

UNDERSTANDING THE IMPACT OF DIGITAL MARKETING CAPABILITIES AND  
FEMALE-OWNER BEHAVIORS ON THE PERFORMANCE OF ENTREPRENEURIALY  
ORIENTED FIRMS IN THE DIGITAL ECONOMY

by

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ABSTRACT

## ABSTRACT

DARLENE JOHNSON DEBERRY. Understanding the Impact of Digital Marketing Capabilities and Female-Owner Behaviors on the Performance of Entrepreneurially Oriented Firms in the Digital Economy (Under the direction of DR. LAURA STANLEY)

Entrepreneurial enterprises take risks, innovate, and remain proactive in seeking business opportunities. For the past 30 years, entrepreneurial orientation theory has been the basis of exploring organizational behavior and has proven to be a reliable measure of what drives firm performance. Entrepreneurial firms remain adaptive by directing their internal and external capabilities to capture digital commerce and customer-linking opportunities. Thus, online marketing has gained in significance, suggesting that firms with the ability to leverage their digital marketing capabilities position themselves to gain a greater market advantage.

In addition, the digital environment also offers unique opportunities for female-led firms with an entrepreneurial orientation. The possibility now exists for high levels of connectivity, adding value to the female owner's ability to expand networks and increase social capital. Digitization of markets suggests new prospects for connectivity and performance gains not previously accessible.

This is a quantitative survey explores the linkage between entrepreneurial orientation and firm performance when moderated by digital marketing capabilities and female-ownership behaviors, utilizing a database from the Carolina Small Business Development Fund, a state-wide community development financial institution offering small loans and grants to business owners in the state of North Carolina, and surveys collected from the digital platform LinkedIn.

Key Words: Entrepreneurial Orientation, Digital Marketing Capabilities, Female-ownership

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## DEDICATION

This work is dedicated to my family, David Deberry, David Deberry Jr., and Danielle Deberry; nothing is worth having without your presence in my life. I owe you a debt of gratitude for all you are and all you mean to my life. I love you! I also dedicate this work to my mother and father, Gloria and Venard Johnson, siblings Vennise, Terrina, Venard Jr., Venard L., and my nieces and nephews for their steadfast love, belief, encouragement, support, prayers, and sacrifice in helping me achieve my dream. May my life be a light and an example of what is possible when you dream big and work hard. Lastly, I dedicate this work to Jesus Christ, my Lord, and Savior, who inspires me to live out my destiny. Thank you for showing me the way forward.

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## LIST OF ABBREVIATIONS

CSBDF	Carolina Small Business Development Fund
CME	Computer Mediated Environs
EO	Entrepreneurial Orientation
EVE	Eve's Pure Moisturizing Oil
DMC	Digital Marketing Capability
DTS	Diversity Talent Scouts
DC	Dynamic Capabilities
RBV	Resources-Based View
SEO	Search Engine Optimization
TAM	Technology Acceptance Model
PP	Paid Placements

## CHAPTER 1: INTRODUCTION

In the past three years, there has been a marked increase in the number of new business applications, with 2019 showing approximately 300K applications for new business and roughly 500K new applications for businesses created in 2021.<sup>1</sup> Most businesses fail in the firm's first three years of operation. In fact, according to the Bureau of Labor Statistics, 20% of companies fail in their first year, and only about half survive beyond year 5.<sup>2</sup> Private enterprise creation is increasing at an accelerated pace. The rapid increases in business development draw our attention to entrepreneurship including enterprise profitability and sustainability dynamics. The entrepreneurial orientation (EO) framework refers to innovation, proactiveness, and risk-taking abilities as an organization's core strategic behavioral structure (Covin & Slevin, 1991; Khandwalla, 1977; Miller, 1983; Mintzberg, 1973). Drawing from the extant literature, the main benefits of EO includes its adaptability and measurement quality for identifying a firm's performance behaviors. The measure is highly rated as it perceives the importance of firms adapting internally to meet the demands of external forces to remain competitive (Covin & Slevin, 1989). EO and firm success are often tied to context-specific relationships from various mediators and moderators, causing interaction effects giving structure to our understanding of how firms achieve competitive advantage (Lumpkin & Dess, 1996). For example, research indicates that EO has a more significant correlation with performance in more hostile and adverse environments (Covin & Slevin, 1989; Zahra & Covin, 1995); demonstrates organic and mechanistically structured firms as high performers (Covin & Slevin, 1988); demonstrates corporate entrepreneurship impacts performance (Zahra et al., 1999), shows entrepreneurship,

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<sup>1</sup> <https://www.census.gov/econ/bfs/index.html>

<sup>2</sup> BLS.gov. "Table 7. Survival of private sector establishments by opening year"

organicity and mission strategy determine a firms' "fit " to the environment and survivability (Naman & Slevin, 1993), innovation is tied to new products and possess adequate internal capabilities which contribute to a firm's viability (Shaker A Zahra & Donald O Neubaum, 1998); EO contributes to financial capital and growth (Wiklund, 1999), is tied to resiliency in failures (Wang, 2008), procedural justice and internal social exchanges) (De Clercq et al., 2010a), and pervading internal processes and departmental units which affect performance (William Wales et al., 2011). EO is a mediator of complex environments and tied to performance (Rosenbusch et al., 2013). The EO firm performance relationship is moderated by transformational leadership (giving leadership the ability to articulate vision and set high performance expectation, etc.) (Engelen et al., 2015). EO is a mediator of Big Data Analytic Capabilities and Business Model Innovation (Ciampi et al., 2021).

As entrepreneurial organizations move within the digital economy, we understand that these firms will organically adjust to new environmental dynamics (Khandwalla, 1977; Miller & Friesen, 1983; Shaker A. Zahra & Donald O. Neubaum, 1998). Adaptations include the usage of data, which in some cases is captured through dynamic channels found in digital marketing (Day, 1994, 2011; Day & Bens, 2005). From what we know about the relationship between EO and firm performance we can anticipate that within the complexity of the digital environment leadership decisions are expected to include adaptations to take advantage of new market opportunities. Developing digital marketing capacities can facilitate these changes and is thereby expected to moderate the relationship between EO and firm performance outcomes.

Scholars have routinely explored EO through relationships with sales growth, strategic entrepreneurship measures, strategy formation, and decision-making models proving the construct to be adaptable to both market and internal structure evaluation (Covin et al., 2006;

Ireland et al., 2003; Lumpkin & Dess, 1996). The EO and firm performance relationship are well established in the literature. It is a relationship impacted by several internal and external market dynamics, including a firm's marketing position and leadership structure. Schumpeterian theory of competition states that "creative destruction" forces firms to recombine their capacities to meet market needs better and stay competitive (Schumpeter, 1934). Market factor stresses cause firms to recombine their abilities to meet market needs better and remain competitive, drawing out their dynamic capabilities (Teece et al., 1997). In addition, during the past decade, organizational infrastructures have grown more digital, creating more linkages between goods, processes, and services. Digital technologies (observed as combinations of information, computing, communication, and connectivity technologies) are fundamentally transforming business strategies, business processes, firm capabilities, products and services, and critical structures that reflect relationships in extended business networks across many firms in various industries and sectors (Bharadwaj et al., 2013). It is reasonable to expect that within an environment of consistent digital transformation, entrepreneurially driven organizations are motivated to respond and do so by adapting their internal and external strategic postures to remain competitive (Covin & Slevin, 1989). In addition, the development of digital technologies has widened the communication and connectivity of businesses to include network connections that span beyond those available prior to digitization. Female-owned enterprises have particularly benefited from digitization's expanded networks, enhanced capacity to reach an expanded customer base and needed financial resources (Groza et al., 2020; Seigner et al., 2022). In the current digital business environment, new opportunities exist for research exploring the relationship between EO and firm performance when organizations possess digital marketing capabilities including the types of capabilities, they deploy to remain competitive, or when the

EO firm is female-owned given the increased reliance on digital communication for customer and network interactions. While these areas of research are not intuitively linked, they share a growth dynamic that is tied to entrepreneurship and the digital economy.

Marketing is one area receiving increased attention in entrepreneurship research. Marketing research has historically concentrated on understanding the utility of digital marketing platforms and the relationships businesses create with their customers. Only a few studies, however, have attempted to explain the internal strategic posture of firms and their utilization of organizational capabilities (dynamic, marketing, digital marketing) to remain profitable in the highly digital competitive environment. Researchers have generally focused on exploring a firm's market orientation and internet communication technology adoption, such as establishing a web presence, with the breadth of digital marketing subjects focused on platform usage. The growing complexity of marketing within organizations has made it difficult for firms to close the marketing capabilities gap (Day, 2011). In addition, the last two decades have ushered in significant changes in marketing research, taking a departure from traditional research models, forcing companies to invest in marketing information systems to bolster customer networks and integrate goods and services exchanges to include electronic platforms (Achrol & Kotler, 1999). Additional research is needed to capture the strategic position of firms utilizing digital marketing to gain a competitive advantage and to improve firm performance from an internal capabilities' perspective. For example, firms in the digitization age have realized a greater dependency on digital technologies and, in particular, digital marketing technologies (Kraus et al., 2018). Over the past several years, there have been marked increases in customer interfacing tools, with companies like Facebook (now Meta), Instagram, and Twitter servicing billions of users. Facebook is reaching over 3 billion users and provides social network content and digital

marketing services to its business customers as of July 2022.<sup>3</sup> In addition, Information and Communication Technology (ICT) spending is projected to reach 4.6 trillion by 2022, according to a global ICT forecast by International Data Corporation, with commercial expenditures representing 63% and consumers representing 36.5% of the spending.<sup>4</sup>

A firm's marketing capabilities are central to its ability to adapt to new market intelligence and respond, enhancing the firm's performance and competitiveness (Matsuno & Mentzer, 2000; Vorhies & Morgan, 2005). The marketing orientation of a firm provides the basis for the development of marketing capabilities, while the market orientation assists businesses in determining how their market information is linked to how marketing is developed, communicated, and responded to by the organization (Jaworski & Kohli, 1993; Kohli et al., 1993). Thus, marketing capabilities are an organization's internal knowledge or "best practices" that are configured or in some instances reconfigured to provide a competitive advantage (Jaworski & Kohli, 1993; Kohli et al., 1993; Morgan et al., 2009; Song et al., 2007; Vorhies & Morgan, 2003).

Mastery of marketing linking capabilities is a source of defensible competitive advantage, equipping the organization with market sensing, and customer linking abilities (Day, 1994). In the era of increased social media marketing, entrepreneurial firms must constantly promote their market visibility (Menon et al., 1999). Firms are using social media marketing for customer interactions and as customer relationship management mechanisms, consumer message delivery, networking connectivity, and as a basis for new product innovation (A Kazım Kirtiş & Filiz Karahan, 2011; Sherman, 2011; Thomas, 2010). While marketing capabilities can incorporate general intel and responsiveness, digital marketing capabilities better promote the organization

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<sup>3</sup> [Datareportal.com](https://datareportal.com)

<sup>4</sup> [Global ICT Spending by 2022](#)



and enhance visibility that invites customer interactions. The use of digital marketing capabilities has long-run benefits for firms engaging in social media marketing by increasing network capabilities which can improve customer reach and product validity (A Kazım Kirtiş & Filiz Karahan, 2011).

Furthermore, the use of social media platforms is becoming a critical piece of internal business capabilities, with both large and small organizations utilizing sites like Facebook, Twitter, and YouTube and others, to enhance customer interactions (Hensel & Deis, 2010; A. Kazım Kirtiş & Filiz Karahan, 2011). Digital tools like Search Engine Optimization (SEO), an e-marketing tool to help consumers find brand information online, are becoming more central in the development of marketing capabilities as firms look to strengthen their market visibility on the web (Adila et al., 2020; Mahajan, 2015). Increases in the time and attention, and resources organizations are dedicating to digital marketing capabilities is a critical portion of entrepreneurial organization discourse left underdeveloped.

Within the marketing literature, it appears the shift to digitization has been a hard turn for the marketing discipline, with educational, knowledge, and market-based learnings struggling to keep pace with rapid technological acceptance and the profound increases in usage by digitally networked customers. In addition, the rapid digital transformation taking place externally includes firms pivoting their business-customer relationships to online communication platforms. For example, approximately 89% of clients now choose social media over traditional channels for business communication (Herhausen et al.). In addition, digital platforms have increased how customers perceive value. According to the 2022 Customer Rage Study, 48% of US customers depend on social media to measure other people's expectations of goods and services.<sup>5</sup> A firm's

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internal resource configurations and opportunity-seeking capacity have intertwined with digital marketing capabilities. This research develops the framework to understand the relationship between a firm's entrepreneurial orientation and performance when integration of digital marketing capabilities exists.

Another timely entrepreneurial dynamic currently unfolding in the digital economy is the profound increase in female business ownership. For example, in 2017, female-owned firms made up 19.9% of businesses in the United States economy, up .06% from 2017.<sup>6</sup> Although the number of businesses created by female owners have shown marked increases in recent years, access to financial capital and social role expectations are documented as persistent barriers to females starting and growing enterprises in the entrepreneurship literature (Alsos, Isaksen, & Ljunggren, 2006b; Kimberly A. Eddleston, Ladge, Mitteness, & Balachandra, 2016; Malmström, Johansson, & Wincent, 2017; Yang & del Carmen Triana, 2019). For example, several studies have examined a variety of hindrances affecting the female entrepreneur's ability to grow their firms, citing scarcities in social and financial networks, growth motivation, gender bias, and female firms as small and undercapitalized (Alsos, Isaksen, & Ljunggren, 2006a; Carter, 2000; Cliff, 1998; Kimberly A. Eddleston et al., 2016; Marlow & Patton, 2005; Watson, 2006). In addition to the list of themes related to female entrepreneurship, legitimacy has also been central to the female owner's experience and is related to how gender roles transpire within a society (Prothero & McDonagh, 2021; Sweida & Reichard, 2013a). Female owners struggle with funding high growth choosing bootstrapping instead, electing to stay away from personal debt which is evidence to be limiting in business development (Yacus et al., 2019). Females bear the

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<sup>5</sup> 2022 Customer Rage Study - Customer Care Measurement & Consulting (CCMC) – in collaboration with the Center for Services Leadership at the W.P. Carey School of Business at Arizona State University and Kraft Heinz, brings you the release of key findings and implications from the 2020 National Customer Rage study.

<sup>6</sup> <https://www.census.gov/library/stories/2021/03/women-business-ownership-in-america-on-rise.html>

brunt of social inequality as gender roles appear to be the root cause of inequality in entrepreneurial businesses. The fact that gender norms are firmly ingrained in most of our society's social arenas makes the issue both subtle and persistent (Heilman, 2001; Nosek et al., 2007).

Research on EO and female owners does not exist that offers an understanding of how female-owner's firm performance is impacted by increases in business facilitation mechanisms and expansion opportunities related to digitization. For example, paths to network and social expansion include new avenues of opportunity for access to capital through increased sales and investor networks as female owners participate in online communities (Groza et al., 2020; Ngoasong & Kimbu, 2019; Seigner et al., 2022). Research has shown that social and business networks have a favorable impact on EO and market orientation despite the absence of critical networks (Presutti et al., 2019).

Moreover, while studies have successfully highlighted several obstacles to female-owner enterprise success, more research is needed to increase our understanding of why female ownership persists despite known deficiencies. Furthermore, additional research is needed to explore if recent increases in female ownership are indicative of female owners who behave entrepreneurially (possessing innovation, proactiveness and risk-taking qualities) leading them to experience increases in firm performance. In addition, since these increases in ownership also coincide with advancements in technology and a heightened sense of cultural competencies, might these environmental shifts assist in creating a pro-female entrepreneurship environment evidenced by greater female ownership participation in the economy (Guercini & Cova, 2018; Martinez Dy et al., 2018; Ughetto et al., 2019)?

Female entrepreneurship studies have claimed that motivations and access to capital are tied to the female role within society and responsible for growth limitations (Cliff, 1998). However, most of these studies' pre-date the current DEI<sup>7</sup> culture, signaling society has entered a new phase of cultural awareness (Morris et al., 2006; Orser et al., 2006b). Some women are motivated to enter business, often acting upon opportunities tied to their personal life experiences.

In 2012, Jessica Alba founded the Honest Company in response to her need for infant products devoid of toxins.<sup>8</sup> Another example is the creation of the brand Carol's Daughter by Lisa Price, which was in response to the 1990s trend of going natural, where women, primarily of African American descent stopped using relaxers (a robust chemical compound used to straighten hair).<sup>9</sup> In both instances, these women founders successfully identified market opportunities explicitly tied to their experiences as women. The Honest Company, classified as a digital-first consumer goods products company, as of February 2022, is valued at \$550 million, with Alba maintaining a controlling interest in her company.<sup>10</sup> In the case of Carol's Daughter, one appearance on the Oprah Winfrey show was enough marketing exposure to draw celebrity investments; and appearing on the Home Shopping Network also helped propel the brand to be acquired by L'Oréal an iconic beauty brand with international reach.<sup>11</sup> While these individual stories are comprised of prominent individuals the same can be said for North Carolina based companies Eve's. Moisturizing Oil (Eve's) and Diversity Talent Scouts (DTS). In the case of Eve's, the company was created by a women entrepreneur who needed a solution for her son's

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<sup>7</sup> <https://www.linkedin.com/pulse/what-dei-margaret-rouse>

<sup>8</sup> <https://www.allure.com/story/jessica-alba-honest-company-ipo-interview>

<sup>9</sup> <https://cbey.yale.edu/our-stories/the-story-of-carols-daughter>

<sup>10</sup> [The Honest Company](#)

<sup>11</sup> <https://cbey.yale.edu/our-stories/the-story-of-carols-daughter>

eczema condition. This female-business owner ventured to solve her own problem but also created a marketable product she would later convert into a business. DTS was created by a female engineer who recognized the market potential of creating a pipeline for companies to reach a diverse talent pool of applicants, based on her own frustrations with the on-boarding processes for people of color. In each instance the business owners were motivated to start their business for personal reasons which resulted in very different firm performance outcomes. Nevertheless, these female ownership accounts suggest that EO and the “female” owner’s firm performance outcomes which will vary according to the owner’s personal motive. Performance is often nuanced and not consistent across all segments of the female population. This research aims to explore female ownership outcomes that include but are not limited to financial profitability as the primary intention. For example, research studies have pointed out that the female owner performance measures are not solely tied to profitability but can also contain meaningful impact and significance (Fuentes-Fuentes et al., 2015; Shaw et al., 2009). More research is needed to examine how female ownership interacts with the EO and performance relationship, including exploring performance beyond profitability and within the context of the current environment of “empowerment” movements.

In the wake of activist Tarana Burke’s “MeToo” movement<sup>12</sup> which has gone a long way to empower women in the workforce, as a combatant of sexual harassment and DEI<sup>13</sup> efforts,

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<sup>12</sup> Tarana Burke and others first articulated the goal of the “MeToo” movement, which is to empower sexually abused persons via empathy, solidarity, and strength in numbers by clearly displaying how many have suffered sexual assault and harassment, particularly in the workplace. Celebrities such as Gwyneth Paltrow, Alyssa Milano, and Ashley Judd used #MeToo on social media, prompting it to go viral.

<sup>13</sup> DEI stands for diversity, equity, and inclusion. As a discipline, DEI is any policy or practice designed to make people of various backgrounds feel welcome and ensure they have support to perform to the fullest of their abilities in the workplace. Diversity refers to the presence of differences within a given setting; in the workplace, that may mean differences in race, ethnicity, gender, gender identity, sexual orientation, age and socioeconomic background. Equity is the act of ensuring that processes and programs are impartial, fair and provide equal possible outcomes for every individual. Inclusion is the practice of making people feel a sense of belonging at work. (builtin.com, 2022)

female empowerment has become an increasingly popular sentiment. The confluence of a climate of diversity empowerment and ambitious female entrepreneurs generates new debate around the value and character of female ownership.

To my knowledge, none of the existing research has focused on the relationship between entrepreneurial orientation and female firm performance in the current market (since MeToo and the social movements that followed). Additionally, workforce changes are also contributing to environmental shifts related to females in the workforce. As of Nov 2021, female participation in the workforce was at a 33-year low setting the stage for variations in work schedules, with only 35% of mothers stating they would return to pre-pandemic work schedules.<sup>14</sup> Investigating the EO of female owners, in light of the patterns we see that include increased investment by female owners, along with workforce decreases, within an environment of increased diversity focused social movements, offers the promise of a rich research setting.

The current market offers a unique opportunity to deepen our understanding of female owners in the here and now. I seek to understand how the present-day market environment impacts entrepreneurially minded females. Are female owners with EO properly positioned to increase firm performance even if that means defining performance successes on their own terms?

### Key Constructs

Entrepreneurial Orientation (Khandwalla, 1977; Mintzberg, 1973) identified EO as a management disposition rooted in decision-making. Research by Miller (1983) later solidified the construct of EO as a consistent measure of entrepreneurship traits. Miller's research defined EO as a methodology for revealing a firm's risk-taking, innovativeness, and proactiveness

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<sup>14</sup> [reinventing-gender-diversity-programs-for-a-post-pandemic-world](#)

character traits. The viewpoint has continued as the foundation of the EO construct, with researchers Covin and Slevin later confirming risk-taking, innovativeness, and proactiveness as essential to the measure (Slevin & Covin, 1997). Researchers Lumpkin & Dess (1996) later extended EO dimensions to include competitive aggressiveness and autonomy. Their additional dimensions added a domain-focused perspective to the construct. For this study, however, the three-dimension measure is adequate to capture EO as a phenomenological construct. This view is affirmed by Selvin & Covin (1997) who sees the three-item measure of EO as a strategic observation of firm behaviors leading to performance in response to external and internal competencies and a firm's strategic objectives. Firms employing EO move methodically and effectively toward their strategic goals (Ireland et al., 2003). The EO construct has developed as a reliable measure that effectively assesses a firm's success trajectories (Covin et al., 2006). Taken together, the three-item EO construct demonstrates the strategic ambition of firm managers and is a way to measure a firm's ability to maneuver its way to success.

**Firm Performance** The phenomenon of organizational performance is multidimensional and complicated (Dess & Robinson, 1984). As strategy literature demanded the establishment of a framework for assessing company performance, researchers Ford & Schellenberg (1982) examined three framework approaches shaping the measurement. The three frameworks incorporated 1) the goal approach (Etzioni, 1964) using goals as a deterministic measure of how organizations behave in reaching explicit goals or goals in general; 2) the systems resource approach (Yuchtman & Seashore, 1967), which frames the internal and external factors deployed as mechanisms for survival; and 3) The constituency approach which is the practical focus fulfillment of constituents' needs (Thompson, 1967). Also contributing to the measurement was research by Dess & Robinson (1984) which solidified the usage of return on assets and growth in

sales as appropriate measures of firm performance. Their study classified the uses of subjective and objective measures, although they overlap, as suitable for capturing firm performance multidimensionality (Dess & Robinson, 1984). In addition, their study demonstrated how subjective and objective aspects of the measure are used to evaluate firm performance (Dess & Robinson, 1984). The three frameworks approach to construct measurement was founded in firm performance, encompassing the perspectives of both the employee (i.e., individual level) and the organization (i.e., group level). Earlier writings in the entrepreneurship literature identified firms operating and responding to hostile environments that affected firm performance (Covin & Slevin, 1989). These findings formed the basis for much of the entrepreneurship literature that would follow linking firm performance measures as indicators of an entrepreneurial orientation within a firm (Lumpkin & Dess, 1996; Lyon et al., 2000). More complex examinations of the relationship formulated in later research, around the organization's configuration models including internal resource allocations and other moderators impacting the complexity of the relationship (Rauch et al., 2009; Wiklund & Shepherd, 2005). Furthermore, historically, the relational strength between the two constructs has proven valid and valuable for research in entrepreneurial behaviors and outcomes Lumpkin & Dess (1996) and Wang (2008), and deemed appropriate for this study. The firm performance measure in this instance is a subjective measure of performance relative to the competitors which ask respondents to rate their growth as much worse or much better relative to growth in profit (Eddleston & Kellermanns, 2007).

Family-to-work Affective Spillover. The literature also points out that female owners are motivated beyond profit (Shaw et al., 2009), and firm performance factors can include additional associated variables (Murnieks et al., 2020). For example, 59% felt work and family balance as



top reason to own their own businesses<sup>15</sup> (Census, 2018). Internal motivations (desirability of being one's own boss) was found as a strong predictor of a successful female launch (Gatewood, 1995). We include two family-work balance survey questions addressing life satisfaction and work-life balance as a measure of performance (Hanson et al., 2006).

Digital Marketing Capabilities are the capacity to accomplish a coordinated set of digital-related duties (operational or dynamic) to gain a competitive advantage (Herhausen et al., 2020b). Resources-Based View (RBV) theory is the conceptual framework with the assemblage of digital business strategies conveying a firm's competitive advantages (Bharadwaj et al., 2013). It is important to note that while RBV classifies resources as inimitable, rare, valuable, and non-substitutable, digital resources often fail to meet these theoretical requirements (Lambrecht & Tucker, 2015). The value of competitive advantage aligns with how digital resources and associated inputs facilitate strategy to provide the company with a strategic edge (Herhausen et al., 2020b). The dynamic capabilities construct, formulated from the marketing literature, focuses on computer-mediated environments (CME), a stream of research identified in the early 1990s. CME is defined as a "dynamic distributed network (Hoffman & Novack, 1996), potentially global in scope, together with associated hardware and software," allowing for the enablement of consumer and firm communication and access through hypermedia (i.e., digital) (Pavlou, 2014). Furthermore, the Herhausen et al.(2020b) literature review identified four themes related to digital marketing capabilities within the industry literature over the past 20 years. These include digital channels, social media, digital relationships, and digital technologies. The assemblage and usage of these technologies are what define digital marketing capabilities.

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<sup>15</sup> <https://www.census.gov/library/stories/>

Female ownership Historically, males (aggression, ambition, domination, and independence) and females (compassion, sensitivity to the needs of others, understanding, and warmth) have been characterized as two distinct characteristics of gender (Bem, 1974, 1993; Eagly et al., 2000). Like other scholars, gender is used to in this research refer to the psychological and social ramifications of being male or female and sex to refer to the biology-based categories of male and female, with the understanding that these categories are not all inclusive (e.g., Eddleston & Powell, 2008, 2012). For example, researchers reviewed the occupational roles of men and women, believing that work distributions reinforced beliefs about the sexes and their role identities (Eagly & Steffen, 1984). These differences set boundary conditions ascribing communal attributes to women and perceptions of men as agentic and have been critical for the misinterpretation of female owners who fail to follow the traditional norms (Eagly & Steffen, 1984). This research lens is appropriate for a study examining female owners perceived as operating within an occupation primarily classified as male dominant (Ahl, 2006). Research examining female owners is an opportunity to understand a population whose behavioral patterns are contextual and nuanced. In addition, female owners may perceive opportunity recognition and success measures are pertinent to the founder's perceptions, presenting the chance to extend our understanding of female owner archetypes.

This research seeks to make four contributions, as there are many reasons to examine the relationship between EO, firm performance, digital marketing capacities, and gender abilities relationships. First, researchers are struggling to understand the underlying capabilities of firms influencing the EO firm-performance relationship, especially as firms become more innovative and technologically dependent (Li et al., 2018; Michaelidou et al., 2011). Most EO research focuses on the link between EO and firm performance using configuration approaches to capture

the firm's strategic posture. Given the flexibility of EO as an independent variable and firm performance as a dependent variable, there are numerous opportunities to explore an array of moderators and mediators to understand firm performance in context. Utilizing digital marketing capabilities offers an additional lens in the relationship not previously studied. Second, the three fundamental behavioral tenets of entrepreneurship—innovativeness, proactiveness, and risk-taking—are researched by dissecting the EO construct in a multi-dimensional framework. To my knowledge, this study is the first to examine digital marketing capabilities and female-ownership moderator relationships not previously explored in this format. In addition, this research answers the call for additional studies using dissected dimensions of EO (Engelen et al., 2014; Putniņš & Sauka, 2020).

