions mothers have in the start-up process and management of venture creation. They highlighted specific burdens mothers experience in traditional employment and self-employment. The results will aid policymakers and researchers in comprehending the societal and structural constraints on female entrepreneurship. The results suggest that mothers face different obstacles in employment and new venture creation. Analyzing those enables the creation of policies and programs to assist mothers in traditional employment and self-employment. There may be ramifications for policymakers and analysts to investigate why stereotypical parental role views influence mothers and whether they have a similar effect on their male counterparts. If not, find out why and what measures can be taken against it.

6. LIMITATIONS AND FUTURE RESEARCH

While this paper contributes to the entrepreneurial decision-making and effectuation literature, this research implies at least four limitations. First, the number of participants in this study was small compared to the standards of much entrepreneurial research. As mentioned in the methodology, the small number of participants did not belittle the in-depth quality of the data. Nonetheless, a larger sample size would have increased external validity. Second, this paper was exclusively focused on entrepreneurial mothers and essentially captured the primary approach of decision-making preferences. Still, the number of explanatory variables and interpretations of more complex concepts, such as marital status or the number of children, could have benefited from extended research. Moreover, future studies could help understand whether research-based decision-making differences between genders, as suggested by Frigotto and Della Valle (2018), also exist within one gender category for mothers and non-mothers. Third, this paper did not compare its findings to different cultural values. The country of Germany was used as a case study and is characterized as a masculine society, showing traditionally Western gender roles (Al-Alawi & Alkhodari, 2016). Therefore, findings are limited to the cultural context of Germany. Future research should focus on different cultural settings with varying understandings of motherhood. Additionally, institutional factors like accessible daycare and governmental financial aid for parents differ in countries and could be investigated further. Fourth, due to the historical separation of Germany from 1945-1990, cultural and structural differences are present within the country. Stereotypical views on gender and female employment, in particular, differ between West and East Germany (Rosenfeld et al., 2004). Besides, daycare and after-school systems for children show significant differences on both sides and could impact parental decision-making (Schober & Stahl, 2014). Caution should prevail when generalizing outcomes beyond the current sample. The novel results of this paper require further research.

7. CONCLUSION

This research examined the decision-making behavior of female entrepreneurs with a focus on being a mother. Existing studies on decision-making behavior have compared the differences and similarities between the female and male genders. They failed to evaluate the unique influences of parenthood on female founders. This study was conceptually based on a feminist explanation of the construct of motherhood from which to examine female entrepreneurial behavior and determinants of effectual and causal decision-making. Behavior models were derived from a limited sample of German founders. Therefore, this study provides the first small-scale empirical study about the association between motherhood, effectuation, and causation. The purpose of the study was to answer the research question:

To what extent do female entrepreneurs who are mothers use a more causal or effectual decision-making approach in their venture creation?

Data identified an effectual decision-making preference for entrepreneurial mothers. Broadly speaking, three preferences were identified: first, female founders with dependent children were more likely to utilize an effectual decision-making approach in venture creation and leadership; second, they were likely to start their venture with currently available resources; and third, they were likely to focus more on affordable loss than expected returns. The empirical findings and discussion illustrate the limitations of the existing discourse about female entrepreneurship and motherhood. As a consequence, additional research is necessary to corroborate this data. This study also emphasized the necessity for feminist entrepreneurship theory in female entrepreneurship research. The post-structural feminist theory informs us that merely comparing gender in researching entrepreneurship is not enough.

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APPENDIX 1:

Table of Entrepreneur Information

Variables	E1	E2	E3	E4	E5	E6	E7
Age	36	36	56	49	48	41	39
Entrepreneurial Parents	yes	no	no	yes	no	no	no
# Children	2	1	1	1	2	4	3
Age of Enterprise in year	1	4	26	25	10	1	3
# Employees	1	10	1	11	0	0	0
Business Sector	Tourism (directed at families)	Children Toys	Law	Roofing, Real Estate, Beverage, Beauty	Consulting (partly directed at women)	Consulting (directed at working mothers)	Print, Event service (directed at women)

APPENDIX 2:

Operationalization Table

Entrepreneurs were asked various questions to determine their decision-making preferences and the impact of motherhood on these. The questions regarding effectuation and causation were categorized into the five principles of effectuation by Sarasvathy, with the related preferences included. Two additional categories of motherhood and a further question were embedded in the operationalization.

Interview Guideline
Principle 1: Bird in Hand
Preference for Means vs. End
1.) To what extent did you have a specific goal and precise planning when you found your company and how did your available resources (i.e., your market niche/experience/knowledge/contacts) influence your business start-up?
Principle 2: Affordable Loss
Preference for Affordable Loss vs. Expected Returns
2.) What role did profit/yield play in your foundation and to what extent did you think about financial losses when you founded the company you could have represented when you launched it?
3.) To what extent do caution and risk-taking play a role in investments and finance?
Principle 3: The crazy quilt
Preference for Competitive Analysis vs. Strategic Partnerships
4.) To what extent did partnerships play a role before and during founding and to what extent do market analyses and planning play a part in founding a company?
5.) How would you say try to minimize risks?
Principle 4: Lemonade Principle
Preference for acknowledge vs. overcome the unexpected
6.) How do you adapt to unforeseen events?
7.) To what extent have your goals changed since you establish your business?
Principle 5: Pilot in the Plane
Preference for Predictive vs non-predictive control
8.) How do you think you are influencing or creating your market?
9.) To what extent do you think your company's market is predictable?
Motherhood
10.) To what extent did being a mother influence your founding?
11.) How much does being a mother influence your decision-making processes when founding a company or leading a company?
Further Questions
12.) Regarding the two decision-making processes presented: Effectual vs. Intuitive- Do you think you tend towards one or the other decision-making process more?

APPENDIX 3:
Outcome Table

	E1	E2	E3	E4	E5	E6	E7
Question 1	E	E*	C	E+C	C*	E*	E
Question 2	E+C	E*	E	C	C*	E	E+C*
Question 3	x	E*	E+C	C	C	x	C
Question 4	E+C	E+C	E+C	E+C	E+C	E+C	E+C
Question 5	x	E+C	E+C	E	E	E+C	E+C
Question 6	E	E+C	E*	E	E	E	E
Question 7	C	C	E*	E	E*	E	E+C
Question 8	x	E	x	E+C	E+C	E	E+C
Question 9	E+C	E+C*	E	E+C	C	E+C	C
Question 12	E+C	E+C	E*	E	E+C	E	E
Total Score	7E+6C	9E+6C	9E+4C	8E+7C	7E+8C	9E+3C	9E+7C