Third, the EO framework illuminates how female ownership impacts the EO-performance relationship. In addition, the female entrepreneurship literature has conflicting evidence in relation to female enterprise growth models, documenting slow growth and no growth choices motives as a deliberate action (Cliff, 1998). However, new research is emerging to tell a different story, with high-growth models as the aspirational focus for specific populations of female business owners, which also document funding as an immense barrier to overcome (Eddleston et al., 2014; Sweida & Reichard, 2013b).

Fourth, social structures have been slow to change. However, we must explore if EO impacts firm performance as female owners seek to innovate, take risk and proactively seek out business solutions that creatively targeted to their personal experiences and add value beyond profits.

Taking a one-time accounting of female business ownership aspirations is not enough. Instead, scholars must continue to look for signs of progress in our society. Future research

objectives must include a repeated examination of female business ownership experiences to capture how female business owners arrive at the nexus of innovation and proactiveness in the face of persistent barriers that have historically challenged those who wish to start and grow businesses (Alsos et al., 2006; Eddleston et al., 2016; Malmström et al., 2017; Yang & del Carmen Triana, 2019).

There is a lack of understanding of the effectiveness of Entrepreneurial Orientation (EO) and firm performance relating to digital marketing capabilities and female owners. Digital transformation includes firm strategies, marketing strategies, and capabilities (Verhoef & Bijmolt, 2019). My research focus centers on the competitive advantage of digital marketing capabilities in firms with an EO as a source of value creation. Companies should develop capabilities pertinent to markets with intense digital competition (Venkatraman, 2017). In the new technological landscape of business development, we must question and examine whether digital marketing capabilities assist firms in remaining competitive (Kannan, 2017).

This study uses a multi-dimensional measurement of the EO construct to test the relationship of its various dimension with firm performance (Putniņš & Sauka, 2020) when using digital marketing capabilities and female ownership as moderators. Most studies in digital technology literature focus on the utility of the digital technology itself and the perceived benefits associated with learning the technology and using it to contact customers and develop social networks). None have taken a comprehensive look at the digital marketing capabilities of a firm's internal abilities (to seize, reconfigure and deploy digital marketing) aimed at increasing firm performance. This research seeks to provide a comprehensive look at firm engagement in digital marketing capabilities from a practical perspective and includes an exploration of metrics associated with management decisions regarding firm activities in this area such as spending,

number of hours dedicated to digital marketing and other pertinent resource such staffing and internal mechanisms using digital presences to increase the firm's capacity for performance. While research focused on the North Carolina market, where there are high concentrations of urban and rural business owners is also boundary condition, it has the potential to provide valuable managerial and theoretical insights for this economy.

I propose exploring the impact of digital marketing capabilities (DMC) as a moderator of a firm's performance outcomes. Knowledge in the areas digital channel strategy, online customer acquisition, customer conversation and experience, customer development and growth, cross-channel integration and brand development, and digital channel governance, including change management, allows firms with a marketing orientation to develop behaviors that facilitate superior market performance (Day, 1994; Menon et al., 1999; Vorhies & Morgan, 2003). Online marketing has become increasingly important for businesses seeking digital customer engagement. Businesses that can leverage their digital marketing capabilities are positioned to gain a competitive advantage. DMC captures the management capacity of a firm to facilitate customer relationship outcomes through social media and digital marketing channels, an assessment critical for understanding business operations and strategy in the current century (Teece et al., 1997; Wang & Ahmed, 2007; Wang, 2020). I propose to explore whether the deployment of DMC within firms, described as the capacity to manipulate existing resource configurations, assists firms in gaining a competitive market advantage resulting in increased firm performance (Teece, 2007; Teece et al., 1997; Wang, 2020). An assessment of this type would address the use of DMC in current market circumstances, capturing the strategic relationship between the company and consumers, potentially identifying the relationship as leading to higher firm performance within female enterprises, though this would require

additional research to strengthen the claim (Vorhies & Morgan, 2005; Wang, 2020). Unlike previous research in this area which focused on the international market, my study will focus on North Carolina's local economy.

Furthermore, I aim to understand the updated nuances of female owners. There is a need for more research to explore the EO-Performance relationship about female entrepreneurship in light of technology and recent social structure changes. The study recognizes an opportunity to expand the existing discourse by examining how females with an entrepreneurial orientation navigate business formation and firm performance, motivation, and expectancy. In this instance, we use the construct of EO for its ability to capture the entrepreneurial use of innovation and intent to take advantage of market opportunities (Slevin & Covin, 1997; Teece et al., 1997).

The research will proceed to explore the EO-Performance relationship in the context of digital and female ownership. First, I examine firms' entrepreneurial orientation to understand their ability to capture new market opportunities in the multi-dimensional construct analysis of EO, which captures the firms' innovation, proactiveness, and risk-taking behaviors regarding firm performance. Second, I review digital marketing and the importance of DMC, highlighting the significance of the present digital marketing landscape for firms recognizing and capturing opportunities. In this research, DMC represents market sensing and customer linking abilities deployed to create a competitive advantage (Day, 1994). DMC consists of coordinating organizational processes with an internal and external emphasis but also offering the firm the ability to achieve and sustain its market orientation (Penrose, 1959; Selznick et al., 1957). This study will extend our understanding of the multi-dimensional applications of EO concerning DMC to determine how firm performance impacts all dimensions of EO. Third, I examine the intersection of EO female ownership by looking at female firms' strategic market position; the

goal is to understand if female entrepreneurs are experiencing increased firm performance as they pursue their entrepreneurial aspirations. I highlight female firm performance outcomes (financial and operational) through the entrepreneurial lens of innovativeness, proactiveness, and risks taking to understand female ownership motivations and outcomes in the current business environment.

### Boundary Conditions

Studies concentrated in emerging economies fail to parallel the experiences of entrepreneurs in the United States, where social structures are understood as less restrictive and technology usage is a component of everyday life (McAdam et al., 2018; McAdam, McAdam, et al., 2019). While the existing research provides valuable insights, there is still more to learn from US populations, particularly our historically underutilized businesses. The data set in this instance is from the client database of the Carolina Small Business Development Fund, a Community Development Financial Institution offering grant funding and loans to small businesses across the state of North Carolina. In addition, one-third of the data set was collected using the LinkedIn social media platform.

## **CHAPTER 2 - LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT**

This literature review consists of three sections. The first section reviews entrepreneurial orientation, including the historical perspective of the construct, its core dimensional measures and model configurations. In addition, the first section reviews the environmental and technological conditions associated with EO. Lastly, section one examines the relationship between EO and Resources-based view theory. Section two explores the Digital Marketing Capabilities (DMC) construct beginning with the associated frameworks of organizational, dynamic, and marketing capabilities. The associated frameworks provide background for DMC. The final section contains the historical development of women's entrepreneurship literature and examines social role theory as the main theoretical scaffolding to the women's entrepreneurship literature.

### **2.1.1 An Exploration of the Entrepreneurial Orientation Construct**

Entrepreneurial Orientation (EO) is a well-developed concept, and many researchers have contributed to its evolution. The construct's design and progression are found in its early significance as a measure in advancing economic development policy research Schumpeter (1934) and from its contributions to the early business strategy literature (Khandwalla, 1977; Mintzberg, 1973). Although coarsely articulated, the earlier EO discourse identified the phenomena within the strategic organizational structure. Efforts to define the construct would slowly improve as researchers strained to place parameters around what it means for organizations to possess an EO. For example, Khandwalla (1977) and Mintzberg (1973) identified EO as a management disposition rooted in decision making. In addition, Mintzberg (1973) in his early exploration of strategy, sought to understand how business organizations



(strategy-making organizations) and governments (as policy-making organizations) made decisions. In his paper, appropriately entitled *Strategy-Making in Three Modes*, Mintzberg captured three modes of business: culture (the Entrepreneurial Mode, the Adaptive Mode, and the Planning Mode) (Mintzberg, 1973). The Entrepreneurial Mode is exemplified by inventive people who are adept at "dealing with uncertainty" and have the financial resources to bring an idea to market, which serves as a foundational principle of the construct today (Mintzberg, 1973). Historically, management studies have focused on planning and redesigning organizations. The Entrepreneurial Mode is evidenced by those innovative persons, competent at "dealing with uncertainty" and the capacity to acquire financial resources to put an idea to market (Mintzberg, 1973). The heart of entrepreneurship, researchers would discover, goes beyond managing resources to emergence as a facilitator of opportunity. Where earlier studies provided the structure for entrepreneurship and strategy-making activities, Miller (1983) would later solidify the mechanics of these activities into the construct of what we know today as EO.

### **2.1.2 EO Taking Shape**

The EO construct has stood the test of time as a consistent measure of entrepreneurial activities. It is defined as a methodology for revealing a firm's risk-taking, innovativeness, and proactiveness character traits (Miller, 1983). Early discoveries involved investigated the link between organizational structure, environmental setting, and company performance (Khandwalla, 1977). High-performing firm behaviors in industries with intense, diverse, and shifting competitive pressures (i.e., hostile industries) adopted organic structures (Covin & Slevin, 1989). In contrast to high-performing firms in sectors with little or no competitive pressure (i.e., benign industries), adoption of mechanistic structures (Covin & Slevin, 1989). The

earlier efforts to define the EO construct have been formative. For one, the EO construct is recognizable by a few base measurement characteristics (innovation, proactive pursuit of opportunity, and risk-taking) (Khandwalla, 1977; Miller & Friesen, 1982; Mintzberg, 1973).

Second, the EO construct has proven resilient, evolving, and improving over the years as researchers have stretched to define its parameters and essence. These efforts aimed at how to capture entrepreneurial activities have historically been the product of much debate.

Researchers, however, have arrived at a consensus regarding the core attributes of innovation, proactiveness, and risk-taking as essential for defining EO. (Covin & Slevin, 1989; Dess et al., 1997; Miller, 1983). In addition to Miller (1983)-and Covin & Slevin (1989) definitions of the concept, EO is seen as a measurement capable of monitoring a company's strategic behaviors leading to firm performance in response to external and internal competencies and a firm's strategic objectives (Slevin & Covin, 1997). These ideas follow a long history of construct formation and refinement. For example, Miller & Friesen (1982) tested a conservative and entrepreneurial innovation model, finding that conservative firms were inclined to innovate only after facing severe environmental or other challenges. According to their study, entrepreneurial firms innovate aggressively in pursuit of new products. They demonstrate significant gains as a return on investment for their proactive action and propensity to innovate (Miller & Friesen, 1982). This work led the way in establishing a more formal and quantifiable concept and was followed by several others. In constructing the EO concept, Miller (1983) described the "primary determinants of entrepreneurship." His research is acknowledged as being the first to investigate these themes by experimentally examining the pioneering, innovation, and risk-taking characteristics at the firm level (Miller, 1983).

The Miller (1983) study also explored three types of firms (Simple, Planned, and Organic), finding a consistent link between technocratization and entrepreneurship across all three firm types, indicating the presence of technocrats within firms boosted entrepreneurship. An additional associative trait of entrepreneurship included locus of control. Lastly, the Miller (1983) study showed the contrast between the environment and firm typologies. Those businesses with planned entrepreneurial activities were not impacted by the environment, as opposed to organic firms with an adaptable character and entrepreneurial activities, which were (Miller, 1983; WJ Wales et al., 2011; William Wales et al., 2011). Earlier publications Miller & Friesen (1982) also attempted to improve the EO concept by identifying the character/strategic difference between conservative and entrepreneurial firms. While their discourse failed to mold the EO concept's structure fully, they provided an environmental framework for future exploration topics identifying innovations and environmental activities as initiators of firm action. Researchers' perseverance and commitment to enhancing the EO construct were in response to calls for improved measurement rigor. In the late 1980s and into the early 2000s, much of the directive for research established the concept as a viable research method and a first step regarded essential for analyzing entrepreneurship as a distinct kind of firm behavior (Lumpkin & Dess, 1996; Lyon et al., 2000; Venkatraman, 1989). The Venkatraman study set the stage for an improved and methodologically sound exploration of EO research and anchored the concept in the entrepreneurship literature we enjoy today. Their analysis produced meaningful critiques of prior research (Venkatraman, 1989). It marked EO's progression as a reliable predictive measure by building and validating a verified set of operational measurements needed for a specific strategy conception (Venkatraman, 1989). Their research isolated how business

enterprises expressed their strategic orientation and what followed is what we know today as vetted dimensions of the concept of EO.

The Miller (1983) / Covin & Slevin (1991) EO constructs innovativeness, proactiveness, and risk-taking measure capturing a company's strategic direction and providing a substantial theoretical base (Venkatraman, 1989). The competitive aggressiveness and autonomy are not used in this instance, but worth mentioning as a part of the historical EO construct development context. Furthermore, the three dimension construct is validated as necessary to capture the EO behavior (Rauch et al., 2009). Venkatraman's research study addressed debates about alternative ways to operationalize strategy (Ginsberg, 1984; Hambrick, 1980; Pitts & Hopkins, 1982; Snow & Hambrick, 1980). The relationship between theoretical notions and their related measures seemed inadequate at the time. One reason is that most existing strategy constructs measures were operationalized as single-item or nominal scales (Venkatraman, 1989). In the absence of thorough testing, measurement validity was a concern, prompting researchers to examine measurement characteristics and test multi-item scales (Venkatraman, 1989). The process included testing measurement qualities for reliability, one-dimensionality, convergent and discriminant validity, and nomological validity (Venkatraman & Grant, 1986). Up until this point, the structure of enterprise measurement had not been explained in terms of variance but rather in terms of process (Miles et al., 1978; Mintzberg, 1978; Mintzberg & Waters, 1982, 1985) resource allocation (Bower, 1972) and corporate venturing (Burgelman, 1983). Venkatraman (1989) believed it was essential to comprehend the significance and performance of each dimension before vetting them as reliable and valid measures. Some researchers thought the entrepreneurship research knowledge had been limited and slowed for lack of agreement on many critical issues concerning what reliably constitutes entrepreneurship e.g. (Shane &

Venkataraman, 2000); and because researchers fail to build upon each other's results measurements of key variables, existing variable selection were typically deemed insufficient for the task (Brown et al., 2001). Part of that tension was embodied in the lack of an established mechanism of enterprise measurement; and because none existed in expressions of variation in a dependent variable or through a set of independent variables (Venkataraman, 1989). In addition, pursuing greater predictive validity, minimizing error variance, and deliberately establishing an excellent dimensional structure was essential to establishing EO as a measure to theoretically grounding entrepreneurial behaviors about firm performance. Contemporary research has indicated that the EO construct, after 30 years, is still developing. More recent studies are challenging definitions of innovativeness (Covin & Wales, 2019), making refinements to survey design (Lee et al., 2019), and expanding EO observations to include multilevel conceptions (Wales et al., 2020).

### **2.1.3 Core Constructs – Innovativeness, Proactiveness, and Risk Taking**

What it means to possess an EO has remained centered around three core items of EO: innovativeness, proactiveness, and risk-taking (Covin & Slevin, 1991; Miller, 1983). There are several definitions of EO, but the most widely accepted is Miller's (1983): an entrepreneurial business is one that participates in innovation, assumes risk, and is proactive in its approach to competition and exploiting opportunities. The combination of these three components (risk-taking, innovativeness, and proactivity) exemplifies the three generally acknowledged characteristics of an EO (Barringer & Bluedorn, 1999; Hughes et al., 2007; Wiklund & Shepherd, 2003). The decision to use the three core items of entrepreneurial behavior is predicated on the measures being classified as historically and prescriptively sound

operationalized key measures of the EO construct. According to Slevin & Covin (1997), the three-item EO measure is an adequate measure of corporate behaviors that result in performance in response to internal and external competences derived from a firm's strategic objectives. In the thirty years since their widespread acceptance as EO indicators, there has been a flurry of efforts to test, improve, refine, and broaden our understanding of how these mechanisms support firm performance (Covin et al., 2006; Covin & Lumpkin, 2011; Covin & Wales, 2019; Lumpkin & Dess, 1996; McKenny et al., 2018; Miller, 2011; Rauch et al., 2009; WJ Wales et al., 2011; Wales, 2016; Wales et al., 2021; Wiklund & Shepherd, 2005). For example, in 2021, EO was recorded as having 62,499 source citations, inclusive of journals focused on refining construct measurements (Wales et al., 2021). Earlier publications attempted to quantify the strategic orientation of firms, supposing that the company held an entrepreneurial posture in their healthy behavior that led to firm performance from the strategic deployment of technology and other internal resources in response to external forces (Covin & Slevin, 1991; Lumpkin & Dess, 1996).

Emerging from this early research is the idea that entrepreneurship and EO are inherently different. For example, EO is defined as interpreting how entrepreneurial behavior is captured (Lumpkin & Dess, 1996). Entrepreneurship, however, addresses new market entry, including new products, new markets, and new business models (Lumpkin & Dess, 1996) or “internal corporate venturing” (Burgelman, 1983) and having a pre-disposition for risk-taking initiatives contributing to organizational results. These are all well-established as firm-wide characteristics within the existing entrepreneurship discourse (Covin et al., 2006; Covin & Slevin, 1986, 1991; Miller, 1983; William Wales et al., 2011). However, there was still debate regarding EO as an interpreter of entrepreneurship behavior is captured (Lumpkin & Dess, 1996). It has also expanded to include new domains of operation (Wales et al., 2020). Taken

together, EO functions as a distinct set of attributes that facilitate the firm's strategic posture. Although the attributes are uniquely different, making the distinction between the two has helped to set EO apart as the posture needed to enhance firm performance.

Scholars consistently debated the merits of the usefulness of particular measures beyond the one-dimensional measure of the EO construct. Venkatraman (1989) and Lumpkin & Dess (1996) theorized the EO measures as capable of changing in isolation from one another. Much of the early debate regarding the structure of the dimension centered upon whether the designated items Miller (1983) / Covin & Slevin (1991) were adequate for capturing how firms participate in entrepreneurial behaviors. Nevertheless, we find that three traits (innovation, proactiveness, and risk-taking) have been regarded as the most prevalent in the extant literature relating to EO. One such confirmation was presented by Rauch et al. (2009), and Wiklund et al. (2009), whose research justified using EO beyond a single-measure approach. Their studies supported the hypothesis that all three EO dimensions—innovation, risk-taking, and proactiveness—play an equally important role in determining business performance. The use of multi-dimensions configurations of EO dimensions gained support in later studies (McKenny et al., 2018; Slevin & Terjesen, 2011). In addition, after several years of debate, the use of EO as a unidimensional or multidimensional construct, is also found credible for evaluating the strategic orientation of entrepreneurial firms, (Slevin & Terjesen, 2011). For example, Covin & Wakes (2012), suggested the sub-dimensions of EO could be measured separately and not be included in a single scale but configured to reflect a set of "hurdle rates" that would serve as an indicator that each or all sub-dimensions would have to clear. They also recommended that EO not be represented as a dichotomized variable. Other researchers helped to confirm EO's use as a unidimensional concept, and the research community has received a multidimensions concept

well, documenting that of the 158 empirical articles surveyed in 2010, 123 had used EO as a unidimensional measure (William Wales et al., 2011). The findings followed earlier arguments that the constructs can operate independently (Lumpkin & Dess, 1996) and arguments stating EO is evaluated using a predetermined set of attributes (Hughes & Morgan, 2007). It is not surprising to find a marked increase in research studies applying the multidimensional approach in the years that followed as the multidimensional approach test interrelated attributes and considered a higher-order measurement model (Covin & Wales, 2012). Taken together, the development and use of the EO construct as a multidimensional measure is grounded in a rich history of debate. The multidimensional approach offers the opportunity to capture entrepreneurial behavioral tendencies with sound predictive validity, lending credibility to the model as my chosen research structure.

#### **2.1.4 Contingency and Configuration Approaches**

Researchers have consistently used EO as a mechanism for understanding various types of firm performance using both contingency and configuration as strategic approaches. Each serves a different function in entrepreneurship research, with each process dependent upon the researcher's lens and what they hope to gather from their endeavor. Earlier versions of entrepreneurship research relied heavily on contingency theory. Contingency theory is shaped by the organization's environment (Burns & Stalker, 1961), organizational size (Child, 1975), and organizational strategy (Chandler, 1962). Contingency Theory therefore considers strategies that transition current organizational structures to accommodate market changes, particularly when the structure is no longer adequate to respond to threats or changes in the environment (Pennings, 1998). It understands that management processes necessitate comprehending the



"situational" qualities of organizational dynamics that shape interactions between the environment, management, and performance variables and adapts organizational decisions and structures as an alternative to the existing structure (Hanson, 1979).

The contingency model is thought to provide a basis for understanding how firms behave in their entrepreneurial posture (Covin & Slevin, 1989; Miller, 1983; Miller & Friesen, 1982). The earlier literature used contingency approach as a temperature read to identify the fault lines between entrepreneurial behaviors and conservative firm behaviors to cast an identity regarding how entrepreneurship is defined. The contingency model has been central to the development of organizational sciences, given its strength in recognizing how key constructs fit together or align inquiry regarding the environment and corporate responses (Burns & Stalker, 1961; Lawrence & Lorsch, 1967; Schoonhoven, 1981; Venkatraman, 1989). In addition, contingency models appear to provide a conventional framework for understanding how entrepreneurs strategically interact with the market; however, the depth of this understanding would increase as the EO construct gained popularity as a research topic. For example, differences were identified in business practices in small firms participating in hostile and benign environments, with firms in hostile environments taking on a more organic structure, pushing them to achieve a competitive profile with gains of long-term financial benefit (Covin & Slevin, 1989). The experience contrasted with firms operating in a more benign environment where firms were more risk averse (Covin & Slevin, 1989). Contingency theory helped point out firms' strategic practices given what they face in the market environment. Refinements to the contingency theory model would come from researchers Lumpkin & Dess (1996) who recognize that firm behaviors develop within an internal/organizational context related to the external environment. However, it was Miller (1983) who shifted the focus of entrepreneurship from the leader pointing to the broader

spectrum of the organization, an idea first cast by Schumpeter. (1934), who believed the entire organization could perform entrepreneurship. The contingency approach added the appropriate theoretical perspective in the evaluation of organizations. It provides a framework to understand the moderating influences of the environments promoting high levels of firm performance (Covin & Slevin, 1989). Contingency theory also allows us to observe behavioral modalities in less hostile environments (Miller & Friesen, 1983), giving us a fundamental understanding of the differences in the behavior of firms with an EO. In addition, contingency models are believed to be helpful for measuring managerial perceptions, firm behavior, and resource allocations (Lyon et al., 2000). However, the contingency model offers only broad strokes of organizational nuances, and as researchers consider how best to understand organizational dynamics supporting EO and firm performance measures, recommendations were for the inclusion of a variety of empirical and hypothesis testing of environmental moderators that configuration models more readily provided (Miller, 2011).

Configuration theory supports the evaluation of how internal mechanisms are arranged and respond to external pressures thereby providing insight into the relationship between those internal arrangement and high performing organizations. For example, assessments of an organizations external fit (the relationship between an organization and its external environment) and internal fit (the relationship between the internal parts of an organization's system) are based on configuration theory (Biniari et al., 2015; Miller, 1992). Configuration models in my opinion signaled the beginning of a new era of EO research fashioning and environmental shift in the research focus that would ensue in later studies. First configuration models are symbolic of the development of the EO construct. They were thought to offer a more precise understanding of the dynamics surrounding the EO-performance relationship (Lyon et al., 2000). The extant

research yielded to the inclusion of configurational EO research. For example, Wiklund & Shepherd (2005) took to task Lyon et al. (2000)'s call for a diversification of operational models and the need to include configuration models in the EO research. The configurational approach, it was thought, would be useful as an alternative to the heavily research contingency models (Wiklund & Shepherd, 2005). Where contingency models capture the two-way interaction between EO and the environmental factors linking high levels of positive effect to firm performance, there was not sufficient data to highlight the internal mechanisms at work (Covin & Slevin, 1986; Zahra, 1993). It became important to know the formulaic patterns and decisions associated with the internal capabilities of a firm that lead to firm performance. The configurational method was thought to discover characteristics of strategy, organization, process, and environment that incline themselves to cluster together to create configurations (Meyer et al., 1993). In a large sample of firms with a small number of configurations, key variables aligned to generate consistency factors related to performance, suggesting that the most effective organizations have configurations that are both internally consistent and fit multiple contextual dimensions (Doty et al., 1993; Ketchen Jr et al., 1993; Miller, 1990, 1996). Ultimately the gain in pursuing the configurational model approach to EO research was to achieve a greater understanding of the EO-performance relationship (Wiklund & Shepherd, 2005). The configurational model characterizes the research model used for my research. It considers the internal workings of the organization in relation to firm performance and found sufficient to explain moderator interactions involving internal capabilities.

### **2.1.5 EO - Environmental Conditions and Technology**

Identifying the role of technology usage in adverse environmental conditions has been a consistent theme in EO performance research. Innovation is tied to opening pathways to new products or markets, emphasizing the importance of internal skills and capabilities to support firm survival (Shaker A. Zahra & Donald O. Neubaum, 1998). Innovation research topics in EO also include the importance of opportunity-seeking behaviors and the utilization of technologies to enhance competitiveness (Ireland et al., 2003; Rauch et al., 2009; Wang, 2008).

The role of technology and innovation is asymmetrical across organization types. For example, Rauch et al. (2009) provide additional context to the role of technology within organizations by examining both high and low technology sectors; finding they may face adverse conditions differently. One reason disparities exist is because high technology companies may be able to find techniques to overcome adverse situations, and their EO-seeking behaviors may vary from low technology companies with fewer entrepreneurial opportunities (Rauch et al., 2009). For example, EO has embedded in its fabric the concepts of risk-taking, innovation, and being proactive in pursuing and acting on possibilities (Covin & Slevin, 1989; Miller, 1983; Mintzberg, 1973). We would expect to find the rate of technological advancement in high-tech companies with EO produces more profit. However, when put to the test, environmental variables such as dynamism and hostility moderate the association between organizational effectiveness (EO) and performance in non-tech firms (Rauch et al., 2009). The literature teaches us to regard EO in low tech firms as a variable with impact in both high-tech and non-high-tech firms' environments that can strengthen the EO-performance relationship.

Technologies' influence in EO firms has meant a disruption of internal configurations and shifting resource capacities that influence performance outcomes (Rauch et al., 2009; Wang,

2008). The desire to leverage digital innovation and the opportunities presented by the increased use of digital communication channels for commerce potentially contribute to a firm's entrepreneurial orientation (EO) or acts as an antecedent of EO. For example, EO has embedded in its fabric the concepts of risk-taking, innovation, and being proactive in pursuing and acting on possibilities (Covin & Slevin, 1989; Miller, 1983; Mintzberg, 1973). More importantly, the prominence of technologies as supporting EO behaviors offered opportunities for a deeper exploration of the EO-Performance relationship with the investigation of knowledge capabilities (Barney, 2002; Wiklund & Shepherd, 2005; Zahra & George, 2002); learning orientations (Kearney et al., 2018b; Wang, 2008) and resource-based learning capacities; (De Clercq et al., 2010b; Engelen et al., 2014; Ireland et al., 2003; Jiang et al., 2018; Miller, 2003; Vaznyte & Andries, 2019) that specifically modify or mediate the relationship between the two constructs.

The technological advances experienced over the past several years present fertile ground for new research opportunities incorporating technology and EO. Technology potentially modifies the EO performance relationship and reinforces the use of innovation as a moderator in the exploration of EO-performance interactions. This study contributes to the cross-section of EO-Performance using technology based digital marketing capabilities as a moderator. In addition, it is crucial to investigate the impact of Resources-Based View (RBV) theory as a basic factor in how technology is accessible and exploited in EO organizations. In the next section we turn our attention to an exploration of EO and Resources-Based View Theory (RBV) as a supplementary theoretical framework to the EO construct.

### 2.1.6 EO and Resources-Based View Theory

Resources Based View (RBV) is present as a supplementary theoretical framework with regard to the EO-Performance relationship. Take for instance transformational leadership which for organizations is an intangible resource enabling EO's performance effects (Barney, 1991). Internal behaviors that enhance the EO-Performance effects within the top management teams, contribute to a firms' ability to compete (Engelen et al., 2015). This perspective sheds light on internal factors that serve to promote Miller (2011)'s request to define the role of internal resources in leveraging performance impacts. The role of RBV in internal resource factors is also verified by Covin et al. (2006) finding that EO must be well managed to reach its full potential. In addition, De Clercq et al. (2010) adds support for the EO-performance relationship by demonstrating where RBV connects to the variables as an internal resource, necessary for firms to reach higher performance levels. The emphasis on internal behaviors of the firm through the RBV framework provides support to the firms 'strategic posture and acts as a source of competitive advantage. This assumption is varied by linking EO to capacities effecting firm performance but finding effectiveness contingent upon the internal social exchange systems that promote information transfer between departments (De Clercq et al., 2010a; Floyd & Lane, 2000; Ireland et al., 2003; Nahapiet & Ghoshal, 1998). The results assert that effective information sharing is associated with the capacity to combine resources required to capitalize on entrepreneurial opportunities effectively (Eisenhardt & Martin, 2000; Teece et al., 1997). By contrast, researchers also found that at lower levels of trust, the EO-performance relationship may turn negative, which entertains a contraction of knowledge exchange, jeopardizing the value gained from the EO-performance relationship in more favorable conditions (Floyd & Lane, 2000).

RBV's theoretical context as an underlying player in EO-Performance research is exciting and relevant to our discussion here. Findings illustrate the significance of RBV in the type of funding startup businesses can secure (Vaznyte & Andries, 2019). Where startups are typically unable to guarantee access to the kind of external financing they prefer (Cosh et al., 2009; Vaznyte & Andries, 2019) explains the types of funding best suited for their needs. For example, highly entrepreneurial startup firms might look for equity rather than debt financing, and moreover, debt financing for firms in risky industries. Findings link back to the environment and the importance of resource availability. In addition, the research explores a combined assessment of the startups' strategic environmental and organizational aspects to demonstrate the benefits of a contingency strategy (e.g., (Covin & Lumpkin, 2011; Miller, 2011; Titus Jr & Anderson, 2018)). In this case, financial decision-making serves as an intermediate mechanism; EO may affect performance and adds credibility to our knowledge of how and why EO impacts business performance. Resource constraints can have a limiting impact on the entrepreneurial opportunity pursued by EO-oriented businesses, but the debate wages on concerning mechanisms contributing to entrepreneurial success even when adverse conditions are present. For female entrepreneurs who are prone to constraints, EO behaviors provide an appropriate theoretical lens of exploration, and the role of RBV as a supplementary theory is significant (Alsos et al., 2006; Eddleston et al., 2016; Malmström et al., 2017; Yang & del Carmen Triana, 2019). The EO construct does not function in a silo and underlying research theory such as RBV extends the conversation to include the significance of resources (human capital, financial resources and knowledge) in firm contingency and configuration models. Next we will discuss internal capabilities which also are resource dependent and play a vital role in helping firms remain competitive.

## **2.2 An Exploration of the Digital Marketing Capabilities Construct - Introduction**

Over the past several years, there has been an explosion of digital entrepreneurship, with companies like Google, Facebook, and Apple leading the way of change in how we communicate and conduct business (Kraus et al., 2018; Wielgos et al., 2021). Retail e-commerce has increased yearly since 2012, with even more significant spikes in activity due to the 2020 COVID-19 pandemic. Advancement in digital entrepreneurship and increased activity in retail e-commerce have also led to the “digital transformation of marketing” over the past several years (Lamberton & Stephen, 2016).

Digital marketing consists of six different capabilities: (1) digital channel strategy, (2) online customer acquisition, (3) customer conversation and experience, (4) customer development and growth, (5) cross-channel integration and brand development, and (6) digital channel governance, including change management (Chaffey, 2005, 2008). Increased internet and mobile device data usage worldwide requires businesses to discover new ways to analyze large amounts of data, get customer insights, and target customers online (Wang, 2020). In addition, entrepreneurs in the age of marketing digitization have had to compete for customers by learning to adapt to increased customer usage of digital social media and mobile marketing as a tool to make purchasing decisions (Lamberton & Stephen, 2016). With more customers turning to online resources, businesses advancing technology usage have benefitted from increased profitability (Wielgos et al., 2021). Additionally, as technological advances permeated marketing in the twenty-first century, it has created new opportunities to understand how firms develop their capabilities to advance their competitive advantage (Wiklund & Shepherd, 2005).



My research focuses on understanding EO and firm performance at the nexus of digital marketing capabilities. Before we can entertain a discussion regarding digital marketing capabilities, it is essential to understand the development of organizational capabilities in general and how the literature has expanded to include dynamic marketing and digital marketing components. To explore these concepts, the discussion is outlined as follows: organizational capabilities, dynamic capabilities, marketing capabilities, and finally, digital marketing capabilities, providing us with the historical evolution of the selected moderator.

### **2.2.1 Organizational Capabilities**

The concept of organizational capabilities originates from the earlier writings of Penrose (1959) and Selznick (1957), who focused on creating distinct capabilities and competencies, as well as Nadler (1969) where early business policy frameworks featured their strengths and weaknesses. Capabilities are complex bundles of skills and acquired knowledge exerted via organizational procedures that allow organizations to coordinate operations and use their assets (Day, 1994). Much of the organizational capabilities dialogue articulates through the theoretical lens of Resources Based View Theory (RBV) (Barney, 1991). The resource-based view of a firm in the early literature is a condition of sustainability for competitive advantage (Amit & Schoemaker, 1993; Barney, 1991; Barney, 1986a, 1986b, 1986c; Dierickx & Cool, 1989; Grant, 1991; Peteraf, 1993; Wernerfelt, 1984b). The RBV model is predicated on the assumption that a firm is more likely to succeed with a bundle of diverse resources that persist over time (Amit & Schoemaker, 1993; Mahoney & Pandian, 1992; Penrose, 1959; Wernerfelt, 1984a). In addition, the firms' resources offer a competitive strategic advantage when they are valuable, rare,

inimitable and non-substitutable (VRIN) and not easily duplicated by competing firms (Barney, 1991; Conner & Prahalad, 1996; Nelson, 1991; Peteraf, 1993; Wernerfelt, 1984a, 1995).

Furthermore, organizational capabilities and resources-based view is best understood as the development of the organization's internal capacity to compete, grounded in abilities developed internally, making it difficult for the competition to acquire substitutes or imitate (Barney, 1991; Barney, 2001; Collis, 1994; Dierickx & Cool, 1989; Teece et al., 1994). Previous analyses of capabilities establish the correlation between the RBV and the strategic value of capabilities. For example, (Amit & Schoemaker, 1993; Peteraf, 1993), highlighted organizational capabilities as a source of competitive advantage providing an organization's durability. Capabilities-based durability leading to a competitive advantage was thought to be the consequence of three factors: (1) their scarcity; (2) their relative immobility; either because they cannot be traded or because they are much more valuable where they are currently employed than they would be elsewhere; and (3) the difficulty that competitors face in understanding and imitating them (Reed & DeFillippi, 1990). In this research study I attempt to capture the entrepreneur's investment of capital, time, and creativity in their deployment of digital marketing capabilities. It is however unknown if the value added from this effort creates a VRI for the organization, beyond the creativity attributed to the marketing effort. However, this assessment closely resembles what we know today as RBV although this early account did not define it as such.

Nevertheless, this definition of a firm's resources capabilities offers an early-staged understanding of its development as a function of firm competitive advantage. Although it is impossible to list all conceivable capabilities since every company builds its individual configurations, it is feasible to identify specific types of capabilities as core processes (Day,

1994; Eisenhardt & Martin, 2000; Teece et al., 1997). The extension of this knowledge, tied to performance outcomes, is based on how an organization can use both inside and outside capabilities. For example, inside capabilities are limited to technical skills, human resources, research and development expertise, financial management, integrated logistics process, cost controls, etc. (Day, 1994; Teece et al., 1997). Outside capabilities encompass market sensing, customer linking, channel bonding, and technological monitoring (Day, 1994). In addition, market-driven firms with superior capabilities successfully produce exceptional insights that guide and instruct inside-out capabilities (Day, 1994). Linking these processes in marketing provides the basis for marketing capabilities, and it points to how and why a complementary interest developed into the dynamic qualities of capabilities. It also helps to capture why interest in a firm capabilities-based competitive advantage has been an outgrowth of marketing by linking a firm's ability to sense the market and use internal and external capabilities to respond, making for dynamic capabilities.

### **2.2.2 Dynamic Capabilities (DC)**

The organizational capabilities literature expands to include dynamic capabilities as an extension of strategic management knowledge regarding a firm's resource configurations (Eisenhardt & Martin, 2000; Hodgkinson & Healey, 2011; Pavlou & El Sawy, 2011; Teece, 2007; Teece et al., 1997; Zahra et al., 2006). Dynamic capabilities (DC) are a collection of distinct and distinguishable activities, including product creation, strategic decision-making, and alliance building (Eisenhardt & Martin, 2000). Recognized as a maturing concept, DC captures the competitive advantage of firms by measuring their ability to reconfigure internal and external competencies to take advantage of rapidly changing environments (Teece et al., 1997). The DC

framework emphasizes organizational and strategic management competencies supporting the entrepreneurial management of a firm by helping managers to sense, seize and manage threats (Teece, 2007). The cohesive framework extended the strategic management discourse to include dynamic capabilities as an extension of RBV, adding a discussion of dynamic markets to the discourse (Teece et al., 1997). Their study revealed how organizations used internal and external firm-specific capabilities to adapt to changing environments. Elements of the dynamic capabilities approach are grounded in works by (Hamel & Prahalad, 1990; Hayes et al., 1988; Nelson & Winter, 1982; Penrose, 1959; Schumpeter, 1942; Teece, 1976, 1986a, 1986b, 1988). In addition, dynamic capabilities have evolved as an integrative method for comprehending emerging sources of competitive advantage (Teece et al., 1997). Capabilities and tangible resources are also understood to give organizations a competitive edge (Collins, 1994; Eisenhardt & Martin, 2000; Teece et al., 1997). While Teece et al. (1997) was the first to define dynamic capabilities in this context, researchers debated how the mechanisms of dynamic capabilities offer firms a competitive advantage. For example, dynamic capabilities are arranged as a set of *"specific and identifiable processes"* (Eisenhardt & Martin, 2000). The sentiment contrasts with the earlier writings which considered dynamic capabilities more generically (Teece et al., 1997). In this article, however, dynamic skills included the potential to achieve congruency in a changing business environment, where the strategy was to innovate, adapt, or rearrange resources to achieve an environmental match, but in a more general sense (Teece et al., 1997). In their seminal paper, *"Dynamic Capabilities: What are they?"* Eisenhardt & Martin (2000) further defined DC as *"identifiable processes such as product development and strategic decision making."* The paper observed DC as a tool used to manipulate existing resource configurations and as an expansion of RBV theory (Eisenhardt & Martin, 2000). What followed

was a more structured framework around the specific configurations and core competencies a firm can recombine to create a competitive advantage, although earlier definitions were less formative (Eisenhardt & Martin, 2000; Helfat, 1997; Teece et al., 1997). Furthermore, the research objective was to define dynamic capabilities that would give it more theoretical validity and provide an empirically accurate measurement. Here, effective processes are captured across firms, an idea that gained merit as research in dynamic capabilities matured (Rothaermel & Hess, 2007). Essentially this argument has led additional researchers to examine the concept of resource configurations. While RBV has remained the overarching, theoretical frame used to evaluate DC, resource deployment is elaborated upon by examinations of internal knowledge, learning, and behaviors to create an environment where new routines form, in support of competitive advantage (Hodgkinson & Healey, 2011; Pavlou & El Sawy, 2011; Teece et al., 1997; Zahra et al., 2006). In addition, refinements including separating substantive capabilities from dynamic capabilities, revealing substantive capabilities as those required to develop new products, differing from dynamic capabilities, which illustrate the ability to change the product (Zahra et al., 2006). More importantly, we see two frames for the usage of internal knowledge, one frame sets knowledge in a position of creativity, and the other observes the use of knowledge for adaptation to the environment. At best, dynamic capabilities are captured as a resource (knowledge, learning, or behavior) to help firms meet customer demand and competitor strategies to create a competitive advantage (Lee & Hong, 2002; Zahra & George, 2002). This position is opposed to firms that are less actively pursuing change or have settled into inertia regarding their market position (Song et al., 2007). In addition, it is essential to note that dynamic capabilities are not associated with successes, but knowledge can also operate as a function of failures a firm has experienced (Zahra et al., 2006).

Examining the micro and macro foundations of dynamic capabilities provides an understanding of how knowledge interacts with opportunity (Teece, 2007). For example, the ability to seize the opportunity is connected to the sensing market and technological opportunities, which operate as a function of human capital to 1) identify customers' needs and wants; 2) develop actions to facilitate meeting the market need (Rothaermel & Hess, 2007; Teece, 2007). The extension of the knowledge and learning framework associated with the development of dynamic capabilities established in the literature attempts to address a more refined definition of dynamic capabilities in later works by (Pavlou & El Sawy, 2011). The extension was inclusive of a proposed measurable model of dynamic capabilities; one that would display how first and second order models of dynamic capabilities relate to firm performance in a more parsimonious fashion (Pavlou & El Sawy, 2011). By placing dynamic capabilities in the context of new product development, researchers were able to demonstrate how reconfigured organizational capabilities enable a competitive advantage providing an extension and further development of the dynamic capabilities construct (Pavlou & El Sawy, 2011; Zahra et al., 2006). Advances included operationalizing metrics for sensing, learning, integrating, and coordinating capabilities, knowledge, learning, and behavior sensors of organization (Pavlou & El Sawy, 2011). The DC is widely used today and provides the theoretical and foundational basis for the proposed moderator variable digital marketing capabilities. Next is a discussion of how marketing and digital marketing capabilities are connected.

### **2.2.3 Marketing Capabilities**

The market changes whenever firms find themselves immersed in circumstances in which, as a result of technology advancements or environmental shifts, the organizations must

rethink how they structure their resources to maintain their position in the market (Teece et al., 1997). Originating from the Schumpeterian theory of competition, in which "creative destruction" compels firms to recombine capacities to better respond to market demands and remain competitive, dynamic capabilities profiles the framework for illuminating how firms achieve competitive advantage using their resource combinations (Schumpeter, 1934; Teece et al., 1997). It follows that marketing capabilities exhibit a configuration of resources deeply embedded within the organization combining the coordination of market-sensing and customer-linking activities that allow firms to act and respond to changing market environments that support the creation of competitive advantage for the firm (Day, 1994; Desarbo et al., 2005). Marketing capabilities benefit market-driven organizations by guiding their customer linking and channel bonding capabilities to push processes that effectively manage and deliver superior service (Day, 1994; Song et al., 2007). In dynamic markets, the resource configuration of firms with a market orientation is tactical and able to meet market demand with strategies that can change and adapt faster than other companies to optimize competitive advantage (Day, 1994; Dickson, 1992).

In the 1950s, marketing was presented as the conceptual basis of marketing thought and would grow into the exploration of market orientation research with a few empirical studies exploring the marketing adoption within firms (Barksdale & Darden, 1971; Borch, 1957; Hise, 1965; McKitterick, 1957; McNamara, 1972; Udell et al., 1976). Following the earlier studies, marketing orientation took shape in the late 80s and early 1990s with research endeavoring to understand the antecedent and consequences of market orientation (Deshpandé et al., 1993; Deshpande & Webster Jr, 1989; Houston, 1986; Narver & Slater, 1990). The characterization of market orientation was determined by three sets of activities: 1) company-wide market

intelligence; 2) intelligence distribution across departments; 3) organization-wide responsiveness. Responsiveness is further dissected into two activities - 1) response design (the utilization of market intelligence to develop plans); and 2) response implementation (the action of executing said plans) (Kohli & Jaworski, 1990; Zaltman et al., 1982). The simplified compartmentalization of the marketing orientation included intelligence generation, intelligence dissemination, and responsiveness (Jaworski & Kohli, 1993; Kohli et al., 1993). In addition, market orientation highlighted the ability of firms to track and respond to customers and perform at a higher level, creating a competitive firm advantage (Hult, 1998; Lusch & Laczniak, 1987; Narver & Slater, 1990). It is a key driver of business success independent of market, technical, or competitive instability (Jaworski & Kohli, 1993). Likewise, top management's alignment with marketing developments including resource allocations also received considerable attention in the market orientation literature and is consistent with organizational capabilities themes as an extension of RBV (Jaworski & Kohli, 1993; Kohli et al., 1993; Morgan et al., 2009; Vorhies & Morgan, 2003).

Developments within the marketing strategy literature highlights the importance of creating a strategic competitive advantage through marketing creativity and incorporating learning as a part of the narrative (Menon et al., 1999). Consistent with earlier studies evaluating organizational capabilities, firms with a marketing orientation combine and coordinate complex capabilities, which include learning and managing knowledge and behaviors to facilitate superior market performance (Day, 1994; Menon et al., 1999; Vorhies & Morgan, 2003). Furthermore, several studies validate marketing orientation actively leads to positive firm performance and that entrepreneurship also leads to superior firm performance (Baker & Sinkula, 1999; Barringer & Bluedorn, 1999; Covin & Slevin, 1989; Greenley, 1995; Han et al., 1998; Jaworski & Kohli,



1993; Kohli et al., 1993; Lumpkin & Dess, 1996; Matsuno & Mentzer, 2000; Miller, 1983). A firm's marketing orientation acts as the foundational basis for the development of marketing capabilities where market orientation helps us to identify how market intelligence is tied to how marketing is generated, disseminated, and responded to (Jaworski & Kohli, 1993; Kohli et al., 1993). In essence, marketing capabilities form as a collection of "best practices" that configure and, in some instances, reconfigure to achieve an internal synthesis of knowledge and resources to bring about competitive advantage (Jaworski & Kohli, 1993; Kohli et al., 1993; Morgan et al., 2009; Song et al., 2007; Vorhies & Morgan, 2003). Marketing orientation is important to understand as a contributor to digital marketing capabilities and provides a theoretical basis for discovering a firm's marketing capacities, however the nuances of today's market applications call for a comprehensive evaluation of marketing capabilities in conjunction with the new marketing tools available in today's environment of increased digital commerce.

However, cast light on marketing capabilities precisely, we classify them utilizing the eight multi-item measures outlined in Vorhies & Morgan (2003) study, which tie the measures to firm performance. The measures include eight first-order constructs (pricing, product development, distribution, marketing communication, selling, market information, marketing planning, and marketing implementation) and capability interdependence as a second-order construct (Vorhies & Morgan, 2003). This configuration varies slightly from the marketing capability's structure provided by the Miles-Snow strategic typology, which listed four firm capabilities (technology, information technology, market-linking, and marketing capabilities) (Miles et al., 1978).

Within the Miles-Snow typology, marketing capabilities are indispensable to market defenders (those concerned with protecting market segments). Researchers have not all agreed

in how to define the various typologies leaving inconsistent capabilities structures. Capabilities are in some instances represented as skills segmentation, advertising and pricing, knowledge of customers and competitors, and the ability to integrate marketing programs and strategic market orientation (Conant et al., 1990; Song et al., 2007). As with other studies however, the importance of management decisions is a consistent thread for identifying and facilitating a market orientation and marketing capabilities within firms with a strong market orientation focus (Day, 1994; Kohli et al., 1993; Menon et al., 1999; Vorhies & Morgan, 2003). The rapid advancement of marketing through digital channels has opened marketing capabilities to include a digital component, and technology has become a driver of marketing related to firm performance (Barwise & Farley, 2005; Brodie et al., 2007).

The arrival of technologies as a marketing tool has bifurcated the marketing research path with segments of research scattered among customers and consumers, marketing and performance metrics, e-business and commerce, and technological conduits for reaching customers, among other topics of interest (Barwise & Farley, 2005; Brodie et al., 2007; Lamberton & Stephen, 2016; Wu & Rangaswamy, 2003). Marketers are struggling to keep up with the deluge of data and the disruptive effects of tech-enabled clients and are finding challenges in narrowing the marketing capabilities gap (Day, 2011). The deliberate focus of this paper is to evaluate entrepreneurial firms utilizing digital marketing capabilities and measure the impact of those capabilities on firm performance. The following section focuses exclusively on digital marketing capabilities. It was necessary, however, to first lay out organizational, dynamic, and marketing capabilities for its historical and relational contexts.

### 2.2.4 Digital Marketing Capabilities (DMC)

So far, we have covered organization capabilities, dynamic capabilities, and marketing capabilities. They are all related by the common thread of capabilities and what organizations use to organize their internal and external processes to achieve and sustain a market orientation (Day, 1994; Penrose, 1959; Selznick, 1957). Contrived of the same contextual purpose as DC, DMC is related to DC within a digital context; they function as essential relationship competencies to take advantage of digitization's benefits (Wang, 2020). The following statement helps to clarify the differences between "IT" and digital: *"Digital" is not synonymous with "IT," and "[d]igital business strategy should not be positioned below business strategy but treated as the business strategy itself for the digital era"* (Bharadwaj et al., 2013). It follows that DMC is those capabilities allowing firms to adapt their resource structures and align new technologies and skills development to enhance real-time connectivity to customers and other important stakeholders (Day, 2011; Kane, Palmer, Phillips, & Kiron, 2015; Teece, 2014).

From the literature, we know that DMC is related to organizational capabilities, which have expanded to include dynamic and marketing capabilities. Each of these capabilities is an extension of RBV theory that emphasizes a firm's specific "capabilities" as influencers of firm performance (Penrose, 1959; Rumelt, 1984; Teece, 1984; Wernerfelt, 1984b). DMC encompasses the new paradigm of digital markets and enables companies to adapt their resource configurations and create new competencies to deal with real-time connections among stakeholders with an emphasis on related digital technologies to provide seamless integration of customer and supplier interactions (Day, 2011; Kane, Palmer, Phillips, & Kiron, 2015; Teece, 2014). Unlike ordinary capabilities (Teece, 2012), they are built upon flexible decision models (Teece, 2014), allowing firms to adapt their routines and evolve in fast-paced environments.

Digitization modifies resource combination processes in response to the newly produced resource combinations brought about by technology (Eisenhardt & Martin, 2000). Digitalization, in this instance, supports the generation of novel resources of value creation through the mechanism of relational capabilities and resource symmetries that firms acquire by reconfiguring their resources for suppliers, partners, and consumers (Amit & Zott, 2001).

Integrating the Internet with marketing operations alters export marketing roles (Prasad et al., 2001). For instance, instead of depending on intermediaries, the Internet enables the company to interact directly with consumers, suppliers, and alliance partners. In addition, as businesses aim to stay competitive, DMC should strengthen their direct communication with digital users and offer seamless integration of consumers, suppliers, and partners (Day, 2011; Deighton & Sorrell, 1996). DMC presents an opportunity to explore the paradigm shift within marketing to digitization because digital content and social media are transforming the ways individuals and businesses search for information and interact with one another; and offer related value for companies adopting and adapting skills in this area of business as a strategy to increase business performance (Dennis et al., 2009; Greenberg, 2010; Kietzmann et al., 2011).

There is a growing gap between the ever-increasing market complexity and the capability of most marketing organizations<sup>16</sup> to grasp and manage this complexity, leaving marketers and their businesses vulnerable (Day, 2011). One of the reasons for the concern is the threat to firms being unable to stay abreast of their marketing capabilities (Day, 2011). The increased use of the internet and digital technologies have caused changes in the business-to-business and business-to-consumer markets by increasing user-generated content and social media channels (Day, 2011; Kannan & Li, 2017). Another challenge in moving through the complexity of the data age

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<sup>16</sup> Marketing within organizations is seen as a strategic function of all marketing activities performed to reach client populations.

is tied to organizational rigidities, as path-dependent learning experiences emerge as capabilities that organizations are reluctant to change (Day, 2011; Liebowitz & Margolis, 1995). Inertia and complacency can also stifle the realization of the need for change causing firms to lose their competitive advantage by reacting to markets rather than reconfigure because they lack experience or are slow to adapt resources (Day, 2011; King & Tucci, 2002). The initial version of RBV (Amit & Schoemaker, 1993; Barney, 1991) is essentially static and provides no method for understanding how capabilities develop or adapt when nonlinear disruptions occur; for example, the internet's arrival and disruption of business practices (Makadok, 2001; Schreyögg & Kliesch-Eberl, 2007; Teece et al., 1997). Dynamic capabilities developed in response to this constraint; however, they are not considered efficient enough by themselves or sufficient enough to deal with the chaotic market environment (Day, 2011).

For marketing capabilities to advance, knowledge-sharing technologies enabled by technological advances are required to shape internal capabilities to anticipate market changes (Day, 2011; Sultan & Rohm, 2004). Recombination of resources increases the idea of combining entrepreneurship and learning orientations and offers a more balanced approach to innovation (Shane & Venkataraman, 2000; Wang, 2008). Through learning and experimentation, firms can enable technological capabilities to improve production, processes, and efficiencies, reduce cost and increase their competitiveness in the market (Shaltoni & West, 2010; Song et al., 2008). Considering the advances in technologies and diversity of marketing tools available in the market today, a firm's competitive advantage is tied to the utility of internal processes to take advantage of digital market opportunities. Used as a moderator, DMC offers an opportunity to explore how firms respond to the digital marketing environment by developing internal capabilities to sustain a competitive advantage.

### **2.2.5 Technology Adoption - An Antecedent to Digital Marketing**

Technology adaptation within firms has important implications for understanding the success of entrepreneurs and the trajectory of growth for firms in the digital age. Researchers are exploring some of these adaptations using the Technology Acceptance Model (TAM) theory. The TAM helps us understand the degrees of organizational e-marketing adoption levels as basic, intermediate, or advanced levels of technology deployment (Davis et al., 1989; Shaltoni & West, 2010). Firms at the basic level of adoption had limited interactivity with the customer, no e-marketing strategy, and a lack of committed resources (Shaltoni & West, 2010). These results were unlike firms with intermediate adoption, demonstrating a more complex and personalized e-marketing strategy, although resources were limited. Finally, at the advanced level of adoption, companies with high levels of interactivity, a clear and solid marketing strategy, and "enough" commitment of resources to execute the planned activities (Shaltoni & West, 2010).

Of additional importance to technology, adoption is the dynamic virtual environment that remains in a constant state of transformation (Lamberton & Stephen, 2016). A paradigm shift in technology accessibility may present an opportunity for female business owners. Unlike traditional hindrances to business growth, such as access to capital and network accessibility, we cannot assume technological adoption is only a function of business size or resource availability. The opposite might be true. One study states that a strategic focus on improving the degree of digitization in new venture products/services and processes might assist businesses in better managing their limited resources (Nambisan, 2017). It is also important to note the Lamberton & Stephen (2016) study's exploration of the evolution of digital media platforms, which categorized them into three distinct performance periods and usage as three functional themes. The study captured how the platforms went from a form of individual expression to the internet's function

as a tool and finally evolved into a marketing intelligence source (Lamberton & Stephen, 2016). The study makes an important observation regarding accessibility, noting that with time, conduits of connection between consumer and business have condensed (Lamberton & Stephen, 2016). The article also illuminated how digital social media and mobile marketing advancements encourage participatory consumer markets. Customer self-expression and decision support tools are operating to guide market intelligence and the importance of direct-to-consumer interactions (Lamberton & Stephen, 2016). While the article's objective was to examine the future of digital marketing, research studies have been slow to explore digital marketing from the perspective of firm capabilities. In general, the shortage of information related to entrepreneurs in this area is also quite puzzling, given that social media marketing has gained prominence as communication between consumers and companies regardless of size (Michaelidou et al., 2011). More research is needed to measure and understand digital markets and how firms use digital marketing as an access point to capture increased sales.

A new area of research gaining momentum is the exploration of the increased reliance on digital tools, including customer relationship resources, brand equity, customer equity, and channel equity, viewing these assets as a part of a firm's market-based resources (Varadarajan, 2020). These areas also present new research opportunities related to entrepreneurship and marketing under a broader research objective. For our focus, however, a related subject emerging from under the marketing, digital marketing, and entrepreneurship heading is that of digital marketing capabilities (DMC).

Technology within marketing offers the opportunity to advance the relationship. Research contextualizes it this way – a compelling value proposition for firms offers contained in the prototype outside-in organizations, with the required agility, will function as a permeable

entity, capable of forging seamless collaborations with customers, suppliers, and information resources (Day, 2011). Firms provide value to customers via co-creation and the ongoing reconfiguration of roles among participants in the value chain (Normann & Ramirez, 1993). Digital technologies are still evolving, and digitization is an "open and dynamic concept" (Hagberg et al., 2016). Digital marketing skills enable firms to adjust current resource setups and grow new talents to test real-time stakeholder connections (Day, 2011; Kane, Palmer, Phillips, Kiron, et al., 2015; Teece, 2014). Lastly, dynamic capabilities may vary resource combinations and give outward-facing relational competences that use digitalization (Eisenhardt & Martin, 2000; Wang, 2020). Digital Marketing capabilities provide an extension of the marketing capabilities literature by addressing the impact of technologies and digitization present in the business landscape of today.

### **2.3 The Digital Marketing Capabilities (DMC) Construct**

The discussion so far captures the path of development and justification for using the digital marketing capability construct as a chosen moderator of the relationship between EO and firm performance. In this next section, we discuss how DMC arrived at its current state as a model beginning with the strategic type of framework by (Miles et al., 1978). The strategy and marketing literature has used the Miles-Snow 1978 typologies as a blueprint for classifying organizational types (Conant et al., 1990; Hambrick, 1983; McDaniel & Kolari, 1987; McKee et al., 1989; Shortell & Zajac, 1990; Walker Jr & Ruekert, 1987). The substantive contribution of Miles-Snow is that it's a model for examining managerial decision-making (including managerial processes and capabilities) of the strategic business unit within its environment. Businesses in the model identify as: Prospector-Analyzer-Defender-Reactor (P-A-D-R



framework). *Prospectors* are technologically innovative and look for new markets; *Analyzers* tend to prefer a "second-but-better" strategy; *Defenders* are engineering-focused while focusing on maintaining a secure niche in relatively stable market segments; and *Reactors* don't have a stable strategy and are very responsive to short-term environmental needs (Desarbo et al., 2005). Despite its reputation as an enduring classification system, the research community has criticized the framework as lacking empirical validation (Conant et al., 1990; Hambrick, 2003; Shortell & Zajac, 1990; Zajac & Shortell, 1989). The existing framework also received criticism and thought to lack a complete view of strategy and was deficient in exposing connections between capabilities, strategic types, and firm performance across a wide range of industries (Hambrick 1983). In response, researchers Desarbo et al. (2005) developed an empirically derived quantitative alternative to the existing Miles-Snow (1978) framework. The newly constructed quantitative model captures five major strategic capability areas (Market-linking Capabilities, Technological Capabilities, Marketing Capabilities, Information Technological Capabilities, and Management Capabilities) (Desarbo et al., 2005). Their model augmented the scope of the original Miles and Snow in its consideration of three key variables: strategic firm capabilities, environmental uncertainty, and performance.

Unlike the Miles and Snow framework, which did not explicitly model the role of environmental factors or strategic capabilities in shaping strategic types of the new model implies capabilities and environmental factors do interrelate with strategic variety (Hambrick, 1983). The findings did not negate Miles and Snow 1978 but identified as complimentary, second-order derivatives of the pure (P-A-D-R) groupings. Lastly, the researchers pointed out their study was context specific. The finding from Desarbo et al. (2005) contributes significantly to future research in marketing and information technology capabilities and has laid the

groundwork for additional studies in this area. Two research studies of particular interest are Song et al. (2008) and Wang (2020), as they have advanced the marketing and information technologies capabilities discourse by extending research from earlier studies in this area (Conant et al., 1990; Desarbo et al., 2005). First, Song (2007) confirmed research of Desarbo et al. (2005), Hambrick (1983) and Miles et al. (1978), observing of single business unit behaviors within firms acting as Prospectors will want to keep prospecting and will develop capabilities in this area (Song et al., 2008). In addition, they found while information technologies (IT) have advanced, more research is needed to capture strategic choices to understand the impact of IT (Song et al., 2008). Their finding is consistent with other calls to address the gap in marketing research and its connection with the digital environment (Canhoto et al., 2021; Day, 2011; Herhausen et al., 2020a; Kannan & Li, 2017). More specifically, the research in the digital marketing capabilities space has included international firms (Wang, 2020), industrial firms, (Herhausen et al., 2020a), business models (Verhoef & Bijmolt, 2019), impact on firms and customer performance (Homburg et al., 2019), and organizational capabilities (Chaffey, 2010). The literary dive into digital marketing is vast, covering many topics. However, there is an opportunity to explore two crucial themes related to digital marketing capabilities. First, to offer an expanded dialogue regarding the digital marketing capabilities that have been reconceptualized by observing dynamic capabilities Wang (2020) (~~Wang, 2020~~) by testing them in a domestic market. The second is to explore the moderating effect of digital marketing capabilities between multi-dimensional variables associated with entrepreneurial orientation and firm performance. This includes a comprehensive look at the practical relevance of digital marketing tools such as search engine optimization (SEO), social media outlet usage, as a means of customer relationship management. The research also explores work hours dedicated to

digital marketing and the financial investments associate with annual spending related to social media marketing. The idea behind exploring practical usage of social media marketing tools is in support of contributing to managerial decision making and to discover if investments of time, talent and financial resources affect firm performance.

## 2.4 An Exploration of Female Ownership

The first entrepreneurship literature capturing female entrepreneurs was more than 40 years ago (e.g., (DeCarlo & Lyons, 1979; Hisrich & O'Brien, 1981; Pellegrino & Reece, 1982; Schwartz, 1976; Sexton & Kent, 1981). Female entrepreneurship research is unlike general scholarship in entrepreneurship, found recorded in early 1930 and later in broad themes within the field of entrepreneurship (Katz, 2003; Kent et al., 1982). The delayed interest in documenting the female entrepreneurs' experience is symbolic of the female's position in society before females acquired voting rights or general financial independence.<sup>17 18</sup> Much of the early female entrepreneurship literature originated in developed nations such as the United States and the United Kingdom (Jennings & Brush, 2013). Organizations like the Global Entrepreneurship Monitor (GEM)<sup>19</sup> have been instrumental in collecting rich entrepreneurship data from across the

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<sup>17</sup> Since 1878, a women's suffrage amendment had been proposed each year in Congress. In 1919, the suffrage movement had finally gained enough support, and Congress, grateful for women's help during the war, passed the Nineteenth Amendment on June 5 (<https://www.loc.gov/classroom-materials/elections/right-to-vote/voting-rights-for-women/>).

<sup>18</sup> From the 1700s to the beginning of the 20th century, one of the longest and most important fights was for women's property rights and ownership. Before women could legally own property, their husbands or another male relative took care of any property that was given to them or left to them. This lack of legal protection made it hard for women to have financial autonomy. (<https://preprod.familyhandyman.com/article/women-property-rights-history/>).

<sup>19</sup> The Global Entrepreneurship Monitor (GEM) research project is an annual assessment of the national level of entrepreneurial activity in multiple, diverse countries. Today the study counts the participation of 115 countries and with longitudinal data dating back more than 20 years. [Wikipedia](#)

globe. They have strategically aligned themselves to capturing the gendered experiences of entrepreneurship, adding context and texture to the experiences of female entrepreneurs in diverse societal settings (Jennings & Brush, 2013). Female entrepreneurship research themes include *attitudes and motives toward enterprise development* (Cliff, 1998; De Bruin et al., 2007; Eddleston & Powell, 2012; Langowitz & Minniti, 2007; Morris et al., 2006), *financial resource constraints* (Brush et al., 2006; Eddleston et al., 2016; Mitchelmore & Rowley, 2013; Orser et al., 2006a; Yacus et al., 2019), *network structures* (Brush et al., 2009; De Bruin et al., 2007; Langowitz & Minniti, 2007), and the *influence of social roles in female entrepreneurship experiences* (Ahl, 2006; Bosse & Taylor III, 2012; Eddleston & Morgan, 2014; Gupta et al., 2019; Guzman & Kacperczyk, 2019; Koburtay et al., 2020; Liñán et al., 2020; Runyan et al., 2006; Shahriar, 2018; Yang & del Carmen Triana, 2019). In addition, the quest for legitimacy is an embedded theme of female entrepreneurship research and is related to the role of gender (Prothero & McDonagh, 2021; Sweida & Reichard, 2013a). We see the early evidence of the legitimacy challenges in the struggles to define female entrepreneurship research as its research discipline and as one not needing to be compared to male entrepreneurship (Ahl, 2006; Brush et al., 2009). The justification for this research approach was grounded in early female entrepreneurship research history using feminist theory by Harding (1987), which exposed the effects of the power relationships within a society that places females in roles subordinate to men (Ahl, 2006). In subsequent years, Ahl (2006) would point out that society views entrepreneurship as a male trait and, in doing so, cast female entrepreneurs as "the other" (Simone De Beauvoir, 1953). She argued the differences should not lessen the female entrepreneur's identity or contribution as entrepreneurs, but that research should seek to understand their unique contribution to the discipline. Researchers have discovered that men and

women experience entrepreneurship differently, but the depth of these differences appears to be constantly evolving and in need of continued exploration (Ahl, 2006; Cliff, 1998).

The second area of legitimacy is in alignment with the experiences female entrepreneurs have had as they seek out opportunities as business owners (Ngoasong & Kimbu, 2019; Yang & del Carmen Triana, 2019). Legitimacy permeates nearly every experience female owner face influencing the importance of understanding the gender effects associated with entrepreneurship. For example, gender-stereotypic beliefs are evidenced as providing restrictions on needed financial resources, as seen in a study examining bank lending practices bankers discriminated against female owners (Riding & Swift, 1990). Gender research in entrepreneurship remains a vibrant study area because social structures change gradually, if at all, and the need to capture those changes or cultural nuances is a constant. Fortunately, the theoretical lens of social role theory and social role incongruity helps us to explore these themes and is appropriate for research studies involving this population (Jennings & Brush, 2013).

The importance of networks is another salient area of female entrepreneurship research. Historically, networks for female entrepreneurs have consequently been limited to close family and friends (Powell & Eddleston, 2013). With the new environmental paradigm shift to working and socializing online working environments, female entrepreneurs are finding new paths for network expansion, including new avenues of opportunity for access to capital (Groza et al., 2020; Seigner et al., 2022). Here we explore the importance of EO as a proactive trait toward networking and for building social capital and supporting business opportunity expansion for female entrepreneurs in the context of digital commerce trends.

The female entrepreneurship literature has some fundamental insight regarding the firm performance and growth expectations of female firms. Gender bias is an observed barrier to success linking access to capital constraints to growth limitations when female entrepreneurs are compared to men who generally receive more funding for their businesses (Bittner & Lau, 2021; Carter et al., 2007). Gender bias effects compound when female business owners are discouraged from taking advantage of high-growth opportunities (Cliff, 1998; Morris et al., 2006). These findings, however, remain inconsistent, nuanced, and deserving of additional exploration. For example, some studies have found that the moderating effect of gender on entrepreneurial intentions is personalized and stems from the owner's individual growth intentions (Harrison & Mason, 2007; Sullivan & Meek, 2012; Sweida & Reichard, 2013b). Expanding this dialogue is critical to understanding today's female entrepreneurs, especially when so many face challenges that make careers in entrepreneurship difficult for them. Highlighting their entrepreneurial orientation is purposed to better understand the drivers behind why many choose entrepreneurship as a career path and to determine if firm performance is impacted by certain EO behavioral traits.

#### **2.4.1 Female Entrepreneurship Historical Perspective**

The first female entrepreneurship journal article received publication in Schwartz (1976), with the majority of the early research focusing on the psychological and environmental factors that encourage or discourage entrepreneurial activity in women and how these characteristics differ from those of men (DeCarlo & Lyons, 1979; Hisrich & O'Brien, 1981; Jennings & Brush, 2013; Pellegrino & Reece, 1982; Schwartz, 1976; Sexton & Kent, 1981). The research on female entrepreneurship remained minimal before the 2000s, with an abysmal 138 published

scholarly articles (Jennings & Brush, 2013). However, the trend toward publishing female entrepreneurship topics gained significant interest following the 2000s and more than tripled well into the next decade and beyond (Jennings & Brush, 2013). As previously indicated, study methodologies contrasted female-led firms against those run by men, but other writers rejected this methodology because it revived the notion that female-owned businesses are subordinate to those run by males (Ahl, 2006; Cliff, 1998; Mirchandani, 1999; Ogbor, 2000). The role of female entrepreneurs and their role in society, industrial enterprise behavior, and feminism were at the forefront of research in the early 2000s. Subsequent research studies deepen our understanding of the female perspective and challenge the paradigm of male-centric entrepreneurship as the only measurement focus (Ahl, 2006; Marlow, 2002).

Nevertheless, females have remained resilient, facing financial and social challenges. The research indicates females are experiencing a different path of entrepreneurship existence, one that research would help define. For example, in later years growth orientation of female enterprises would assert itself as a topic of interest with several studies evaluating the business size selection and behaviors of female entrepreneurs (Brush et al., 2009; De Bruin et al., 2007; Morrison, 2006; Runyan et al., 2006). This led to the discovery that growth orientation initiated at business inception, transforming the idea that all female-owned enterprises had the same high growth expectation, though few achieved this success (Gundry & Welsch, 2001). Novel female ownership discoveries lead researchers to question females' business growth ambitions (Cliff, 1998). With ambition as a driver, discussions of gender growth orientation increased in academic journals into the 1990s and early 2000s. These studies helped advance female causes and moved the proverbial research needle leading to a significant expansion of scholarly interest in female entrepreneurship. While earlier studies concentrated on feminism in later years,

academic researchers approach female entrepreneurship studies using a variety of theoretical frameworks incorporating both quantitative and qualitative methodologies to understand the industry advancements of females in business (Alsos et al., 2006; Carter, 2000; Hughes et al., 2012).

In the years following this early research, academia expanded the female enterprise research focus to tackle the diversity of issues that have come to challenge female entrepreneurial growth. In addition, the primary emphasis of prior research was on the intersection of feminism with demand- and supply-side economics, the evaluation of sales, and industry utilizing resources-based view theory (Barney, 1991). Resources-based view theory has permeated the study of female entrepreneurs as an instrument to highlight where the mechanism of entrepreneurship can be challenging for females who are typically resource-constrained (Runyan et al., 2006). Much of the research efforts leading into the late 2000s focused on attenuating the research gap, previously ignored or under-researched by scholarly outlets (Hughes et al., 2012). Scholars left an otherwise male comparison-focused narrative to one incorporating what makes female entrepreneurship unique. The subsequent decade of research explores issues that have expanded the gender narrative, increased our understanding of access to capital challenges, and outlined the critical role knowledge capabilities and behavior characteristics play in female entrepreneurship, which we discuss in detail in the following section.

While we see female literature taking shape into the 2000s, the research volume between 2001 and 2005 was slow to progress, with only a tiny number published in top-tier journals (Jennings & Brush, 2013). Researchers have attributed the limitations to a lack of theoretical understanding (Ahl, 2006), the lack of infrastructure support and financial support from



universities investigating female entrepreneurship (De Bruin et al., 2006; De Bruin et al., 2007), and gendered measurement instruments that have captured male entrepreneurship traits (Hurley, 1999; Stevenson, 1990). In recognition of what had essentially become hindrances to capturing how females engage in entrepreneurship, in the years that followed, attentive researchers mined for gender impacts of entrepreneurship and, in their efforts, expanded beyond what had been a binary view of male/female comparisons (Ahl, 2006; Ahl & Marlow, 2012; Ahl & Nelson, 2010; De Bruin et al., 2006; Hughes et al., 2012; Mirchandani, 1999). For example, what emerges from this period in the early 2000s is a significant pivot in favor of female entrepreneurship as academic research with the study, "Why research on female entrepreneurs needs new directions" (Ahl, 2006). The study disrupted the female entrepreneurship research space at the time, innovatively using feminist theory to rebuff the notion of defining entrepreneurship as a "male" practice (Ahl, 2006). By uncovering feministic ideology, the author was able to detect gender discrimination by highlighting how these ideological frameworks were ingrained and persisted in society and how they significantly hampered the development of female-owned businesses (Fairlie & Robb, 2009; Neumark & McLennan, 1995; Sexton & Kent, 1981; Watson, 2006). The research also energized a discourse shift in female entrepreneurship studies by highlighting the *qualities* and *capacities* unique to the female gender within their entrepreneurial experience. Future researchers strengthened research models, taking a more fine-grained approach to investigating multi-faceted challenges of doing business as a female. For instance, research studies started to identify the significance of gender, discovering that female entrepreneurial experiences were gendered and operated per society's ingrained social norms (Jennings & Brush, 2013; Morris et al., 2006; Thebaud, 2015). Female entrepreneur research has pulled away from a genuine misconception about this segment of the entrepreneurship community but remains

burdened to continue learning. Future scholars must delve further into our knowledge of female entrepreneurs and study the evolution of their successes, challenges, and capacities.

The importance of social structures defining female entrepreneurship appears challenging, causing researchers to take a closer look at the gendered aspects of female entrepreneurship. What followed in 2006-2010 was a steady flow of articles in new directions. A robust body of female enterprise research emerged in the United States, the United Kingdom, and other countries during this period. The social scientist looked to gain a deeper understanding of female enterprises' qualities and characteristics that are inherently different from those of men (Langowitz & Minniti, 2007; Morris et al., 2006). Topical areas included a resources-based view focused on illuminating barriers to gaining access to capital for growth (Brush et al., 2001; Morris et al., 2006; Orser et al., 2006a). We also see an increase in the number of studies using gender as a moderator to understand female's attitudes and accessibility to venture capital (Alsos & Ljunggren, 2017; Balachandra et al., 2019; Eddleston & Morgan, 2014; Morris et al., 2006) and access to bank loans (Carter et al., 2007), and increased interest in female's behavioral science (Langowitz & Minniti, 2007) relating to business decisions. These have paved the way for additional research models utilizing life-course theory and a resources-based view to understand the growth intentions of female business owners (Davis & Shaver, 2012; Robb & Watson, 2012). In the exploration of why female business growth is seemingly stagnant, findings have indicated female entrepreneurs choose to start and stay within traditionally low-growth industries such as retail and services, which may have influenced their lack of or slower pace of growth (Morris et al., 2006). What has become evident in the literature are disparities that exist for females choosing entrepreneurship as a career, with personal objectives and social

structure pressures posing challenges for business owners who sincerely want to expand their companies (Davis & Shaver, 2012; Robb & Watson, 2012).

Once moving beyond entrepreneurship as a "male" function, as pointed out by Ahl (2006), access to capital and resource constraints continued to emerge as a primary theme with an array of related topics, including understanding capital choice preferences, bootstrapping finance, and gender effects on finance (Brush et al., 2006; Eddleston et al., 2014; Orser et al., 2006a). Not only does a lack of resources stagnate the potential of enterprise growth, but it also signals entrepreneurship continues to be gendered. The spillover effects of constrained resources are a legitimate concern for female enterprises with the desire to grow. For one, it can damage the potential of female business owners. For example, some studies have questioned why "rapid growth" or "high technology" female enterprises in these industries continue to lag relative to their male counterparts when high growth is the business objective (Menzies et al., 2004; Morris et al., 2006).

Resource constraints embedded within social structures require women to participate differently from their male counterparts when pursuing access to capital. The differences become more pronounced as we see increases in female entrepreneurship participation but small increases in venture capital funding access. For example, female entrepreneurs receive less than 2% of available venture capital (Kanze et al., 2017). The spillover effects of constraint are a legitimate concern for female enterprises with the desire to grow. One reason is that it can damage the potential of female business owners. For example, some studies have questioned why "rapid growth" or "high technology" female owned firms in these industries continue to lag relative to their male counterparts when high growth is the business objective (Menzies et al., 2004; Morris et al., 2006).

In addition, researchers have also endeavored to understand the reasons for the choices of female entrepreneurs to enter an entrepreneurial career are precipitated by "push" or "pull factors (Morris et al., 2006; Thebaud, 2015). Push factors are symbolic of negative path changes versus pull factors which are motivated by identifying market opportunities and responding to them (Shapero & Sokol, 1982). Furthermore, scholars have suggested that women are more often pushed into entrepreneurship than men because they have no other means of viable employment due to being less educated or experienced and they have more career disruptions (Coleman & Robb, 2012; Kelley et al., 2011). The research has led us to understand that growth models of female entrepreneurship are deeply tied to pursuits of self-actualization, helping some to achieve a level of work-life balance. Entrepreneurship offers an opportunity for proprietors with high-growth aspirations and a path of escape when family and work paradigms force women into entrepreneurship as a career (Davis & Shaver, 2012; Devine et al., 2019; Morris et al., 2006; Thebaud, 2015). Moving through the complexity of female ownership archetypes allows scholars to comprehend the operating environment of these businesses. In female entrepreneur communities, growth is dichotomous, with some owners choosing low growth over high growth. In this case, growth is a personal decision and not the consequence of a lost opportunity. For those females desiring enterprise growth networks and social capital become of paramount importance. Next, we explore the importance of networks and social capital in sustaining female enterprises and how EO potentially facilitates these relationships and vice-versa.

Between 2013 and 2019, research on female enterprises continued to highlight disparities in resources, including competency and institutional infrastructure support, which in addition to access to capital and growth orientation, are vital resources and, when absent, can prevent even the best firms from gaining a competitive advantage (Guzman & Kacperczyk, 2019;

Mitchelmore & Rowley, 2013; Morris et al., 2013; Thebaud, 2015). As female research progresses, an increased number of studies feature a multi-theoretical approach using combinations of institutional theory, resource-based, congruity theory, and life-course theory; in an attempt to characterize the field of females in entrepreneurship-based research (Davis & Shaver, 2012; Thebaud, 2015; Xie & Lv, 2018; Yang & del Carmen Triana, 2019). Evidence demonstrates that females continue to have great difficulty meeting this challenge of growing beyond the start-up phase of operations. Earlier papers attributed the lack of growth as a personal choice of female-owners (Morris et al., 2006). However, new research is emerging to tell a different story, one in which access to resources recast the focus to include accessing resources in alignment with traditional growth models for business where strategies, human capital and technology are configured for high-growth focused enterprises (Hechavarria et al., 2019). There is room to explore why some female entrepreneurs have chosen growth aspirations, keeping in focus the gender role constraints that exist. In addition, research has to make allowances for the changing times of race and gender equality models that have swept across the nation in the past three years as documented above.

Female entrepreneurship research is impacted by the educational system, religious, and professional structures within a society. Moreover, workforce developments play a central role in the pursuit of entrepreneurial opportunities with professional expertise showing demonstrated impacts on the types of business and investments that are possible for female entrepreneurs (Ibarra et al., 2010; Thebaud, 2015; Webb et al., 2019; Xie & Lv, 2018). A more educated workforce offers a positive outlook for future research in female entrepreneurship and a definite need to expand scholarly discourse. In addition, few studies have emphasized understanding the human resource capacity of females before and after they enter business ownership, but this is

also important for illuminating the organizational growth paradigms of and achievement models for females entering entrepreneurship as a career (Thebaud, 2015; Yang & del Carmen Triana, 2019). Discussions regarding entrepreneurial competency and resources management should also see expansions of institutional infrastructure supports, social embeddedness, and role incongruity (Coleman et al., 2019; Thebaud, 2015; Xie & Lv, 2018). Not only does a lack of resources (financial, networks, or knowledge) stagnate the potential of enterprise growth, it signals female ownership models as gender challenged, yet female owners continue to reach for entrepreneurship as their chosen career.

#### **2.4.2 Networks and Social Capital**

Regardless of their growth orientation, females are still experiencing resource shortages, including a lack of network connections. Network connections are essential as they help to build business credibility; when networks are sparse, they can dampen prospects for funding and sustained enterprise development (Xie & Lv, 2018). Networks can also present opportunities to secure funding for growing businesses (Ngoasong & Kimbu, 2019). Entrepreneurs with relationally embedded ties, including financiers, overcome knowledge asymmetry challenges to establish non-contractual governance frameworks based on trust and reciprocity reap substantial benefits (Jonsson & Lindbergh, 2013). For females, these relationships are generally scarce (Yang & del Carmen Triana, 2019). Female entrepreneurs are usually underrepresented in these types of beneficial networks, and while there are potential benefits for participation, female entrepreneurs are less likely to participate (Yang & del Carmen Triana, 2019). Despite the lack of critical networks, research has demonstrated that social and business networks positively affect EO and market orientation in firms (Presutti et al., 2019). Women are using networks to

find new business opportunities; however, this is not without challenges as the research also highlighted the "proclivity to trust" as a significant barrier for female networks seeking female entrepreneurs (Farr-Wharton & Brunetto, 2007). Perceptions of trust, condensed networking and socially embedded structures present challenges unique to the female entrepreneurship experience. However, social structures permeate every aspect of their experience as entrepreneurs including business choice and how they gain access to available networks (Mitchelmore & Rowley, 2013).

Females may be marginalized because of their domestic responsibilities and lack of participation in male-oriented networking activities, making it difficult for them to break into the "old boys club," preventing females from gaining access to valuable business networks (McAdam, McAdam, et al., 2019). The results of homophily in networked spaces involving men have been shown by females' limited network availability or involvement.

Contrary to past experiences with networks, new technological advances are challenging existing network structure with the use of online platforms as communication, funder opportunities that are potentially disrupting close-knit family tie structures that have prohibited access to capital or enterprise growth. For example, crowdfunding offers the opportunity for female investors to fund female enterprises (Mollick & Robb, 2016). The availability of new network resources is breaking new ground for female ownership possibilities.

Social capital is another means of networking relevant to the female entrepreneurship experience. Social capital is implicit; it is the goodwill produced by the web of social relations that mobilizes action (Adler & Kwon, 2002). Social capital is said to originate in the social structure where the actors participate (Adler & Kwon, 2002). It has an impact on three areas: (1) market relations – products and services are exchanged or bartered, (2) hierarchical relations –

obedience to authority changed for material/spiritual security, and (3) social relations – where favors and gifts exchange. Each area has positive and negative implications for those who participate in the network and those who reside outside social networks.

While these connections are important to the female entrepreneurs' experience, not all social network and social capital development aspects are positive (McAdam, Harrison, et al., 2019). One negative part of engaging social capital is the time it takes to formulate relationships. For example, enterprise owners who are in the start-up phase of business need to mobilize resources, including the support of a more extensive network of resources but may be the least likely to have access to the network or enough "social capital" to enter the network (Adler & Kwon, 2002; Greve & Salaff, 2003). In addition, all social networks are not beneficial but can also constrain female entrepreneurs placing some in "ghettos" or cause conditions of constrained "gazelles" because of social embeddedness that limit growth (McAdam, Harrison, et al., 2019; Ngoasong & Kimbu, 2019).

Social and business networks incorporate relationships from family, friends, suppliers, and customer relationships. However, social capital may be limited to close family and friends and may prove inadequate to meet the needs of the enterprise owner (Eddleston et al., 2014; Greve & Salaff, 2003). In addition, relationship networks for young female entrepreneurs may lack key informal relationships where help from broader family and friends is also missing (McGowan et al., 2015). The lack of strategic relationships can disadvantage young female business owners more acutely, reflecting a deficit in the social capital they bring to their venture efforts in accessing financial resources, emotional support, and loyal and unpaid family workers (McGowan et al., 2015). Social capital is relational capital, and many positive aspects are associated with successfully developing and using social capital.



Improving female entrepreneurship studies requires a perpetual evaluation of a society's gender and sex roles, including expanding the definitions of sex and being attentive to topics central to the female entrepreneurs' experiences (including but not limited to family-life balance, institutional infrastructure, networking capability, leadership styles, and career choice). Additional research offers the opportunity to capture the historical gains and document where more research is essential to moving female entrepreneurs toward a continuum of success (however *they* define it).

### 2.4.3 Female Entrepreneurship and Gender Role Theory

Gender role congruity theory, an extension of gender role theory, has helped us understand how females in business may face sex-based biases (Eagly & Carli, 2003; Koenig et al., 2011). The theoretical framework originates from the psychology literature Eagly & Steffen (1984) as researchers attempted to understand the societal differences between men and women. Unlike women, men exhibit agentic (aggressive), and women as communal (selfless) traits that carry over from youth with boys and girls socialized to enter roles they would be employed by (Eagly & Steffen, 1984).

A female's increased participation in the workforce found them to be "double burdened" by work and family responsibilities (Eagly & Steffen, 1984). The social role research stream developed in the background of trying to understand the stereotypical beliefs about the sexes and their differing social roles. Utilizing a Darwinian perspective<sup>20</sup> researchers provided the basis for

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<sup>20</sup> Beginning in 1837, Darwin proceeded to work on the now well-understood concept that evolution is essentially brought about by the interplay of three principles: (1) [variation](#)—a liberalizing factor, which Darwin did not attempt to explain, present in all forms of life; (2) heredity—the [conservative force](#) that transmits similar [organic form](#) from one generation to another; and (3) the [struggle for existence](#)—which determines the variations that will confer advantages in a given [environment](#), thus altering [species](#) through a selective [reproductive rate](#) (<https://www.britannica.com/science/Darwinism>).

understanding the sex differences by the division of labor within society. The socialization of society is the primary process defining social role theory. This quote from Archer & Haigh. (1999) offers context to social role theory's need for development.

*“It is apparent that the Darwinian perspective in the form of male competition and the reproductive conflict of interest between men and women, can provide alternative explanations for the origin of sex differences identified by research associated with social role theory. We therefore need to ask whether the division of labor between the sexes- the main feature of social role theory—does it provide a more plausible alternative...Whether male inexpressiveness or the more general features of agency and communion better explain the other sex differences cannot be answered so readily” (Archer. 1999).*

When female and male roles contradict established ideas and social structures, social role theory is applied (Archer & Haigh, 1999; Eagly & Wood, 1991). The focus on roles includes *descriptive* norms, which are agreed-upon expectations about what group members do, and *injunctive* norms, which are agreed-upon expectations about what a group of individuals should or ideally would do (Cialdini & Trost, 1998; Eagly & Karau, 2002). According to gender role theory, there are disparities in what is considered appropriate actions for men and females due to stereotypes based on gender role expectations, such as considering entrepreneurship as a male-dominated task. (Ahl, 2006; Eagly & Wood, 2011; Heilman, 1983).

Social role expectations have given perspective to the experiences of female entrepreneurs by allowing researchers to look beyond female entrepreneurs' behavioral

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assumptions, offering a richer perspective as to why the female entrepreneur's experiences and choices have differed from men participating in the same career choice. For example, the idea that entrepreneurship is gendered is supported, with female entrepreneurs showing different character traits than males impacting their leadership behaviors and altering available funding amounts (Eddleston & Powell, 2008, 2012). The female social role within society is nuanced and can reap inconsistent results regarding accessing capital. For example, research evaluating the venture funding process using signaling theory, female participants in pitch competitions who signaled commitment and company viability were inadequately rewarded (Balachandra et al., 2019). In addition, researchers also found that socialization created gender differences in a female business owner's entrepreneurial propensity in matrilineal societies (Shahriar, 2018). Social role theory-based research provides new insights into female entrepreneurship. One study, for instance, examined the professional satisfaction of female business owners and found these owners desired employee relationships and contributions to society. In contrast, male business owners preferred status (Eddleston & Powell, 2008). Compared to gendered differences experienced by female entrepreneurs, some female owners align with high growth expectations and are not considered gender congruent in their aspirations to grow their firms (Sweida & Reichard, 2013b). The inconsistencies pose a conflict in society about female roles for those choosing entrepreneurship and creates societal alignment challenges that can impact all aspects of entrepreneurial development. There is a call for more research on women with high growth intentions to understand the nuances of this population. More recent studies have answered some of those calls incorporating more national and cultural contexts (Kelley et al., 2017; Ngoasong & Kimbu, 2019).

Leadership style is another area in need of further development as a contributor to innovation in female-owned firms. Role congruity theory as noted in Eagly & Karau (2002) asserts that female leadership is more difficult since the "think manager, think male" paradigm has persisted for decades (Eagly et al., 1995; Koenig et al., 2011). New research is emerging however, to reveal that female leadership acceptance of the last decade is shifting away from this pattern of thinking. Historically, female management styles were found to be more diplomatic and participatory within organizational settings (Eagly & Johnson, 1990). This may be the key to how female owners are able to innovate and contribute to firm performance. For example, top-management teams direct firm decisions and strategic posture, and to a large extent these decisions are what contribute to organizational behaviors and performance (Carpenter et al., 2004; Hambrick & Mason, 1984). Females participating in top leadership roles are documented as contributing to firm innovation and performance. We see evidence of this in a recent research where female participation on top management teams is linked a firm's competitive edge (Wu et al., 2021). In context, being on a top management team in a resource rich environment is not the same as being self-employed and bootstrapping in a business. There is value, however, in seeing how the female leadership style contributes to environments of cooperation leading to innovation, but there is dearth of research in this area. Moreover, female owners have an abundance of role identity obstacles to overcome, as much of what they face has been heavily embedded in society, but perhaps digitization and social change are providing a gateway to favorable change.

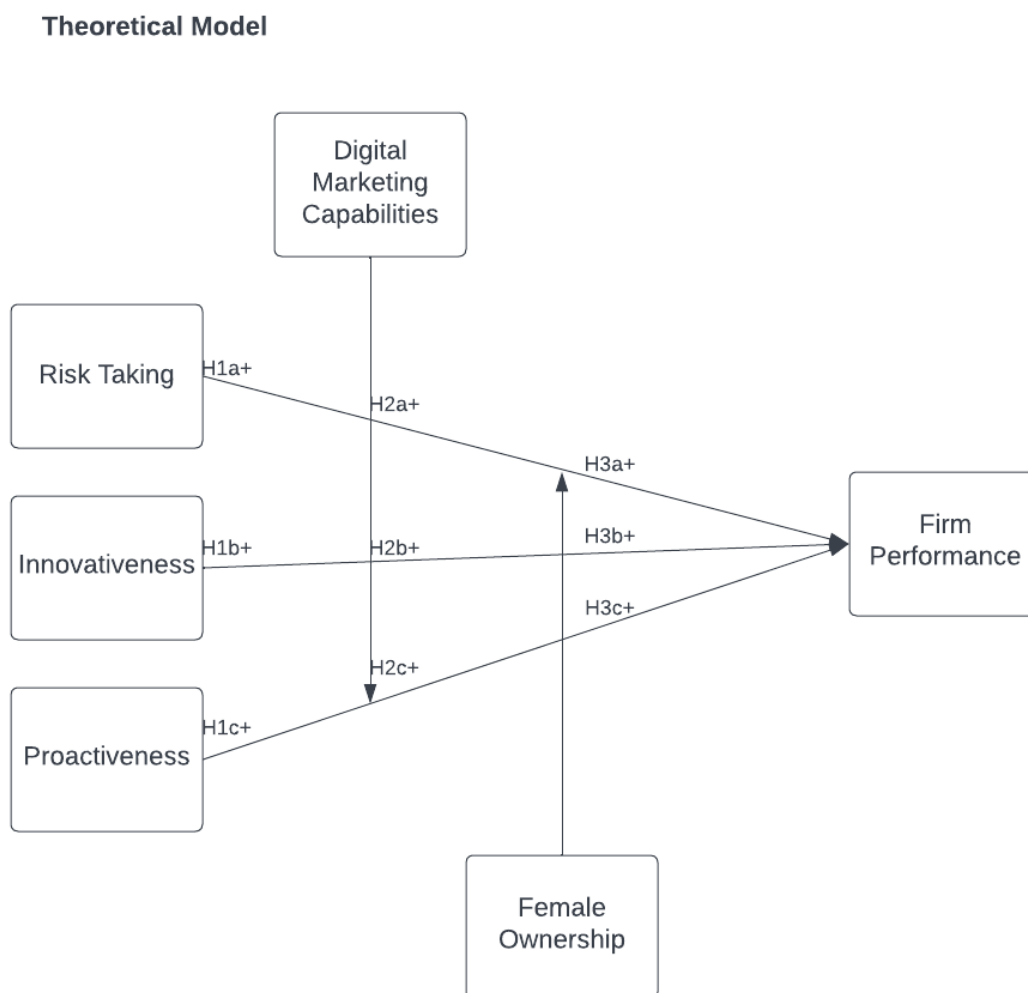
More work is needed as we are still endeavoring to demystify the entrepreneurial orientation of women who continue to innovate, seek opportunities, and take risks. Gender theory offers the appropriate framework to broaden our knowledge of female entrepreneurs who

are higher behaviorally in EO attributes. First, gender theory allows us to understand the risk relationship within female firms considered higher in EO. Second, to discover if historical findings are generalizable to all populations of female entrepreneurs. Lastly, to determine if the current social structures have produced a shift in the risk aversion sentiment, particularly in the United States. I would argue that we are still discovering gender roles and whether they operate and have changed from what the past decade of research documented. Newer research studies can investigate the behavioral disparities in and among female entrepreneurs to find out what differences exist within them, particularly as the time continuum advances; requiring us to take stock of any social advances that might exist for female entrepreneurs (Brush et al., 2006; Devine et al., 2019). Research is obligated to advance with the times, study the times and record the times to give an account of female entrepreneurship trajectories.

What has been the impact of networks in the current economy on firm performance? Does having EO give female entrepreneurs a strategic advantage over their competitors? How is the heightened awareness regarding DEI coming to bear on female enterprises? These questions and others are important in understanding the transitioning times of increased female enterprises ownership.

## 2.5 Hypothesis Development

Figure 1.1 Hypothesis Model



As previously outlined, the entrepreneurial orientation (EO) and firm performance relationship will be explored as a direct effect of utilizing EO as a multi-dimensional construct to test risk-taking innovation and proactiveness in firms. In addition, these positive relationships

are also tested by utilizing digital marketing capabilities and female ownership as moderators leading to greater firm performance.

### **2.5.1 The EO – Performance Relationship Explored**

The EO construct demonstrates the strategic ambition of firm managers and a way to measure a firm's ability to maneuver its way to success (Covin & Slevin, 1991; Khandwalla, 1977; Miller, 1983; Miller & Friesen, 1982; Mintzberg, 1973; Venkatraman, 1989). It thereby follows that firm performance quantifies the entrepreneurial behavior within a firm (Covin & Slevin, 1991). One of the challenges emerging from the relationship between EO and firm performance is in its suitability for evaluating smaller firms. For example, for larger publicly traded companies, access to financial reports is readily available; however, for small firms, the lack of publicly available information is a challenge for researchers (Smart & Conant, 1994). Nevertheless, the relationship has proven to be the topic of much entrepreneurship research, perhaps in response to Covin & Slevin (1991) propositions paper. Following their paper on entrepreneurship as firm behavior, researchers recognized a lack of consensus for testing a broader theory of entrepreneurship, offering several contingency models for exploring and expanding EO and linking it to firm performance (Lumpkin & Dess, 1996).

In addition, efforts to understand the EO construct consisted of refining its definition by distinguishing between entrepreneurship and entrepreneurial orientation. The definition of "entrepreneurship" now equated with new entrance into new or established markets and "entrepreneurial orientation" consist of five elements of behavioral attributes (autonomy, innovativeness, risk-taking, proactiveness, and competitive aggressiveness) (Lumpkin & Dess, 1996). The inclusion of autonomy and competitive aggression broadened the popular three-

dimensional model of the time (proactiveness, innovation, and risk-taking) (Lumpkin & Dess, 1996). The endorsement of a firm's strategic posture follows Covin & Slevin (1989) seminal paper outlining the importance of organic firm structures as an entrepreneurial posture, particularly in hostile environments. The paper identified those attributes contributing to performance success, shaping, in essence, the relationship between performance and a firm's organizational structure and noting performance as an indication of a firm's strategic posture (Covin & Slevin, 1989). It's important to note that this study called for the examination of the influence of the linkages between specific business practices and overall structural and strategic orientations on the performance of small firms as an area of expanded research.

Researchers continued to debate EO and what constitutes entrepreneurship because the development of the construct was less consistent among researchers of the day, causing debate regarding the measurement of key variables, some of which researchers classified as weak (Shane & Venkataraman, 2000; Wiklund & Shepherd, 2005). Nevertheless, researchers looked for additional opportunities to refine EO and expand its context, attempting to progress the construct and the EO-performance relationship forward. For example, Rauch et al (2009) paper set out to extend the research noting that after several decades of EO research, the time is ripe to examine and assess the accumulated information about the connection between EO and the performance of businesses. They conducted a qualitative study and meta-analysis to investigate the strength of the performance-EO association and evaluate the influence of various moderators on that relationship. We continue to see the application of their methodology in several research studies that would follow into the next decade of research and in studies of today.

We see a number of studies answering the call giving us a myriad of options for exploring contingency models of EO, including moderation, mediation, independent effect, and



other suggestions for extending the development of the EO construct toward maturity (Lumpkin & Dess, 1996; Lyon et al., 2000). The development of alternative models for examining the influence of a third variable included a closer examination of moderating, mediating, independent, and interaction effects which added texture and dimensionality to the interactions that may affect EO-performance (Boal & Bryson, 1987; Lumpkin & Dess, 1996; Venkatraman, 1989). The diversity of research included an expanded scope of study at the individual organizational (Todorovic & Schlosser, 2007) and group levels (Dess & Lumpkin, 2005), research emphasizing the significance of context in discussing the EO and performance relationship (Lumpkin & Dess, 1996; Miller, 2011; Rauch et al., 2009). These later contributions marked EO's evolution from the 1970s as a measure of individual performance (Kilby, 1971) to the 1990s, where it is associated with growth and larger firms (Covin & Slevin, 1991) and into the 2000s, where moderator and mediator relationships offered a more complex evaluation of EO in operation. We see that later iterations of the EO-Performance relationship engaged in a broader set of variables producing a finer-grained analysis of the environmental, management, and organizational factors affecting firm performance.

Further advancement of the EO and firm performance relationship evaluation extended to small businesses and exploring multi-dimensional aspects of the EO construct, which signaled an increased usage of the configuration approach (Covin et al., 2006; Wiklund & Shepherd, 2005). The variables capturing the adjoining dynamics of strategic orientation and organizational and environmental characteristics thereby advanced research from the contingent (two-way interaction) approach to include configurations models which offered more complex three-way interactions approach to EO research (Engelen et al., 2014; William Wales et al., 2011). Examples include the exploration of how EO pervades organizations; and relating absorptive

capacity linkages to the EO, dynamic capabilities and firm performance to determine firm viability (Wales et al., 2013). Before the call for more complex research investigations of EO, studies used less than three variables to understand small business relationships. In addition, no longitudinal studies existed for assessing the EO performance relationship. It was typical to use a cross-sectional study approach (Wiklund & Shepherd, 2005). Another advancement between EO and performance was the advancing research to include studying diverse populations and a diverse set of variables. Later studies provided instrumental support for moving to a context-specific evaluation of EO, contributing to the EO and performance relationship as more complex than a main-effect only relationship (Wiklund & Shepherd, 2005).

In the following years, researchers stretched their understanding of the EO performance relationship, incorporating a strategic look at internal processes (Anderson et al., 2015; De Clercq et al., 2010a; William Wales et al., 2011). The internal processes included moderator relationships observing strategic processes (Covin et al., 2006), cognitive traits, and learning characteristics of EO (Cools & Broeck, 2008; Wang, 2008), and leadership (Todorovic & Schlosser, 2007). We also see the later years of research on the shaping of EO outside of the traditional corporate boundaries to include research on a variety of organizational structures, including SMEs for product innovation (Avlonitis & Salavou, 2007), New Venture networks (Stam & Elfring, 2008) and an exploration of EO in religious congregations. The applicability of EO to non-traditional organizations and organizations with various functional patterns and processes proved the EO and EO-performance relationship as variables capable of capturing and defining the behaviors and processes in organizations inhibiting the EO characteristics that lead to firm performance increases.

The relationship between EO and firm performance has not yet been fully exhausted. My research anticipates adding value to the current and ongoing discourse by exploring the EO and performance relationship. Researchers are obligated to continue advancing research in this area, 1) to record any significant changes in societal norms, and market advances due to technology, and 2) to keep pace with the entrepreneurial behavioral models as external conditions are constantly changing and need reoccurring studies to understand the dynamics.

Risk taking is well established in the literature as a contributor to firm performance. For example, a historical mapping of the origins of entrepreneurship confirms risk-taking as a key dimension of entrepreneurial behaviors (Covin & Slevin, 1991; Miller, 1983). Risk taking is the mechanism by which entrepreneurs discover new products, new markets and new customers often acting as the antecedent for innovation and proactiveness (Avlonitis & Salavou, 2007; Todorovic & Schlosser, 2007). For the entrepreneur, bearing risk is intertwined with meeting demand for goods and services for profit (Knight, 1921). All entrepreneurs are subjected to risk as a part of their participation in the market. Risk reward involves the pursuit of profits in relation to the uncertainty tied to changing consumer taste, competitor reactions and changing pricing models (Hoogendoorn et al., 2019). Risk is part of the perceptions and attitude of the entrepreneur and can vary accordingly to individual tolerance, but risk taking is an important aspect of the entrepreneurial posture toward profitability. For example, risk taking is interwoven within leadership decision models of EO firms (Anderson et al., 2015). However, risks are not always met with success, though taking risks also provides information to inform future risk taking within the organizational configuration (Wales, 2016; Wiklund & Shepherd, 2005). Specifically, risk management strives to limit the potential for risk and lessen the effect of any losses (Bajo et al., 2012). The anticipated outcome is not always as expected, but there is value

to be gained when the risk does not yield the intended results. For one, the contribution informs the future strategic posture of firms by aligning internal and external knowledge capabilities, that allow entrepreneurial firms to organically adjust to market opportunities (Engelen et al., 2015). The alignment of future resources thereby become more targeted with the intention toward effectively positioning the firm to take “calculated” risk based on perceived market opportunities and the internal knowledge the firm has gained from past experiences with risk. Companies with an EO can reconfigure what was learned from previous risk to inform future risk models to become better positioned to maximize profitability. Thus, firms with a higher EO tend to take more risk increasing their opportunities for performance gains. Therefore, I posit:

**Hypothesis 1a: Risk taking will be positively associated with firm performance.**

Innovativeness is the readiness to promote creativity and experimentation in the introduction of new goods and services, as well as novelty, technological leadership, and research and development in the creation of new processes (G Thomas Lumpkin & Gregory G Dess, 2001). As businesses adapt to global competition, technological advances as a determining factor of market success is becoming more apparent (Competitiveness, 1991; Franko, 1989; Fufeld, 1989; Mitchell, 1990). The necessity of innovation in creating a competitive advantage cannot be understated. Firms with the ability to innovate have made tremendous gains in the past 20 years with companies such as Google, Apple, and Facebook (now Meta) becoming technology giants in a relatively short period of time.

Innovation is applicable in both high and low technology environments. In a high-tech environment a firms’ knowledge structure can impact the quality of innovation and therefore

impact revenue growth (Thornhill, 2006). As larger firms have positioned themselves to innovate, it is generally recognized from the entrepreneurship literature that firms innovate as a strategic posture in response to market changes and threats (Covin & Slevin, 1991; Shaker A. Zahra & Donald O. Neubaum, 1998). In low-tech firms, innovation attributes are associated with a high level of training investment (Thornhill, 2006). Innovation can also be the form of new processes through the facilitation of knowledge flows across departments (De Clercq et al., 2010a; William Wales et al., 2011). The increased investment in innovation in low-tech firms supports efforts to bolster the knowledge base that can potentially increase firm performance gains by aligning resources with greater efficiency. In both instances, innovation is a way for entrepreneurially oriented firms to advance firm performance within existing markets.

Thus, innovation supports a firm's competitive advantage leading to increased firm performance by creating new products, goods and services (Engelen et al., 2014). Therefore, I posit:

**Hypothesis 1b: Innovativeness will be positively associated with firm performance.**

Proactiveness is tied to firm performance as one of the main indicators of an EO and identified as a firm's ability to seek out and act upon opportunities. Proactiveness within a firm can operate as a contingency or configurational organizational strategy. Contingency models identify a traditional framework for understanding how entrepreneurs strategically engage the market and are context specific (Lumpkin & Dess, 1996). In contrast, it was believed that the configurational method would uncover characteristics of strategy, organization, process, and environment that tend to cluster together to form configurations (Meyer et al., 1993). In

highlighting proactiveness within firms, configurational model provides a framework for understanding how firms choose strategies in anticipation of specific market outcomes based on the internal resources available to take advantage of those market opportunities as they present themselves. This also helps us to see how proactiveness participates as a component of a firm's entrepreneurial behavior.

Proactiveness is also related to decision making and learning orientation. For example, firms with a low learning orientation are conservative in their strategic posture, however firms with a high learning orientation benefit from an EO (Kearney et al., 2018a). Proactiveness presents itself as a cognitive framework for decision making developed out of one's personal identification of opportunity (Baron & Ensley, 2006). This allows for the entrepreneur to make choices about which opportunities present the greatest return on investment as they perceive new opportunities. Within organizations, proactiveness is in the proximity of a firms' risk-taking inclination but it functions differently in that it considers the internal controls and constraints and acts accordingly in the market (Wiklund & Shepherd, 2005). In addition, proactive behaviors are supported when firms have a greater capacity to absorb shocks from market turbulence, they can create trial and error experiments on where to place resources for optimal firm performance (Engelen et al., 2014).

Where proactiveness exist in firms, top management reflects EO and influences the organizations' strategic choice (Hornsby et al., 2013; Wales et al., 2020). Proactive firms are confident they have enough information to take advantage of the opportunity, combine the appropriate resources and believe the expected creates value (Haynie et al., 2009; Shane & Venkataraman, 2000). In addition, proactive firms stretch beyond opportunity recognition to pursue the opportunity, through the alignment of financial and knowledge resources to create a

desired outcome by organically transitioning the organization to position for capital gain (Fitzsimmons & Douglas, 2011). Therefore, I posit:

**Hypothesis 1c: Proactiveness will be positively associated with firm performance.**

### **2.5.2 The Moderating Role of Digital Marketing Capabilities (DMC)**

Digital marketing incorporates six different capabilities within a firm (digital channel strategy, online customer acquisition, customer conversation and experience, customer development and growth, cross-channel integration and brand development, and digital channel governance, including change management) (Chaffey, 2005, 2008). Adaptability to the digital environment utilizes the internet to relate to customers by collecting customer insights and developing “inside” and “outside” organizational processes to achieve increased marketing and financial performance (Varadarajan, 2020). In addition, knowledge in these areas allows firms with a marketing orientation to develop behaviors that facilitate superior market performance (Day, 1994; Menon et al., 1999; Vorhies & Morgan, 2003).

Risk taking is embedded within the mechanistic structures of the entrepreneurial firm as it involves the ability to adapt organically to environmental or market conditions to remain competitive (Covin & Slevin, 1989). Marketing-oriented risk-taking can include strengthening brand channels and customer-linking skills, which requires firm marketing and communication message investments. Marketing in the "new digital era" has brought increased market competition in general (Katsikeas et al., 2019; Porter, 2001), and firms seeking to increase marketing presence utilizing available technologies and existing social media channels position

themselves to capture profit, but these efforts are not without risk (Fischer & Reuber, 2014; Ipsmiller et al., 2022; Järvinen & Taiminen, 2016). For instance, market-oriented organizations investing in digital marketing capabilities devote financial resources strategically to growing internal capabilities, therefore incurring financial investment risk to enhance marketing-generated sales leads (D'Haen & Van den Poel, 2013). In addition, as firms are looking to increase their online presence, they must also grapple with the risk associated with social relationship cultivation using online networks (Fischer & Reuber, 2011; Fischer & Reuber, 2014). For instance, according to a study on entrepreneurs' usage of Twitter, it would be naive for firms participating in social media marketing to believe that communication standards are uniform across all social media platforms and undervalue how the impact the platforms' material differences can affect how audiences respond (Fischer & Reuber, 2011; Fischer & Reuber, 2014; Treem & Leonardi, 2013). Digital Marketing capabilities can support risk taking by being an area of knowledge resource for improving the firm's customer engagement effectiveness. Those businesses influencing social competencies via online communication and organizational framing capacity are more likely to improve firm performance when engaging in digital marketing as an entrepreneurial tendency (Baron, 2008; Baron & Markman, 2003; Fischer & Reuber, 2014).

The use of digital marketing capabilities can be seen as a firm's deliberate attempt to increase organizational intelligence, intelligence dissemination, and responsiveness which links to firm performance (Jaworski & Kohli, 1993). Digital marketing capabilities help refine their risk taking abilities, helping them to focus on making strategic managerial decisions in pursuit of improved firm performance. to mitigate risk by supporting marketing functions within a firm by increaseing the firm's ability to respond quickly to customer complaints, increase dialogue, and



adapt quickly to environmental conditions allowing firms to adapt their routines and evolve in fast-paced environments (Teece, 2014). The internal adaptability and responsiveness to market changes allows for entrepreneurial firms' competitive advantage to increase when digital marketing capabilities are present and in turn can improve overall performance. When firms have stronger DMC, I expect a more positive relationship between risk taking and firm performance. More specifically, when DMC is higher in firms, they have access to highly reliable information coming directly from the customer related to the quality of the customer's product or service experience. This information can in turn be used to create targeted marketing content to promote the brand based on real-time customer information, creating a competitive advantage. The benefit provided by DMC is in its capacity to instruct a company's proclivity for risk-taking by offering crucial consumer knowledge and feedback routes to target resources. Businesses can act strategically by leveraging risk and making knowledge-based decisions when they are well-positioned in the market to meet customer needs. This increases company performance outcomes. Conversely, when firms lack DMC I expect a less positive relationship between risk taking and performance due to presences of a less refined digital customer-related contact and response mechanisms being in place. Firms in this category are inadequately equipped for rapid digital customer-contact which can have an adverse impact on the quality of digital marketing responsiveness which can adversely impact firm performance. The absence of DMCs likely exacerbates a firm's risk-taking propensity to the point where firms lack the necessary insights to guide their risk-taking, ultimately causing them to be more likely to miss the customer target and incur greater losses (i.e. poorer performance) as a result of their risk-taking. Therefore I posit:

**Hypothesis 2a: The relationship between risk taking and firm performance will be positively moderated by digital marketing capabilities (DMC) such increases in firm performance will be higher when DMC is higher.**

In an earlier study, researchers established a link between EO and marketing capabilities, finding the relationship between the two constructs positively impacts firm performance (Arunachalam et al., 2018). However, these evaluations did not study this relationship under the conditions of a highly progressive digital commerce environment. Furthermore, while studies have linked innovation and marketing to EO, linkages to DMC has been less popular. Marketing capabilities, however, are resource allocations, and firms participating in creating assets within the context of marketing are broadly defined. Marketing innovations can include a variety of technology-based innovations, including mobile marketing capabilities and social media marketing platforms (Lamberton & Stephen, 2016). In addition, E-marketing consists of interactive technologies designed to create and mediate dialogue with customers (Brodie et al., 2007). The quantity of innovations a company generates has a favorable influence on the profitability of that company; nevertheless, the value created is the more important factor (Geroski et al., 1993). Innovative companies may capture just a tiny portion of the value produced by innovative activities in that the activity of innovating often can lead to new discoveries that require additional resources. Furthermore, innovation activity also contributes to knowledge acquisition and can increase internal learning capacities within the firm.

With advances in technology and the popularity of customer word of mouth utilizing online platforms, businesses have seen digital communication as essential (Lamberton & Stephen, 2016). Dynamic capabilities and DMC support the customer-linking capacity of firms,

allowing organizations to gain mastery of the market by sensing, seizing, and recombining internal resources to assist firms in gaining a competitive advantage (Day, 1994; Teece et al., 1997). Innovation within the context of a firm's digital culture supports digital marketing capabilities and assists in producing new knowledge. A digital culture also increases creativity, which benefits the creation of new goods and services (Duerr et al., 2018).

Firms investing in developing marketing capabilities are innovative and are entrepreneurial as they attempt to configure and reconfigure internal and external resources to take advantage of current market opportunities. Innovatively configuring routines utilizing digital marketing technologies is believed to assist firms in increasing client-based interaction, and thereby increase firm performance. When firms have stronger DMC, I expect a more positive relationship between innovation and firm performance. More specifically, innovations resultant from high levels of learning is expected with higher levels of customer contact. Firms with stronger DMC utilize this new knowledge to create products and services in direct response to customer needs and wants. DMC facilitates a pathway to increased innovation related how to the “marketing mix” (product, place, price, and promotion) as per Borden (1964) is deployed. DMC functions as a conduit for innovation in this instance by integrating customer product insights and bringing them to the forefront of product innovations as a response to customer wants and needs. DMC can support improved product outputs through the incorporation of consumer suggestions, as well as develop more effective product distribution and pricing models that result in increased sales. Conversely, when DMC are less prominent the ability to draw from direct customer knowledge is limited and learnings are also limited as a result, producing an environment where innovations evolve less quickly, jeopardizing first mover advantage or competitive advantage gains. Therefore, I posit:

**Hypothesis 2b: The relationship between innovativeness and firm performance will be positively moderated by digital marketing capabilities (DMC) such that such increases in firm performance will be higher when DMC is higher.**

Proactiveness in firm's links to the behavioral schema of entrepreneurially oriented firms. Entrepreneurs may take part in a wide variety of actions that cross the spectrum of exploration and exploitation, including coercion action and exercising free thought (Rosing et al., 2011; Volery et al., 2015). Alertness and a proactive disposition are used interchangeably and describe entrepreneurs' assertive traits (Tang et al., 2021). Furthermore, proactiveness plays a crucial role in EO firms.

EO and proactiveness connect within the Miles-Snow framework exploration of Prospectors. Prospectors, by their very nature, want to keep prospecting and will develop capabilities that follow that continuum (Song et al., 2008). The Miles-Snow marketing capabilities framework offered a paradigm for analyzing the strategic business unit's management decision-making (including managerial processes and capacities) in its environment. The framework model categorized businesses as Prospector-Analyzer-Defender-Reactor (P-A-D-R framework) (Miles et al., 1978). Prospectors are technologically innovative and seek new markets; Analyzers tend to favor a "second-but-better" strategy; Defenders are engineering-focused and prioritize maintaining a secure niche in relatively stable market segments; and Reactors lack a sound strategy and are highly responsive to short-term environmental demands (Desarbo et al., 2005). According to the findings of one study, there is a favorable connection between entrepreneurial initiative and market focus. For example, the study identified entrepreneurial proactiveness as an antecedent to market orientation within

firms, leading us to determine that proactiveness positively impacts firm profitability (Blesa & Ripollés, 2003).

Proactive firms using their capabilities as a resource (knowledge, learning, or behavior) can meet customer and competitor demands by deploying strategies to create a competitive advantage (Lee & Hong, 2002; Zahra & George, 2002).

When firms have stronger DMC, I expect a more positive relationship between proactiveness and firm performance. More specifically, when proactiveness exist, entrepreneurial firms will continue to explore opportunities present in the digital marketing environment. This includes learning new technologies that emerge to promote the business in real-time (as we have seen with the recent expansion of Tik Tok). DMC serves as a supportive tool for proactiveness, enabling businesses to employ digital tools to attract customers. In addition, DMC can guide the alignment of financial and knowledge resources based on these digital consumer interactions, allowing businesses to capture a larger market and lead to increased sales. Conversely, when firms have less prominent DMC they are adapt more slowly, as a result of being less proactive in digital market promotion. Firms with a lower DMC are less assertive in their execution of knowledge, learning behaviors and thereby adapt more slowly to market shifts which can jeopardize their competitive advantage by reducing visibility. Therefore, DMC stands to moderate the relationship between proactiveness and firm performance by allowing proactive firms to take advantage of market opportunities available in today's digital economy. Therefore, I posit:

**Hypothesis 2c: The relationship between proactiveness and firm performance will be positively moderated by digital marketing capabilities (DMC), such that such increases in firm performance will be higher when DMC is higher.**

### **2.5.3 The Moderating Role of Female Ownership**

Female entrepreneurs are known for being risk averse. However, prospects for female business owners to engage in high-growth sectors is enhanced as digital markets provide options to improve success outcomes in association with social networks (Guzman & Kacperczyk, 2019; Yang & del Carmen Triana, 2019). In addition, new research allows us to evaluate if social supports for female-owned enterprises have increased enough such that women can overcome the perceptual barriers related to female ownership (Byrne et al., 2019). For the entrepreneur in general, risk taking is entwined with satisfying customer demand for goods and services to make money (Knight, 1921). Risk-taking is also a crucial component of the entrepreneurial posture toward profitability, even though it might vary depending on personal tolerance and the entrepreneur's perceptions of risk. For women owners, the perceptual tolerance for risk personifies being inwardly shrewd and responsive to social culture. For example, female ownership considerations influence their risk-taking against taking any financial risks that could endanger their management control (Wu et al., 2007). In addition, in socially supportive cultures, female risk behaviors are different than in performance-based cultures, and findings demonstrate socially supportive cultures act as a cushion against risk (Gimenez-Jimenez et al., 2020; Weber & Hsee, 1998). The female-owner, however, decidedly takes calculated risk and these risks exemplify a more intentional approach around those areas they find significant, such as with

community and personal control (Murnieks et al., 2020; Wu et al., 2007). This risk approach contextualizes female owners with EO.

Risk taking is framed by the social, cultural and institution arrangements that exist within a society, a reality that is particularly poignant for female owners when we consider the powerholders and resource “gatekeepers” in households, communities and the larger society who have the power to restrict access to critical resources (Brush et al., 2004). An example of this barrier is personified by the small number of female owned enterprises receiving venture capital is less than 3% (Bittner & Lau, 2021). Female owner risk perceptions have been framed social sentiment which place women in a categorical bucket of risk aversion without proper attention to the nuances that exist within the female business owner community (Nelson, 2012, 2015).

Research has supported the idea that men are less risk averse. In a study that compared EO of females to those of males, demonstrated that females have a lower EO when compared to males (Eckel & Grossman, 2008). However, this study was conducted with student populations and consistent with other studies of EO propensity in student populations or within controlled environments (Eckel & Grossman, 2008; Goktan & Gupta, 2015), results are inconsistent, and contradictory when non-student populations are used (Fellnhöfer et al., 2016; Kundu & Rani, 2004). Furthermore, the statement “women are more risk averse than men”, one researcher found, is an assertion made from unobservable essence or characteristics that can neither be proven or disproven and rooted in confirmation bias rather than reality (Nelson, 2012). When put to the test, female and male participants were found to “match up” on risk related behaviors (Nelson, 2012). Another study found no difference in risk aversion for female subjects under controlled economic conditions, finding differences in risk propensities rise with abstract gambles with men making riskier decisions in those instances (Schubert, 1999). Female risk

aversion is shown to decrease when female expertise increases suggesting a complex relationship between gender and risk taking (Gysler et al., 2002).

In the social and economic climate of today, female owners are reaching for new market opportunities and are poised to expand beyond the bounds of their current social networks seeking needed social support in the online community of digital networks. The digitally social economy supports knowledge asymmetries making it possible for female owners to increase expertise that can improve risk taking quality. In addition, female owners with an EO are expected to continue to take risks, but these risks represent a calculated consideration toward the risk-rewards paradigm. Enabled by new digital social infrastructures, female entrepreneurs have expanded opportunities for risk-taking. For example, the online community provides female business owners with expanded social networks and greater market access to financial data that can support risk assertion. Exposure to the experiences of other female entrepreneurs makes information accessible and encourages business owners to view themselves as entrepreneurs and risk takers. In addition, crowdfunding models can also offer female entrepreneurs increased financial support for their concepts, which can increase their risk-taking propensity. With more options in the digital and social structures of today female owners with an inclination to take risks will find performance benefits aligned with the enhanced availability of social network options present in today's digital economy. Therefore, I posit:

**Hypothesis 3a: The positive relationship between risk taking and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female owned.**



Adversity is known as the “mother of invention.” When we look at the path of entrepreneurship for females, it includes a history of creatively overcoming adversity. Innovation within female owned firms includes utilizing bootstrapping for financing to creating self-employment, particularly when faced with career choices that have constrained their talents and financial resources, women have innovated (financially and socially) (Brush et al., 2006; Mollick & Robb, 2016; Morrison et al., 2003). More research on innovation within female-owned firms with an EO is warranted as the number of women in stem careers represents 27% of women in the workforce<sup>21</sup>. Furthermore, we are seeing increases in the number of black females starting businesses and white females maturing in business, pointing to innovation through new market entry and innovation by way of creating firm longevity (Kelley et al., 2021). A knowledge gap exists regarding research studies focusing on innovation in female-owned firms, and academic community has placed a low priority on capturing female experience because of the industries females have historically participated in, such as retail, service, and beauty (Cliff, 1998; Kelley et al., 2011).

Firms that are innovative are well documented as having a competitive advantage (Hitt et al., 1996). Following the Coving and Slevin (1991) definition, innovativeness evaluates the marketing of products and services and the creation of these goods and services. Female owners are documented having financial resource constraints as a part of their entrepreneurial experience, this fact has not been a deterrent to women innovatively participating in the market. The inclusive leadership style of females encourages them to keep lines of communication open with subordinates that can increase the team member’s sense of self-worth (Dezsö & Ross, 2012). In addition, females are found to manage with a more democratic and participatory style

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<sup>21</sup> US Census Bureau 2021

than men which can promote sharing of task and formation (Book & Book, 2000; Eagly & Johnson, 1990; Helgesen, 1990; Helgesen, 2011).

Females are documented as having a leadership style connected with transformational leader qualities, unlike their male counterparts who demonstrate more transactional leadership qualities (Bono & Judge, 2004; Druskat, 1994; Eagly & Johnson, 1990; Fein et al., 2010).

Females are more innovative because while their enterprises are typically resourced constrained, they have managed to leverage their leadership management styles as a resource of innovation; an enablement that unlocks the creativity in others. Furthermore, RBV model is based on the idea that a company is more likely to succeed if it has a variety of resources that stay the same over time (Amit & Schoemaker, 1993; Mahoney & Pandian, 1992; Penrose, 1959; Wernerfelt, 1984a). Female owners managing their firms with transformative leadership styles encourage, inspire, and help followers go above and beyond their own needs and expectations to work for the good of the organization (Kuhnert & Lewis, 1987). Based on this approach to leadership, female owners use their leadership position to collaborate and join with others in the organization creatively innovate products goods and services.

Female-owned businesses that innovate are typically motivated toward growth. Based on past literature, these entrepreneurs embody a heightened sense of self-awareness and generally are gender incongruent (Sweida & Reichard, 2013a). In addition, female entrepreneurs with high-growth expectations set them apart from other female owners as they enter into business, by their participation in high-growth industries. While the research is not as well developed in this area precisely, recent scholarship expresses a resurgence of interest. Some of the interest is prompted by the diversity of resources available through digital markets and increased cultural awareness involving diversity and inclusion topics (Balachandra et al., 2019; González-López et

al., 2019; Neumeyer et al., 2019; Yang & del Carmen Triana, 2019). However, gender disparities continue to persist impacting innovativeness in female firms.

Gender blindness in innovation reflects the invisibility of the people innovating (Alsos et al., 2013). Like most gendered entrepreneurship research, discussions of innovation and female gender contributions are emerging as researchers venture to take a closer look at the female-owner experiences, which are often nuanced. Partial responsibility for the absence of gendered innovation research is attributed to most of the innovation research focusing on processes and systems, making actors invisible (Alsos et al., 2013). What does exist of gendered innovation research demonstrates female innovativeness, as impacted by existing social structures, and confounds innovation in gender to a neutral category that needs further development (Acker, 1990). One suggestion is to look at the differences in male and female innovation against contextual and structural arrangements (Alsos et al., 2013). When utilizing entrepreneurship as the contextual backdrop, we identify innovation as a behavioral characteristic considered present in entrepreneurial women. For example, a study exploring cognitive typologies using the Myers Briggs Type Indicator Myers (1962) as indicators of entrepreneurship found men to have prominent traits in typology ENTJ (characterized as hardy, frank, well-informed, confident, able, positive, public speaker and leader). Women, however, scored higher in the ENTP (quick, ingenious, alert, outspoken, stimulating, resourceful, argue for fun, dislike routine), placing them among the most innovative and intelligent cognitive typologies (Carland & Carland, 1991).

In addition, a study by Foss et al. (2013) found women equally innovative in generating new ideas compared to men. However, their ideas were less frequently adopted by the organization. The innovation that characterizes women entrepreneurs has frequently been constrained by confounding social constraints. However, this does not imply that women do not

innovate at a comparable rate to men; rather, it indicates that women's innovation goes unnoticed more frequently. Innovation in female entrepreneurs emerges defiantly and differently leading them to create products and services in response to the problems they are attempting to solve.

Unique to the female experience in innovation is also the fact that when innovation does occur, it passes unnoticed or unrecognized by the those in male dominated establishments.

Entrepreneurship affords women the chance to observe, create, and innovate based on their engagement with the world. In a society dominated by men, the female entrepreneur develops innovative products and services to meet a market needs previously neglected. This innovation is validated by increased sales and a broader customer base, both of which result in enhanced firm performance. Therefore, it is reasonable to expect female owners to innovate within their organizational construct and where they lead innovation and inviting others on their team to participate, which can also lead to increased innovation outputs.

Therefore, I posit:

**Hypothesis 3b: The positive relationship between innovativeness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female owned.**

Proactiveness describes a firm's response to market opportunities. A strong proclivity towards proactiveness enables a company to anticipate market shifts or demands and be among the first to act on them (G. T. Lumpkin & Gregory G. Dess, 2001). In addition, organizations that take the initiative and make use of their skills as a resource, whether it be knowledge, learning, or behavior, are better able to satisfy the expectations of both customers and

competitors when they implement strategies that provide them a competitive advantage (S. M. Lee & Hong, 2002; S. A. Zahra & George, 2002).

For female owners, networks and social capital can facilitate proactiveness in several ways. For one, networks allow information that can make proactiveness easier when pursuing the opportunity. Another example, networks offer the opportunity for female owners to garner needed resources to take advantage of market opportunities by extending connections beyond family to include resources like crowdfunding and supportive relationships found online (Mollick & Robb, 2016; Presutti et al., 2019; Rosenbaum, 2017). In addition to networks, improving social capital allows female entrepreneurs to overcome knowledge asymmetries that can enhance resource positions (McAdam, Harrison, et al., 2019; Yang & del Carmen Triana, 2019).

Opportunity-seeking behaviors are the hallmark of proactiveness for females entering entrepreneurship as a career, but female firms have not always fit with growth models, with some female entrepreneurs preferring to restrict the size and scope of their enterprises. Still, other female owners validate success as connection building and community service rather than prestige, but these stories are continuing to evolve (Huang et al., 2021; Morris et al., 2006; Reichborn-Kjennerud & Svare, 2014). Nevertheless, women with an EO were found to have a firm performance metric similar to males, although their perceptions of their EO were less signaling toward their capabilities (Eddleston et al., 2016).

Proactiveness is often perceived based on gender, with male entrepreneurs benefiting more than female entrepreneurs with the same qualities (Brush et al., 2004; Jennings & Brush, 2013; Murphy et al., 2007). For example, in a signaling theory study, researchers found that newly formed male-owned businesses were considered opportunities. In contrast, newer female

businesses were observed seen as a risk by funders (Eddleston et al., 2016). In another example, males competing in entrepreneurial pitch competitions received preference over female participants when pitching the same content, bringing to light biases inherent in female entrepreneurship perceptivity when participating in entrepreneurial activities (Brooks et al., 2014). The literature suggests differences between male and female entrepreneurs' behavioral interpretations, with males benefitting more from entrepreneurial behaviors (Marlow & Patton, 2005). Proactiveness in female owners is a behavioral trait that can make it difficult for these entrepreneurs to enjoy the same benefits as men. However, it is a trait credited with driving firm performance.

Proactiveness in female owners is present when female owners strategically participate in activities where the expression of firm performance may expand beyond financial rewards. In addition, proactiveness can present itself as a means to solve problems from a visceral experience like the ones we find related to female founders of iconic brands like the Honest Company and Carol's Daughter.

The proactiveness and firm performance relationship have historically represented areas of financial gain. However, an argument can be made that proactiveness in female-owned firms is facilitated through the owners' personal aspirational goals. These goals include the achievement of filling a market need that was not previously identified in addition to achieving financial performance goals. Female business entrepreneurs are motivated to pursue opportunities that enrich their lives and the lives of others. They are also motivated to pursue market opportunities finding alignment of financial and knowledge resources in pursuit of business interest intertwined with passion and commitment to satisfy an unmet need in the market. Female owners with an EO move from a place of commitment and personal passion

demonstrating proactiveness in the pursuit of fulfilling that need which can lead to increases in firm performance (Murnieks et al., 2020).

Therefore, I posit:

**Hypothesis 3c: The positive relationship between proactiveness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female owned.**

## **CHAPTER 3 – RESEARCH DESIGN AND METHODOLOGY**

### **3.1 Overview**

This study collected data using a survey questionnaire utilizing published measures from existing literature. The method of analysis used a quantitative design for analyzing the collected data (Hair et al., 2019). To test the hypothesis model, I surveyed entrepreneurs, defined as small business owners and clients of the Carolina Small Business Development Fund in North Carolina (CSBDF). I also collected data using the LinkedIn social media platform. The initial sample size included approximately 5,569 clients from CSBDF who have either been a recipient of a loan or grant from the organization. The survey was sent to 5,569 clients of CSBDF with additional survey participants captured using the LinkedIn social media platform.

### **3.2 Data**

The Qualtrics XM platform was utilized for survey web hosting and data export. The survey instrument was an XM-hosted survey, sent via email. Participants received an email outlining their consent, the purpose of the study, and the confidentiality of their personally identifiable information and survey responses. They were required to check "I agree," indicating that they had been informed of the purpose of the study and were given the contact information for both the principal investigator and the lead faculty advisor. Participants were also informed that all personally identifiable information, including their replies, were kept confidential and discarded at the end of the research study.



### 3.3 Constructs, Dimensions and Measures

Established scales were relied upon for the firm performance construct, entrepreneurial orientation, and digital marketing capabilities measures. All scales used a five-point Likert-type scale ranging from ‘strongly disagree’ to ‘strongly agree’. The scales were adapted from a seven-point Likert-type scale for consistency across all measured variables.

**Dependent Variable – Firm Performance:** Firm performance was measured using questions developed by (Eddleston & Kellermanns, 2007). The items were measured using a five-point Likert-scale. Respondents answered questions such as “How would you rate your firm’s current performance as compared to your competitors?” in terms of growth in market share, growth in number of employees, growth in profitability, profit margin on sales, ability to fund growth from profits (Eddleston & Kellermanns, 2007). The information was captured for the past 12 months (current) and for the past three years. Each item had an associated selection from 1=much worse, 2= worse, 3=neutral, 4= better and 5 = much better.

**Independent Variable – Entrepreneurial Orientation:** To capture entrepreneurial Orientation, I used measures from (Engelen, 2010; Lee & Sukoco, 2007), an adaptation of Covin & Slevin (1989) measurement of EO, captured using a five-point Likert scale. The eight-item EO scale was composed of three innovativeness items from (Dess & Lumpkin, 2005) with three for items risk-taking and two items each for innovativeness and proactiveness from (Lee & Sukoco, 2007). Respondents answered questions regarding the related constructs of risk-taking, innovativeness and proactiveness, such as “To what extent do you agree with the following statements?” 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree. (Engelen, 2010; Lee & Sukoco, 2007).

Moderator - Digital Marketing Capabilities: Digital Marketing Capabilities is a construct adapted from marketing-linking measure from (Song et al., 2007) The measure was operationalized by (Wang, 2020) to include a digital context. The wording was adapted to include for example “customer-linking digital capabilities” to give context to the associated capabilities rather than focus on the technology (Wang, 2020). The measure was presented using a five-item measure on a scale of 1-5 relative to the company’s performance in the area of digital marketing capabilities (Wang, 2020). Respondents answered the following questions: “Please evaluate how well or poorly you believe that this business unit performs the specific capabilities “Customer-linking digital capabilities (i.e., creating and managing durable customer relationships through digital media; Market-sensing digital capabilities (i.e., predicting changes in customer preferences using digital media); Capabilities in creating durable relationships with suppliers through digital platforms; Ability to use digital marketing to retain customers” relative to your major competitors by using the following scale: 1=much worse, 2=worse, 3=neutral, 4=better, and 5=much better than major competitors. Additional questions were asked relating to DMC measuring including, Sensing Capabilities (We frequently scan the environment to identify new business opportunities; We periodically review the likely effect of changes in our business environment on customers; We often review our product development efforts to ensure they are in line with what Customers want; We devote a lot of time implementing ideas for new products and improving our existing products); Learning Capabilities (We have effective routines to identify, value, and import new information and knowledge; We have adequate routines to assimilate new information and knowledge; We are effective in transforming existing information into new knowledge; We are effective in utilizing knowledge into new products; We are effective in developing new knowledge that has the potential to influence product

development); Integrating Capabilities (We are forthcoming in contributing our individual input into the group; We have a global understanding of each other's task and responsibilities; We are fully aware who in the group has specialized skills and knowledge relative to our work; We carefully interrelate our actions to each other to meet changing conditions; We ensure that there is compatibility between group members expertise and work processes). Coordinating Capabilities ; (We ensure that the output of our work is synchronized with the work of others; We ensure an appropriate allocation of resources (e.g., information, time reports) within our group; Group members are assigned to tasks commensurate with their task relevant knowledge and skills; We ensure that there is compatibility between group members expertise and work processes; We ensure that there is compatibility between group members expertise and work processes), for a total of 24-items used to capture the DMC measure. Each of these items were reported using the following 5-point Likert scale: 1=much worse, 2=worse, 3=neutral, 4=better, and 5=much better.

Moderator – Female Ownership: Female Ownership was used to determine whether the entrepreneur sexual identity was male, female, or non-binary/third gender. The variable coded as a categorical variable with the survey capturing 1=Male, 2=Female, 3=non-binary/third gender. The Male and Female categories were dummy coded (0/1) and placed in a dummy coded male category where Male dummy variable = 1 and Female dummy variable = 0. The non-binary/third gender was omitted as there were no responses in this category.

### 3.4 Control Variables

I controlled for five characteristics of entrepreneurs and their firms, including the firm age, industry, environmental munificence, and heterogeneity that may have influenced the relationships examined.

**Firm Age** - Firm age is captured as a continuous variable, from the question asking the respondents to report the in the format of Year (xxxx) established. Firm age was calculated by subtracting the year established from the current year 2023.

**Industry** - Industries in which firms operate will tend to vary based on the gender of the owner, with women concentrated in retail and service industries and men concentrated in construction and manufacturing (Anna et al., 2000). I also controlled for industry type since some industries be capable of flexible learning and transformation in greater measure than others (Teece, 2014; Teece et al., 1997). The industry-standard 2-digit SIC accounts for the primary industry groups of a company and was coded into twelve dummy variables to control industry effects (Schilke, 2014). The industry categories captured included: 1= Education, 2=Banking, 3=Agriculture, 4=Insurance, 5=Technology, 6=Marketing, 7=Communications, 8=Administration, 9=Government, 10=Culinary Arts, 11=Trades, 12=Other. These were dummy coded 0/1 for each industry listing (note: Banking and Insurance were dropped from the industry list for no responses obtained from survey participants).

**Family Owned**- In this study, family owned is the equivalent of “family business” and refers to businesses in which family members play a significant ownership and managerial role. (Beehr et al., 1997). Family ownership is determined using a percentage stake of 51% or greater classifying a firm as family owned. The variable capture from the survey instrument using 1=yes and 2=No, then converted to 1=yes and 0=No for the dummy variable.

Environmental munificence- Environmental munificence was included to address how wealthy markets are in investment capital (Robert Baum & Wally, 2003). Furthermore, munificence is defined as the capability or aptitude to promote long-term progress. The perceived munificence was assessed using three items meant to rate the characterization of a firm's external environment with the following questions: (Very safe, little threat to the survival and wellbeing of my firm - to - Very risky, a false step can mean my firm's undoing; Rich in investment and marketing opportunities - to - Very stressful, exacting, hostile; very hard to keep afloat; An environment that my firm can control and manipulate to its own advantage, such as a dominant firm has in an industry with little competition and few hindrances - to - A dominant environment in which my firm's initiative count for very little against the tremendous competitive political, or technological forces).

The measurement was captured using a five-point Likert scale ranging in measurements from “strongly disagree” to “strongly agree” and is based upon (Bantel, 1998; Khandwalla, 1977). Survey participants were asked to “Please indicate the degree in which you agree or disagree with the following: “How would you rate the external environment within which your firm operates?” As stated, items were measured as a continuous variable using a five-point Likert scale: 1 = strongly disagree, disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

Environmental Heterogeneity - Environmental Heterogeneity and heterogeneity (Friesen, 1982; Miller & Friesen, 1982) captures the customers' buying habits, competition and market dynamism and uncertainty experienced in the market (Wang, 2020). Respondents were asked “How would you rate your firm's environmental heterogeneity?” regarding the following questions: (Customers' buying habits varies a great deal from one (product or service) line to another; The nature of the competition varies a great deal from one (product or service) line to

another; Market dynamism and uncertainty varies a great deal from one (product or service) line to another). Items were measured as continuous variable using a five-point scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.

Next, I discuss the analytical approach including the hypothesized research model with a statistical analysis of these relationships. Also provided are descriptive statistics related to the primary data, including a descriptive and bivariate correlation analysis.

### **3.5 Analytical Approach**

One hundred and forty data records were collected, 88 from direct emails sent to Carolina Small Business Development database participants and the other 62 collected from LinkedIn social media communications. The sample size was reduced from 140 to 107 as seven entrepreneurs and 33 participants failed to submit usable survey data. This meant the participant started or logged in but never took the survey or that missing data was inadequate for missing values replacement. These were eliminated from the sample. Ten survey records were missing values. I replaced the missing values using the Replace Missing Values Function in SPSS version 27, which provided an overall predictor mean resultant from the available data records. Sampling sizes are found to vary greatly for small to medium-sized businesses in the entrepreneurship literature for studies involving the entrepreneurship orientation variable; based on studies of the similar type, the sample size of 107 is deemed appropriate for this type of research and reduces the likelihood of results bias in view of the available sample size (Kearney et al., 2018b; G. T. Lumpkin & Gregory G. Dess, 2001; Scheaf et al., 2022).

### 3.6 Common Method Bias

Common method bias is a systematic measurement bias resulting from method biases potentially present in survey data, mainly where data collected for the dependent and independent variable are collected from the same subject in the same measurement context and where items share similar attributes (Podsakoff et al., 2003). I conducted Harman's single factor test to reduce the measurement error concerns associated with common method bias. This test is frequently used in business research, especially concerning entrepreneurial studies evaluating entrepreneurial orientation (Amankwah-Amoah et al., 2019; Rigtering et al., 2014; Stam & Elfring, 2008).

Harman's single factor statistical test was performed by entering the multi-item constructs from the research model into a factor analysis to determine if the amount of variance can be explained by the number of factor elements present. Without a central factor emerging, common method bias does not appear to be of concern. Using all scale items from the investigation, the Harman's single factor test yielded a single factor solution determined from an unrotated single factor analysis. 7 factors emerged (i.e., five control variables, one dependent variable, two moderators, and three independent variables), accounting for 56% of the variance, with the first factor explaining 20.18%. Since the variance of 20.18% is less than the generally accepted 50% threshold, common method variance bias is concluded as having minimal impact.

### 3.7 Normality Check

A Kolmogorov-Smirnov test was conducted to determine if the data violated the statistical assumption for data normality. The test for significance is used to determine the level

of significance as it relates to differences in distribution normality (Hair Jr et al., 2010). To accomplish this goal, the dependent variable, independent variable, and moderators were subject to test for skewness and kurtosis. These tests concluded that the variables were in an acceptable or very close to the range of  $\pm 2$  and  $\pm 3$  (i.e., skewness is between -2 and + and kurtosis is between -3 and + 3) (Byrne & Van de Vijver, 2010; Hair Jr et al., 2010). The test results show data are considered somewhat normally distributed (i.e., dependent variable [-.232 to .240]).



**Table 3.1 Normality Statistics**

Variables	Skewness	Std Error	Kurtosis	Std. Error	Null Hypothesis	Kolmogorov-Smirnov (Significance level is 0.050)	Kolmogorov-Smirnov
Control Variables							
Firm Age	-1.623	0.234	2.91	0.463	The distribution of Firm Performance is Normal	<.001	Reject the Null Hypothesis
Industry	1.787	0.234	2.173	0.463	The distribution of Firm Performance is Normal	<.001	Reject the Null Hypothesis
Family Owned	0.658	0.234	-1.598	0.463	The distribution of Firm Performance is Normal	<.001	Reject the Null Hypothesis
Munificence	-0.186	0.234	0.828	0.463	The distribution of Firm Performance is Normal	0.001	Reject the Null Hypothesis
Heterogeneity	-0.42	0.234	0.912	0.463	The distribution of Firm Performance is Normal	<.001	Reject the Null Hypothesis
Dependent Variable							
Firm Performance	0.025	0.234	1.234	0.463	The distribution of Firm Performance is Normal	<.001	Reject the Null Hypothesis
Independent Variables							
Risk Taking	-0.939	0.234	3.814	0.463	The distribution of Risk Taking is normal	<.001	Reject the Null Hypothesis
Innovativeness	-0.546	0.234	0.936	0.463	The distribution of Innovativeness is normal	<.001	Reject the Null Hypothesis
Proactiveness	0.080	0.234	0.773	0.463	The distribution of Proactiveness is normal	<.001	Reject the Null Hypothesis
Moderators							
Digital Marketing Capabilities	0.763	0.234	3.363	0.463	The distribution of Digital Marketing Capabilities is normal	<.001	Reject the Null Hypothesis
Gender	-0.992	0.234	-1.036	0.463	The distribution of gender is normal	<.001	Reject the Null Hypothesis

### **3.8 Descriptive Statistics and Correlations**

The sample size for this study included collecting data from 140 survey participants. After adjusting for incomplete and unusable survey records, the data set was reduced to 107. I acknowledge that the sample size is small and less robust than anticipated however considered within an acceptable range for entrepreneurial studies of this type as noted above. It provides quality information regarding the descriptive statistics. Except for one firm of 400 employees, 106 of the survey participants, forty-seven percent of those surveyed reported having 1-3 employees. The ethnic composition of the sample includes 68% black, 20% white, 4% Hispanic and 6% Asian with reporting for Native American/Alaskan, other or no-response rounding out the balance of 5%. The gender composition of the survey shows female participants as the largest category with 72% female and 28% male none of the survey responses selected non-binary/third gender, so the category was dropped from the analysis. Industries reported other (48%) as the largest category with culinary arts at 19% as the next largest category followed by 11% in trades and education at 7% in the industry category. The remaining groupings were communications and administration at 4% each, with agriculture, insurance, and technology at 1.9% each respectively, followed by marketing at less than 1%. Most of the firms were family owned representing 65% of the sample. The survey is considered a good representative sample of small businesses.

#### **3.8.1 Scale Reliability Analysis**

Cronbach's alpha tested for measurement scale reliability, providing the basis for evaluating the internal consistency between the main scale items Firm Performance (DV), Independent variables (IV) – Entrepreneurial Orientation (Risk Taking, Innovativeness,

Proactiveness) and moderating variable (Digital Marketing Capability). Item loadings are indicated in Table 4.3. The results showed the scales for firm performance (DV), and Digital Marketing Capabilities were within the acceptable reliability range of .70. Innovation was close at .584, but Risk Taking and Proactiveness fell below the threshold at .507 for Risk-Taking and .551 for Proactiveness. A composite of entrepreneurial orientation met the recommended threshold at .715.

**Table 3.2 Scale Reliability Analysis**

<b>Construct</b>	<b>Items</b>	<b><math>\alpha</math></b>
<b>Dependent Variable</b>		
Firm Performance	10	0.944
<b>Independent Variable</b>		
Risk Taking	3	0.507
Innovation	2	0.584
Proactiveness	2	0.551
Entrepreneurial Orientation	7	0.715
<b>Moderating Variables</b>		
Digital Marketing Cap	24	0.891
Gender		N/A

### 3.8.2 Correlation

The correlation matrix is formatted to include descriptive statistics and bivariate correlations (see Table 3.3). Three industry variables were deleted as they had no values represented (Industry categories: Banking, Government, and Insurance). The large firm was not dropped from the survey data because it provided a complete record of survey responses given the limited available data in the sample. The mean business age of participating firms was 11 years (2012), with a standard deviation of 8 years. Firms averaged 10 employees with 80% of firms having less than 6 employees. In addition, males represent 28% of the database and females represent 72% of total respondents. The matrix includes control variables (firm age, industry, family owned, munificence, and heterogeneity), dependent variable (DV) (firm performance) along with the independent variables (IV) (Risk Taking, Innovativeness, and Proactiveness) and interaction terms between the IV and moderating variables of digital marketing capabilities and gender.

### 3.8.3 Collinearity

To test for collinearity, the predictor variables were evaluated using linear regression to conduct a collinearity diagnostic. A value of 10 or greater is the typical threshold of the variance inflation factor (VIF) indicating collinearity. The predictor variables resulted in a collinearity VIF totals within acceptable range with the highest at 1.716, which is below the threshold of 10 indicating no threat of multicollinearity exist in the data set (Midi et al., 2010). Chapter 4 follows with the results from the regression hypothesis.

Table 3.3 Descriptive Statistic and Bivariate Correlations Matrix

		Std		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
		Mean	Dev																										
1	Firm Age	10.72	8.32																										
2	Male	0.28	0.45	-.265**																									
3	Female	0.72	0.45	.265**	-1.000**																								
4	Industry: Education	0.07	0.25	-0.04	0.09	-0.09																							
5	Industry: Agriculture	0.08	0.28	0.01	0.04	-0.04	.873**																						
6	Industry: Technology	0.02	0.14	-0.13	.221*	-.221*	-0.04	-0.04																					
7	Industry: Marketing	0.01	0.10	-0.04	0.16	-0.16	-0.03	-0.03	-0.01																				
8	Industry: Administration	0.04	0.19	0.11	-0.12	0.12	-0.05	-0.06	-0.03	-0.02																			
9	Industry: Government	0.01	0.10	0.07	-0.06	0.06	-0.03	-0.03	-0.01	-0.01	-0.02	-0.02																	
11	Industry: Culinary Arts	0.19	0.39	.268**	-.193*	.193*	0.07	0.03	-0.07	-0.05	-0.09	-0.09	-0.05																
12	Industry: Trades	0.11	0.32	-0.08	-0.02	0.02	-0.09	-0.11	-0.05	-0.03	-0.07	-0.07	-0.03	-0.17															
13	Industry: Other	0.50	0.50	-0.15	0.13	-0.13	-.262**	-.300**	-0.14	-0.10	-.195*	-.195*	-0.10	-.475**	-.352**														
14	Family Owned	0.64	0.48	-0.02	0.12	-0.12	-0.12	-0.13	-0.19	0.07	0.04	0.15	-0.13	.256**	-0.05	-0.16													
15	Munificence	2.79	0.70	0.07	-0.01	0.01	0.17	0.17	0.11	0.08	0.13	.200*	0.03	0.03	-.247*	-0.14	-0.01												
16	Heterogeneity	3.50	0.75	-0.09	0.04	-0.04	0.15	0.18	-0.18	-0.07	0.00	0.10	0.00	-0.08	0.06	-0.06	0.15	0.13											
17	Firm Performance	3.82	0.59	-0.12	0.09	-0.09	0.04	-0.01	-.288**	0.04	-0.07	0.04	-0.01	0.01	0.02	0.07	.270**	-.348**	0.15										
18	Risk Taking	3.71	0.75	0.15	0.00	0.00	0.19	.205*	0.04	0.08	-.219*	0.06	0.03	-0.06	0.01	-0.01	0.01	-0.07	0.06	.271**									
19	Innovativeness	3.12	0.67	0.13	-0.01	0.01	0.08	0.12	0.05	0.04	0.01	0.01	-0.03	-.281**	0.02	0.15	-0.03	-0.13	-0.04	.329**	.486**								
20	Proactiveness	3.70	0.42	0.09	-0.05	0.05	-0.11	-0.08	-0.13	-0.02	-0.11	-0.15	-0.02	-0.03	0.00	.213*	.225*	-.313**	-0.11	.427**	.234*	.528**							
21	Digital Marketing	0.30	1.24	-0.04	0.06	-0.06	-0.08	-0.13	-0.10	-0.08	-0.05	0.06	0.01	0.00	0.16	0.02	0.13	-0.15	0.04	.550**	.304*	.382**	.348**						
22	RISKxDMC	0.38	1.33	-0.03	-0.03	0.03	-0.18	-.204*	-0.09	-0.08	0.01	-0.01	-0.02	0.04	0.01	0.16	0.12	-0.06	0.00	0.15	-.251**	-0.08	0.16	0.09					
23	INNOVxDMC	0.35	1.71	0.03	0.09	-0.09	-0.08	-0.11	-0.07	-0.05	-0.03	-0.04	-0.03	0.02	-0.07	.191*	0.10	-0.09	-0.13	.207*	-0.07	-0.06	.291**	.213*	.549**				
24	PROACTxDMC	0.00	0.97	-0.01	.201*	-.201*	-0.05	-0.06	-0.01	-0.01	-0.03	-0.07	-0.02	-0.14	-0.07	.247*	0.02	-0.12	-0.09	.285**	0.11	.225*	.284**	.367**	.368**	.747**			
25	RISKxFEMALE	0.01	1.11	0.05	0.00	0.00	0.09	0.11	-0.07	-0.14	-0.14	0.07	0.02	0.02	0.13	-0.12	-0.11	0.00	0.09	-0.06	0.06	-0.15	-.234*	0.04	-.316**	-0.18	-0.16		
26	INNOVxFEMALE	0.05	1.20	-0.09	0.01	-0.01	-0.10	-0.06	-0.08	-0.06	0.00	0.03	-0.02	-0.07	0.18	-0.09	0.03	0.19	0.19	-0.14	-0.13	-.228*	-.259**	-0.11	-0.17	-.281**	-.328**	.576**	
27	PROACTxFEMALE	0.00	0.97	-0.16	0.04	-0.04	-0.08	-0.07	0.17	0.02	-0.07	0.00	-0.01	-0.06	0.18	-0.13	-0.01	0.10	0.11	-.229*	-0.19	-.240*	-.386**	-.287**	-.193*	-.404**	-.522**	.390**	.601**

n=107. \*\*. Correlation is significant at the 0.01 level (2-tailed). \*. Correlation is significant at the 0.05 level (2-tailed)

## CHAPTER 4: RESULTS

### 4.1 Linear Regression Results

The selected method of hypothesis evaluation was via linear regression analysis with four models with the results provided in Table 4.1. The control variables included firm age, industry, family-owned, environmental munificence, and environmental heterogeneity. The moderating variables were Z-Scored for standardization and used as interaction terms in model 4. The study seeks to investigate the effect of entrepreneurial orientation on firm performance when moderated by digital marketing capabilities and female gender.

In regression model 1, I examined the relationship between the control variables (firm age, industry, family-owned, environmental munificence, and environmental heterogeneity) and firm performance. The dependent variable (firm performance) was regressed on the control variables. In model 1 the, control variable family-owned show a statistically significant positive relationship with the dependent variable firm performance,  $F(13, 93) = 2.798, p < .01$  which indicates 13 factors under study have a significant impact on firm performance. The control variable data also showed a significant negative relationship between firm performance and the environmental munificence ( $\beta = -.372, p < .001$ ) impacting the overall model. Moreover, in model 1, the indicated variance of the adjusted  $R^2$  statistic is significant at (.181  $p < .01$ ), with 18.1% of change in dependent variable (firm performance) variance explained by the control variables.

In regression model 2, I examined the relationship between the independent variables (risk-taking, innovativeness, and proactiveness) the multi-dimensional construct of EO and the firm performance. In this model, independent variables are recorded as significant predictors of the dependent variable firm performance,  $F(16, 90) = 4.295, p < .001$  indicating that sixteen

factors have a significant impact on firm performance. In addition, model 2 represents the direct effects model reporting a significant adjusted  $R^2$  .332 ( $p < .001$ ), indicating significance in the explained variance in firm performance changed between models 1 and 2. The variance increased to 33% in model 2. The  $\Delta R^2$  for model 1 to model 2 was (.152  $p$ ,  $< .001$ ).

In regression model 3, DMC and Female gender were added to the analysis. In model 3, independent variables are recorded as significant predictors of the dependent variable firm performance,  $F(18, 88) = 5.796$   $p < .001$  which indicate 18 factors under study have a significant impact on firm performance. Using the adjusted  $R^2$  for Model 3, we find 45% of the variance in firm performance explained. The  $\Delta R^2$  for model 2 to model 3 was (.110  $p$ ,  $< .001$ ).

Regression model 4 examined the relationship between the independent variables (risk taking, innovativeness and proactiveness and the interaction effects between the moderated variables individually with DMC and female gender. To examine the moderated relationships between DMC and the independent variables, I first standardized the moderating variables converting them into Z-Scores and paired these with the standardized constructs of the independent variables (risk taking, innovativeness and proactiveness). The following interaction variables were created: RISKxDMC, INNOVxDMC and PROACTxDMC and used to test the moderating relationship found in hypothesis 2a, 2b, and 2c.

In addition, I also examined the relationship between the independent variables (risk taking, innovativeness and proactiveness and the interaction effects between the moderated variables individually with female gender. To examine the moderated relationships between female gender and the independent variables I paired the standardized constructs of the independent variables (risk taking, innovativeness and proactiveness) with the standardized construct of female gender to create the following interaction variables: RISKxFEMALE,

INNOVxFEMALE and PROACTxFEMALE to test the moderated relationships of. hypothesis 3a, 3b, and 3c.

In model 4, independent variables are recorded as significant predictors of the dependent variable firm performance,  $F(24, 82) = 4.293$   $p < .001$ , with 24 items indicated as having a significant impact on the dependent variable. Using the adjusted  $R^2$  for Model 4, 43% of the variance in firm performance is explained by the model. The  $\Delta R^2$  for model 3 to model 4 was 0.014 but not statistically significant.

#### Hypothesis 1a, 1b,1c Results

Hypothesis 1a: Risk taking will be positively associated with firm performance.

Hypothesis 1b: Innovativeness will be positively associated with firm performance.

Hypothesis 1c: Proactiveness will be positively associated with firm performance.

The tested hypothesis was stated as follows: 1a) Risk taking will be positively associated with firm performance. Not supported. Hypothesis 1b) Innovativeness will be positively associated with firm performance. Supported Hypothesis 1c) Proactiveness will be positively associated with firm performance. Supported.

Hypothesis 1a evaluates whether risk taking significantly and positively affects firm performance. The standardized coefficients results showed innovativeness and proactiveness as significantly and positively related to firm performance with innovativeness ( $\beta .192$ ,  $p < .010$ ), and proactiveness with a standardized coefficient of ( $\beta .217$ ,  $p < .05$ ), indicating that innovativeness accounts for .192 one-unit of change and proactiveness accounts for .217 in one-unit of change in firm performance, supporting hypothesis 1b and 1c. Hypothesis 1a, representing the risk taking dimension of EO did not report any statistical significance.



### Hypothesis 2a, 2b, 2c Results

Hypothesis 2a: The relationship between risk taking and firm performance will be positively moderated by digital marketing capabilities (DMC) such that increases in firm performance will be higher when DMC is higher.

Hypothesis 2b: The relationship between innovativeness and firm performance will be positively moderated by digital marketing capabilities (DMC) such that such increases in firm performance will be higher when DMC is higher.

Hypothesis 2c: The relationship between proactiveness and firm performance will be positively moderated by digital marketing capabilities (DMC), such that such increases in firm performance will be higher when DMC is higher.

The following interaction variables were used to assess the relationship between independent variables (risk taking, innovativeness and proactiveness) and dependent variable firm performance utilizing the RISKxDMC, INNOVxDMC and PROACTxDMC, to assess hypothesis 2a, 2b, and 2c. The associated hypothesis was stated as follows 2a) The relationship between risk-taking and firm performance will be positively moderated by digital marketing capabilities (DMC) such that increases in firm performance will be higher when DMC is higher; not supported. 2b) The relationship between innovativeness and firm performance will be positively moderated by digital marketing capabilities (DMC) such that such increases in firm performance will be higher when DMC is higher; not supported; 2c) The relationship between proactiveness and firm performance will be positively moderated by digital marketing capabilities (DMC), such that such increases in firm performance will be higher when DMC is higher, also unsupported based on the regression results. As stated earlier, the empirical results show DMC as positively related to firm performance directly but not as a significant moderator of the firm performance variable.

### Hypothesis 3a, 3b,3c Results

Hypothesis 3a: The positive relationship between risk taking and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned.

Hypothesis 3b: The positive relationship between innovativeness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned.

Hypothesis 3c: The positive relationship between proactiveness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned.

In regression model 4, I also tested the moderating relationship between Female gender and risk-taking, innovation, and proactiveness the dependent variable, firm performance, and female gender. For the female gender, I used the standardized the moderating variables RISKxFEMALE, INNOVxFEMALE and PROACTxFEMALE to test the moderated relationships used to assess hypothesis 3a, 3b, and 3c. The hypothesized relationships were stated as follows: 3a) The positive relationship between risk taking and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned; not supported. 3b) The positive relationship between innovativeness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female owned; not supported. 3c) The positive relationship between proactiveness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female owned; not supported. Empirical results indicate the female gender was not a significant moderator of risk taking, innovativeness or proactiveness. When the variable was changed to Male gender for comparison in models 3 and 4, the independent variables are recorded as significant predictors of the dependent variable firm performance. The relationship was mildly significant. In addition, no significant findings were observed between the independent variables and the male gender interaction terms in model 4 (See APPENDIX C for details).

**Table 4.1 Regression Results**

	Model 1	Model 2	Model 3	Model 4
	$\beta$	$\beta$	$\beta$	$\beta$
<b>Controls</b>				
Firm Age	-0.109	-0.233**	-0.151	-0.150~
Industry: Agriculture	0.104	-0.010	0.038	0.039
Industry: Technology	-0.172	-0.222	-0.212	-0.238*
Industry: Marketing	0.075	0.043	0.063	0.057
Industry: Communications	0.019	0.053	0.032	0.032
Industry: Administration	0.117	0.113	0.072	0.067
Industry: Government	0.054	0.036	0.016	0.011
Industry: Culinary Arts	0.061	0.132	0.049	0.036
Industry: Trades	-0.004	-0.043	-0.120	-0.149
Industry: Other	0.118	0.003	-0.042	-0.088
Industries				
Family Owned	0.218*	0.104	0.082	0.062
Environmental: Munificence	-0.372***	-0.268*	-0.271*	-0.273*
Environmental: Heterogeneity	0.108	0.134	0.038	0.111
<b>Independent Variables</b>				
Risk Taking		0.155	0.078	0.114
Innovativeness		0.192~	0.078	0.085
Proactiveness		0.217*	0.165	0.160
<b>Moderating Variables</b>				
Digital Marketing Capabilities			0.379***	0.368***
Female Gender			-0.076	-0.074
<b>Interaction Effects</b>				
Risk and Digital Marketing Capabilities				0.083
Innovativeness and Digital Marketing Capabilities				0.027
Proactiveness and Digital Marketing Capabilities				0.050
Risk and Female gender				-0.016
Innovativeness and Female gender				-0.023
Proactiveness and Female gender				0.103
R	0.530	0.655	0.734	0.745
R <sup>2</sup>	0.281	0.429	0.538	0.555
Adjusted R <sup>2</sup>	0.181**	0.342***	0.456***	0.438
$\Delta R^2$	0.281	0.147	0.110	0.017
F	2.798	23.731	10.672	0.533

n=107 Standardized regression coefficients shown. ~significant at the 0.10 Level, \*Significant at the 0.05 level, \*\*significant at the 0.01 level, \*\*\*significant at the 0.001 level

**Table 4.2 Hypothesized Relationships and Results**

Hypothesis 1a: Risk taking will be positively associated with firm performance.	Not supported
Hypothesis 1b: Innovativeness will be positively associated with firm performance.	Supported.
Hypothesis 1c: Proactiveness will be positively associated with firm performance.	Supported
Hypothesis 2a: The relationship between risk taking and firm performance will be positively moderated by digital marketing capabilities (DMC) such that increases in firm performance will be higher when DMC is higher.	Not supported
Hypothesis 2b: The relationship between innovativeness and firm performance will be positively moderated by digital marketing capabilities (DMC) such that such increases in firm performance will be higher when DMC is higher.	Not supported
Hypothesis 2c: The relationship between proactiveness and firm performance will be positively moderated by digital marketing capabilities (DMC), such that such increases in firm performance will be higher when DMC is higher.	Not supported
Hypothesis 3a: The positive relationship between risk taking and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned.	Not supported
Hypothesis 3b: The positive relationship between innovativeness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned.	Not Supported
Hypothesis 3c: The positive relationship between proactiveness and firm performance will be moderated by female ownership such that firm performance will be higher when the firm is female-owned.	Not Supported

The hypothesis results are presented in Table 4.2. The hypothesis test included nine hypothesized relationships, and of the nine, with two supported. The others were unsupported. Hypotheses 1b and 1c were supported. However, the significance of this empirical exploration was to examine the moderated relationship between digital marketing capabilities and firm

performance along with exploring the moderator of female gender as it relates to entrepreneurial orientation (risk taking, innovation, and proactiveness).

## **4.2 Post Hoc Analysis**

### **4.2.1 Social Media Results**

In a post hoc analysis, my dissertation research also took a practical look at social media marketing by examining social media marketing engagement activities. The information was captured via survey questionnaire to ascertain organizational investment and participation in social media platforms. Capturing social media data proved insightful beginning with the internet service provider Spectrum at 54% Xfinity representing 15% followed by ATT at 13% with the others representing 7% or less of those surveyed. Most respondents reported connectivity from companies located in areas where broadband was readily accessible.<sup>22</sup> The survey also showed several comparisons between social media usages in the past months verses the past three years (see Table 4.2 a-e).

The social media post responses revealed some interesting trends. For example, respondents reported their average frequency of Facebook post increased in the last 12 months compared to 3 years ago, with 33% in the past 12 months, up from 31% three years ago. In other categories of post frequency, Facebook post comparisons reported modest increases from the last 12 months compared to three years ago. Instagram post responses also show an increase in frequency of post activity in the last 12 months reporting a decrease in the ‘much less frequent post’ category which was slightly higher three years ago. In the category of ‘average frequency of usage’ for the past 12 months was 31%, up from 27% three years ago. Comparatively, the

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<sup>22</sup> [NC Boadband.gov](http://NCBoadband.gov)

‘Less frequency’ of usage category showed a decrease in the past 12 months of 8% compared to 12% three years ago indicating the Instagram platform’s usage has increased overall in the past 12 month compared to its usage three years ago.

When respondents were asked about posting to Instagram in the ‘less frequently’ category in the past 12 months 31% stated they posted less frequently compared to 29% three years ago indicating a modest decrease in posting activity on the Instagram platform.

Twitter post trends reported 56% of participants posted ‘less frequently’ three years ago compared to 53% reporting in this category for the past 12 months. Lastly, the frequency of post trends showed increased frequency of post in the last 12-month period from the 3-year comparison. For example, LinkedIn social media reported a 10% increase in respondents stating the use of the platform ‘more frequently’ in the past 12 months compared to 7% three years ago. Another increase of usage was found in the ‘less frequency’ of post category where survey participants reported posting less frequently three years ago at 37% compared to 30% in the last 12 months of business on LinkedIn.

#### **Tables 4.3 a-e – Social Media Post Frequencies**

##### **a. FACEBOOK POST\_12M compared 3Y**

		12MPercent	3YPercent
Valid	Much more frequently	16.9	18.7
	Frequently	15.0	14.0
	Average frequency	32.7	30.8
	Less frequently	13.1	14.0
	Much less frequently	22.4	22.4
	Total	100.0	100.0

## c. INSTAGRAM POST\_12M compared 3Y

		12MPercent	3YPercent
Valid	Much more frequently	16.8	16.8
	Frequently	16.8	11.2
	Average frequency	30.8	29.0
	Less frequently	8.4	12.1
	Much less frequently	27.1	30.8
	Total	100.0	100.0

## b. LINKEDIN POST\_12M compared 3Y

		12MPercent	3YPercent
Valid	Much more frequently	10.0	10.3
	Frequently	18.3	7.5
	Average frequency	10.0	6.5
	Less frequently	20.0	37.4
	Much more frequently	41.7	38.3
	Total	100.0	100.0

## d. TWITTER POST\_\_12M compared 3Y

		12MPercent	3YPercent
Valid	Much more frequently	1.9	1.9
	Frequently	7.5	6.5
	Average frequency	7.5	2.8
	Less frequently	29.9	32.7
	Much less frequently	53.3	56.1
	Total	100.0	100.0

## e. TIK TOK POST\_12M compared 3Y

		12MPercent	3YPercent
Valid	Much more frequently	3.7	1.9
	Frequently	4.7	3.7
	Average frequency	2.8	1.9
	Less frequently	29.0	10.3
	Much less frequently	59.8	82.2
	Total	100.0	100.0

Investments in social media activity was also captured as participants were asked to respond and provide details for their engagement with Search Engine Optimization (SEO). Forty-six percent of survey participants stated that they do not invest in SEO, with 32% investing in SEO and only 11% indicating an investment in SEO and Paid Placement (PP) simultaneously. Investment in only PP was recorded as 8%. In addition to capturing the types of investment, survey participants indicated 12% of them invested 0 hours per week in digital marketing efforts. 19% indicated investing 1-2 hours per week into their digital marketing efforts, and 29% between in 6-8 hours per week on digital marketing activities. Of those surveyed, 13% of respondents indicated they had hired a social media marketing professional full-time and 10% hired a part-time social media professional. Social media professional spending was between \$100-\$19,000, with the average spending for a professional at \$6,150 annually (the average is reported from the 14 survey participants who responded to this question).

These results aligned with the 56% of survey respondents who indicated they spend between \$1000 -\$5,000 annually for digital marketing. Finally, 22% of survey respondents stated they don't pay anything for digital marketing, and 19% of survey respondents indicated spending between \$5001 -\$25,000+ annually in this category.

An exciting component of this research study is the survey results related to the social media marketing activities in which firms participate. We understand that market competition has increased overall because of the "new digital era"(Katsikeas et al., 2019; Porter et al., 2001). Businesses seeking to improve their marketing presence through existing social media channels and available technologies position themselves to profit, but these efforts are not risk-free (Fischer & Reuber, 2014; Ipsmiller et al., 2022; Järvinen & Taiminen, 2016). For this study, I collected metrics related to the types of social media firms utilize: their financial investment,



personnel, and hours per week dedicated to social media marketing. Facebook and Instagram demonstrated significant gains in the frequency of posts in the last twelve months compared to three years ago. Likewise, participation in posting to Twitter, Tik Tok and LinkedIn were less frequent three years ago compared to the last 12 months of activity. Another interesting point from the data was that most respondents stated they make financial investments in search engine optimization and paid placements. For owners making a financial investment, the range of investment dollars spent was broad, ranging from the hundreds to just under \$20K in investment. Notably, most businesses were minority-owned and were 1-2 person entities with a median of six employees; although some firms were larger, they were not the majority.

#### **4.2.2 Regression Results - EO (Single Measure)**

This research used the multi-dimensional measurement of the EO construct to evaluate the relationship of its different dimensions with firm performance (Putniņš & Sauka, 2020). Venkatraman thought it was crucial to understanding the importance and success. Scholars have frequently argued over the benefits of the utility of specific measures outside the EO construct's one-dimensional measure. Venkatraman (1989) and Lumpkin & Dess (1996) proposed the theory that EO metrics could change independently. Early discussions about the dimension's structure focused on whether the chosen items (Miller/Covin Slevin) adequately captured how businesses engage in enterprising behaviors. However, we discover that three characteristics—innovation, proactivity, and risk-taking—have been identified as being most common in the literature currently available on EO. The dissected measurements tested by regression did not produce the desired findings, allowing researchers to investigate the typically used singular measure of EO with factor loadings for risk taking, inventiveness, and proactivity. To test EO as

a single measure I replaced the independent variable the model, which yielded a statistically significant results for model 2 ( $\beta$  0.435  $p < .05$ ) , 3 ( $\beta$  0.225  $p < .05$ ) and 4 ( $\beta$  0.240  $p < .05$ ).

These findings suggest a finer grained exploration of the DMC and gender variables may be warranted to understand the connections between EO and firm performance. New opportunities to explore digital marketing and other digital influence involving entrepreneurship exist the current environment of e-commerce and social change related to female gender topics; however, these research opportunities and others exist beyond the scope of this study.

## **CHAPTER 5 - DISCUSSION**

In this section, we start with an overview of the study, followed by a discussion of the hypothesized relationships and findings that emerged from the research model. Next, I discuss study contributions extending to literature, theory, and practice in entrepreneurship research. I also address study limitations and recommendations for future research.

### **5.1 Overview**

Entrepreneurial Orientation (EO) is a highly rated measure in traditional entrepreneurship theory used to capture how firms adapt internally to meet the demands of external forces to remain competitive (Covin & Slevin, 1989). The measure is flexible and agile, traditionally working well with moderators to advance our understanding of entrepreneurship and the breadth of outcomes possible when engaged (Covin & Slevin, 1989; Rauch et al., 2009; Venkatraman, 1989). The entry of digital marketing as a significant force in today's commerce has outpaced the available research at the intersection of entrepreneurial orientation and digital marketing. It has been challenging for businesses to bridge the marketing capabilities gap due to the increasing complexity of marketing within enterprises (Day, 2011). Identifying this gap in the entrepreneurship literature led to the exploration of digital marketing capabilities as a moderator of entrepreneurial orientation and related firm performance outcomes. Proficiency in marketing linking capabilities is a source of defensible competitive advantage, as it equips the organization with market perception and consumer linking skills (Day, 1994). Entrepreneurial firms must constantly promote their market visibility in the era of increased social media marketing. Firms use social media marketing for customer interactions, customer relationship management, consumer message delivery, networking connectivity, and as a foundation for new product innovation (A. Kazım Kırtış & Filiz Karahan, 2011; Sherman, 2011; Thomas, 2010). I have

attempted to understand if entrepreneurs with digital marketing capabilities and resource allocation (time, talent, and funding) are impactful, leading to better firm performance outcomes. In addition, I felt it important to investigate women's entrepreneurship as a moderator of firm performance given the increased participation of females in entrepreneurship, with females making up almost 20% of businesses in the United States economy in 2019 and an increase of 6% from 2017.<sup>23</sup> Given the spikes in women entrepreneurship, I felt more investigative evidence was necessary to determine whether the current rise in female ownership is a result of female owners who act entrepreneurially (exhibiting innovation, proactiveness, and risk-taking characteristics), resulting in business performance gains. In addition, much has changed in the social landscape for women since the MeToo movement, and to my knowledge, none of the existing research has focused on the relationship between entrepreneurial orientation and female firm performance in the current market. This study uses the female gender as a moderator of the relationship between EO and firm performance.

Therefore, my first objective was to examine how digital marketing capabilities (DMC) affect a firm's performance as a moderator. Firms with a digital marketing orientation can develop behaviors that support superior market performance by having knowledge in the areas of digital channel strategy, online customer acquisition, customer conversation and experience, customer development and growth, cross-channel integration and brand development, and digital channel governance, including change management (Day, 1994; Menon et al., 1999; Voorhies & Morgan, 2003). The second objective was to empirically investigate female entrepreneurship outcomes when EO was presently given today's social and economic environment. The following research questions guided this process:

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<sup>23</sup> <https://www.census.gov/library/stories/2021/03/women-business-ownership-in-america-on-rise.html>

1. Do firms with higher EO engaging in DMC at higher levels achieve greater firm performance? In addition, and from a practical perspective, what types of activities and investments do firms make in digital marketing including spending, number of hours dedicated, and staff allocations for social media?
2. Utilizing the EO construct as a multi-dimension measure, do females with an entrepreneurial orientation find increases in their firm's performance capacity, particularly considering today's pro-women business environment?

## **5.2 Research Findings**

Entrepreneurial Orientation (EO) studies have explored its relationship with firm performance throughout the construct's 30-year history. In addition, the prevalence of technology in enabling EO behaviors provided options for more thorough research of the relationship between EO-Performance and the investigation of knowledge capacities (Barney, 2002; Wiklund & Shepherd, 2005; Zahra & George, 2002). Using the defined multi-dimensional construct of EO (McKenny et al., 2018; Slevin & Terjesen, 2011), I explored its relationship with firm performance. This relationship was captured as a direct effect, then with digital marketing capabilities as a moderator, followed by the female gender as a moderator of the independent variable EO in its multi-dimension formulation (risk taking, innovation, and proactiveness). The female gender outputs were also compared to male gender moderated outcomes using the same formulaic structure to determine if female gender as a moderator would result in any statistically significant higher outcomes (see Appendix for the male regression results).

### **5.2.1 EO-Firm Performance Relationship**

Hypothesis 1a predicted risk taking as positively associated with firm performance: The results did not support this prediction. Hypothesis 1a examined EO and firm performance. The relationship between the two is well established and has historically been explored together.

With this study, I used the multi-dimensional construct, which parceled out risk taking. The literature has long recognized risk-taking as a factor in firm performance. Risk-taking is confirmed as a crucial component of entrepreneurial behaviors, by a historical analysis of the roots of entrepreneurship (Covin & Slevin, 1991; Miller & Friesen, 1983). Considering risk taking as a stake in entrepreneurship behavior exploration, Hypothesis 1a proposed that EO is positively associated with firm performance. The coefficients of the EO risk taking construct were negatively associated with firm performance but not significant in this study, suggesting that firms with higher levels of risk taking can adversely affect performance gains. The findings and literature point out that risk taking is not always successful. Although risk are not always associated with success, it can add value, providing knowledge to guide future risk taking within the organizational structure (Wales, 2016; Wiklund & Shepherd, 2005).

Hypothesis 1b predicted that Innovativeness is positively associated with firm performance: The prediction was mildly supported. The research model taking the second dimension of EO (innovativeness) and examining firm performance outcomes demonstrated a positive and significant relationship, with results confirming the hypothesis prediction. Innovativeness is the capacity to encourage experimentation, ingenuity, novelty, technical leadership, and research and development in producing innovative products and services (G Thomas Lumpkin & Gregory G Dess, 2001). The positive relationship between the two constructs indicates firms' higher levels of innovation experience higher firm performance gains but the relationship was only moderately significant. These findings support EO's Innovativeness construct as a key contributor to firm performance results, but only as a modest contributor.

Hypothesis 1c predicted proactiveness as positively associated with firm performance: the results supported this prediction. Hypothesis 1c explored the relationship between the EO component of proactiveness. Being proactive is a cognitive paradigm for decision-making that emerges from an individual's unique recognition of opportunity (Baron & Ensley, 2006). The results provided only mild support for proactiveness as a driver of firm performance when used as a fragmented measure of EO.

### **Hypothesis 1a, 1b, 1c - Discussion**

The EO-Firm performance relationship is well established in the literature. The theoretical basis for EO has also been highly recognized using the central dimensions of risk taking (venturing into the unknown and taking bold actions), Innovativeness (creativity and introducing new products into the market), and Proactiveness (opportunity seeking or scanning) (Covin & Slevin 1991; Miller. 1983; Miller & Friesen 1978; Venkatraman, 1989). As noted earlier, however, evaluating lesser companies is one of the challenges posed by the relationship between EO and firm performance. The lack of publicly available information for small firms challenges researchers (Smart & Conant, 1994). While this is true, the relationship between EO and firm performance has not yet been fully exhausted. For the most part, the research findings here were in part supported by the established EO theory. Perhaps some of the deficiency in the research findings can be attributed to the inability of purely quantitative research to capture the why. Another contributing factor might include the sampling approach, with more than 75% of participants being taken from a Community Development Financial Institution (CDFI), where under-resourced businesses receive financial and technical assistance support for business development. A contributing factor to the findings may also include factors related to Resources-Based View theory, and in need of further investigation. In addition, A mixed

methods approach and additional metrics collected on the entity's financial condition might have provided more clarity of insight regarding the sample. Also, a mixed methods approach would have provided for future research leading to more significant insights into how small firms effectively position themselves to take risk, innovate and employ opportunity-seeking behaviors based on perceived market opportunities in an increasingly digital economy. Nevertheless, two out of three direct effects were supported in this study.

### **5.2.2 EO-Firm Performance Relationship moderated by DMC**

Hypothesis 2a, 2b, and 2c in the research model examined the DMC as a moderator of the relationship between the EO dimensions of risk taking (2a), innovativeness (2b), and proactiveness (2c). DMC was introduced as a moderating variable to account for the influences of digital marketing capabilities, which incorporates six different capabilities within a firm (digital channel strategy, online customer acquisition, customer conversation and experience, customer development and growth, cross-channel integration, and brand development, and digital channel governance, including change management) (Chaffey, 2005, 2008). When interacting with risk taking, innovativeness, and proactiveness DMC did not produce any significant results. However, the moderator did show a significant relationship with firm performance, but the model 4's interaction terms were not significant and the adjusted  $R^2$  also lacked significance.

### **Hypothesis 2a, 2b, 2c - Discussion**

Exploration of the moderating variable DMC was aimed at exploring the adaptability of firms to the digital environment. This included exploring how businesses use the internet to connect with customers by collecting consumer insights and constructing "inside" and "outside"



organizational processes to improve marketing and financial performance. (Varadarajan, 2020). My research attempted to add to the existing discourse by evaluating relationship dynamics when we've observed marked changes in the use of digital technologies for commerce, including social media platforms as customer communication devices. The research goal was to assess knowledge in these areas enables firms with a marketing orientation to develop market-performance-enhancing behaviors. (Day, 1994; Menon et al., 1999; Vorhies & Morgan, 2003). The dynamic capabilities theory was operationalized to explore these relationships utilizing digital platforms (Day, 2011). We hypothesized that lack of DMCs probably makes companies' risk-taking, innovativeness, and proactiveness propensity worse, to the point where the company lacks the necessary insights to capture market opportunity in an increasingly digital economy fully. As a result, the company is ultimately more likely to miss the customer targeting metrics, leading to limited performance. I found that while some companies were engaging and investing in DMC, a majority were not. I also attempted to understand if these financial investments led to increased firm performance but lacked enough data to answer this question. While successful in identifying increased social media activities in the last 12 months compared to three years ago, adding to the discussion would mean including details about why these changes have occurred and capturing the challenges associated with social media task management. This study was innovative because it included a segment that attempted to capture practical use features. The questions with drop-down menus were more successful in capturing answers than the fill-ins. Recasting a study of this type would include more questions regarding the types of investments with more measure in a categorical format to capture the responses. In addition, exploring the time management of digital assets as it relates to solopreneurs, businesses with employee capacity, and larger firms might also offer additional areas for future contributions to entrepreneurship research. My goal was to capture

DMC as a channel for risk taking, innovation, and proactiveness when used to integrate consumer product insights and bring them to the forefront of product advancements as a reaction to customer desires and needs. Future research would include refining the survey instrument to capture more insights in this area and developing a mechanism to capture these metrics sufficiently.

### **5.2.3 EO-Firm Performance Relationship moderated by gender (Female)**

Hypothesis 3a, 3b, and 3c in the research model examined female gender as a moderator of the relationship between the EO dimensions of risk taking (3a), innovativeness (3b), and proactiveness (3c). Hypothesis 3c. was supported demonstrating a mild relationship with firm performance.

Compared to their male counterparts, female entrepreneurs have faced gender disparities based on gender role expectations, such as considering entrepreneurship as a male-dominated task. (Ahl, 2006; Eagly & Wood, 2011; Heilman, 1983). Examining female entrepreneurs as a moderator was an opportunity to analyze female firm performance with EO.

For comparison, when the gender variable in model 3 was changed to male, and the interaction terms RISKxMALE, INNOVxMALE and PROACTxMALE were created and regressed. The results did not revealed any statistically significant relationship between the moderated variable male gender and our selected independent variables (risk taking, innovativeness, proactiveness), similar to the female gender findings. (see Appendix C for Male Regression results).

In broader terms, the hypothesis predicted that with higher levels of risk taking, innovativeness, and proactiveness, female entrepreneurs would experience higher levels of firm performance gains. The results were contrary to expectations and raised more questions as the

results did show any positive directional relationships with the selected IV and female gender. The data sample was heavily populated with women (72%) of survey participants with men representing just 28% of sample participants. A failure to find any statistically significant relationships prompts a need for continued exploration for the female entrepreneurship experience. Furthermore, ongoing research inconsistencies in this area continue to produce varied female entrepreneurship outcomes making it difficult to understand the underlying and dynamic social environmental impacts this population faces. To fully comprehend the nuances of this group, more research is needed. Female risk taking, innovativeness, and proactiveness as it relates to their entrepreneurial aspirations is affirmed as nuanced and difficult to track in ever changing social and economic climates.

### **Hypothesis 3a, 3b, 3c - Discussion**

An extension of gender role theory is gender role congruity theory. This theoretical construct helps us comprehend how females in business may encounter sex-based prejudices. (Eagly & Carli, 2003; Koenig et al., 2011). The theoretical paradigm was developed in the psychology literature by Eagly & Steffen (1984) as scholars sought to comprehend the societal differences between males and women. Recently in our society, we have also seen women advance societal conditions, raised awareness regarding women's justice and equality that included the “MeToo” movement and seen women consistently engaging in entrepreneurship.

New research in female entrepreneurship using gender role congruity theory allows us to evaluate whether the societal support for businesses owned and operated by female entrepreneurs has increased to the point where females can surmount the perceived obstacles associated with female ownership (Byrne et al., 2019). It was essential to explore female entrepreneurs and a growing sector of the entrepreneurship community. Hypothesis 3a, 3b, and 3c attempted to

understand EO (risk taking, innovation, and proactiveness) in the backdrop of digital and social changes in the market that could be perceived as impacting the female entrepreneurship experience. Historically, female entrepreneurs are renowned for being risk averse. Nevertheless, the opportunities for female entrepreneurs to participate in high-growth industries are improving due to the proliferation of digital marketplaces, which offer a variety of ways to increase success rates in conjunction with social networks. (Guzman & Kacperczyk, 2019; Yang & del Carmen Triana, 2019). In addition, contemporary research makes it possible for us to evaluate whether society's support for businesses owned and operated by females has increased to the point where females can overcome the perceptual obstacles associated with female ownership (Byrne et al., 2019). While this research study did not find any significant results related to female owner increases in profitability in association with their EO, the sample was 72% female and 68% black consistent with the SBA reporting of the fastest-growing entrepreneurship market in these categories. Increases in this population segment offer the opportunity for new research within a population that has been traditionally resource constrained but continues to emerge as an economic engine despite this obstacle. In addition, while a full exploration of female entrepreneurs and their digital capabilities was beyond the scope of my dissertation research, it is an area where added research might offer some additional insights regarding female entrepreneurship.

### **5.3 Contributions**

To the best of my knowledge, this is the first study to explore how the multi-dimensional uses of EO (risk Taking, Innovativeness, and Proactiveness) impacts firm performance when moderated by DMC and female gender.

In addition, while it is not the first to explore female entrepreneurship in the context of entrepreneurial orientation, it does look at this period for female entrepreneurs in a post-MeToo movement environment. The objective was to determine whether female entrepreneurs see any noticeable improvement in firm performance as they follow their entrepreneurial goals in comparison to their male counterparts. The results show no significant gains here but opens the door to more consistent research in this area. I contributed to female entrepreneurship research by exploring the implications of entrepreneurial pursuits in a postmodern, post-MeToo era in American history; and in the hopes that as women's history continues to transform, more researchers will find looking for statistical significance in environmental and social changes women entrepreneurs experience will see it a labor of passion worthy of continuous investigation.

#### **5.4 Limitations and Implications**

This research is not without limitations. I started with 88 survey responses from the Carolina Small Business Development Fund and expanded data collection strategy to include social media (LinkedIn) allowing me to capture an additional 62 from the LinkedIn social media platform responses for 140 survey participants. After cleaning the data, the usable records were reduced to 107 participants. Some of the risks associated with this limitation included taking a large sample from business owners participating in the Carolina Small Business Development Fund, who has a client base in North Carolina who are typically small minority owned businesses. Opening to the study to the LinkedIn platform helped to mitigate some of the geographical limitations, but the majority of surveys were collected from North Carolina businesses. Another limitation was loss data due to screening out participants with significant amounts of missing data. Some data were salvageable. SPSS 28 was used to provide mean data

replacement for missing items. In addition, self-report information from questionnaires to organically captured the data used can also be seen as a limitation. Common factor variance was a part of the research design in which responses for the dependent and independent variables were gathered using a single survey-based method (Podsakoff, 2003). In addition, any bias was mitigated to some extent by separating the measurement of the independent variables from that of the dependent variables. However, the recommended procedure to eliminate bias is to obtain the measurements of the independent and dependent variables from separate sources using distinct methods (Podsakoff & Organ, 1986).

The study limitations, I continue to believe in the theory and encourage scholars to pursue a more rigorous and nuanced understanding of EO, DMCs, and female entrepreneurs. In addition, the study also offered research-based evidence of female entrepreneurship as a moderator in the postmodern/post-MeToo era and contributed to the body of knowledge available to advance female entrepreneurship.

### **5.5 Future Research**

While Entrepreneurial Orientation (EO) remains a well-researched and exciting topic. The reliability and validity of this EO study's findings may be limited due to the boundary condition of most survey participants capture from the Carolina Small Business Development Fund, a North Carolina based Community Development Financial Institution serving entrepreneurs in underrepresented categories of minorities, women, and low-moderate income individuals. A more diverse sample from a wider cross section of the entrepreneurship community might have yielded more significant results. In addition, information was captured via questionnaire in a self-report format. A common factor variance was introduced as a

consequence of the research design, in which responses for dependent and independent variables were collected using a singular survey-based method. (Podsakoff, 2003). This bias is mitigated in part by separating the measurements of the independent and dependent variables, although the recommended procedure to eliminate bias is to obtain measurements of the independent and dependent variables from separate sources employing distinct methodologies. (Podsakoff & Organ, 1986). The addition of interviewing survey participants would also mitigate any future measurement bias and is a suggested methodology for future research in this area.

Entrepreneurship research is ripe with opportunity to explore digital engagement and female entrepreneurship separately. For one, digital connectivity in commerce avails itself of additional research possibilities. In my study design, respondents were asked to report their investment in social media marketing. While most responses stated no investment, the potential exists to explore why no investment was made in this area. Also, the existing study could not address the specifics behind a particular survey choice. A qualitative component would offer the opportunity to explore the entrepreneurs' choices further. In addition, a mixed-methods approach could also be used to capture data related to financial constraints, frustrations, and how social media usage can blur the lines between private and professional persona on the world-wide web. A mixed-methods approach supports the additional of metrics collected providing deeper insight into an entity's financial and behavioral conditions, offering the potential for improved study outcomes. In addition, with a mixed-methods approach there is an opportunity to learn more about how businesses effectively position themselves to take risks, innovate, and engage in opportunity-seeking behaviors in response to perceived market opportunities.

Female entrepreneurship also has opportunities for future research. While we were unsuccessfully in capturing any meaningful another approach can include capturing the three-

way interaction between EO-DMC and gender. A study of this type may provide some unique insights into how female entrepreneurs leverage social media platforms to increase networks and gain broader communities of financial and emotional support. Understanding this network expansion is especially relevant as networks for female entrepreneurs have historically been limited to close family and acquaintances (Powell & Eddleston, 2013).

In summary, entrepreneurial orientation exploration is primed for new research opportunities as more individuals look to participate in the micro economy that digitization and self-promotion make possible. The landscape of digital tool promotion is in a state of rapid transformation. Practical data collection can also support managerial decision-making and provide helpful insight to business owners navigating the increasingly digital market environment. EO research in general offers many avenues for exploration as business environments are dynamic, and the EO framework, which identifies innovation, proactiveness, and risk-taking abilities as the fundamental behavioral attributes entrepreneurial organizations respond with (Covin & Slevin, 1991; Khandwalla, 1977; Miller & Friesen, 1983; Mintzberg, 1973). The landscape for entrepreneurship research remains ripe with opportunities to understand new market dynamics and gender roles that can support managerial decision making to a greater extent.

## **5.6 Conclusion**

This study evaluated entrepreneurial orientation as a multidimensional measure with firm performance and assessed the relationship between the moderators of digital marketing capabilities and the female gender. The study extends entrepreneurship research by considering the implications of digital marketing capabilities and female gender firm performance in the



wake of the increasingly digital economy and the changing social structures presented to women entrepreneurs in a post-MeToo movement era. In addition, my dissertation study contributed to the practical and managerial aspects of entrepreneurs by assessing social media platform usage and investment for the past twelve months compared to the past three years. While I did not find evidence of the relationship between the dependent variable, firm performance, and independent variables (risk taking, innovativeness, and proactiveness) and moderated variables statistically significant, it was evident from a practical perspective that more enterprises are using social media platforms. They, however, are not heavily financially invested in these endeavors based on the survey responses received. In addition, I found that female entrepreneurship remains a topic for more exploration, as most female business owners took the survey but did not show any significant relationships between their entrepreneurial orientation and firm performance. There remains an opportunity to continue to check in with populations of entrepreneurs and female entrepreneurs, mainly to evaluate their entrepreneurship journey. Perhaps it was too early to record any social changes from an instrument of this type. Nevertheless, when we are willing to test, evaluate and seek evidence of change, we can comprehend advancement and contribute to the conversation of academic and managerial progress.

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## APPENDICES

### APPENDIX A: Measures Table (Quick Reference)

Variable Role (IV, DV, Moderator, or Control)	Construct Name	Dimension Name	Survey Item	How Measured	Citation (where original items were published)
Survey Qualification Question	Qualification	Growth	My goal for business growth is	Dummy Code: 1=None 2=Uncertain 3=Desired	Morrison, A., Breen, J., & Ali, S. (2003). Small Business Growth: Intention, Ability, and Opportunity. <i>Journal of small business management</i> , 41(4), 417-425. Doi:10.1111/1540- 627x.00092
	Work-Life Balance/ Life Satisfaction	Affective Positive Spillover	When things are going well at work, my outlook regarding my family responsibilities is improved	Likert Scale: 1 = Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree	Hanson, G. C., Hammer, L. B., & Colton, C. L. (2006). Development and validation of a multidimensional scale of perceived work-family positive spillover. <i>Journal of occupational health psychology</i> , 11(3), 249.
			Having a good day at work improves my frame of mind concerning family responsibilities		
Dependent Variable (DV)	Firm Performance	Growth	How would you rate your firm's current performance as compared to your competitors?	Likert Scale- Current (Past 12 months) (1= Much Worse, 2= Worse, 3=Neutral, 4=Better, 5= Much Better)/ Past Three Years (1= Much Worse, 2= Worse, 3=Neutral, 4=Better, 5= Much Better)	Eddleston, K. A., & Kellermanns, F. W. (2007). Destructive and productive family relationships: A stewardship theory perspective. <i>Journal of Business Venturing</i> , 22(4), 545-565.
			Growth in market share		
			Growth in number of employees		
			Growth in profitability		
			Profit margin on sales		
			Ability to fund growth from profits		
Independent Variable (IV)	Entrepreneurial Orientation	Risk Taking	To what extent do you agree with the following statement?	Likert Scale: 1 = Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree	Lee, L., & Sukoco, B. M. (2007). The effects of entrepreneurial orientation and knowledge management capability on organizational effectiveness in Taiwan: the moderating role of social capital. <i>International Journal of Management</i> , 24(3), 549

			Our firm stresses a fully delegated policy for employees.		
			Our firm gives the freedom for individuals or teams to develop new ideas.		
			In general, the top managers of our firm have a strong tendency to be ahead of others in introducing novel products or ideas.		
		Innovativeness	Our firm encourages and stimulates creativity and experimentation.		Dess G. G., & Lumpkin, G. T. (2005). The Role of Entrepreneurial Orientation in Stimulating Effective Corporate Entrepreneurship. <i>Academy of Management Perspectives</i> , 19(1), 147-156. Doi:10.5465/ame.2005.15841975
			Our firm stimulates creativity and experimentation		
			Our firm's innovative initiatives are hard for competitors to successfully imitate		
		Proactiveness	In dealing with competitors, our firm typically initiates actions which competitors respond to.		
			In dealing with competitors, our firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.		
Moderator	Digital Marketing Capability		Please evaluate how well or poorly you believe that this business unit performs the specific capabilities relative to your major competitors?	Likert Scale: 1 = Much Worse, 2= Worse, 3= Neutral, 4= Better, 5 = Much Better	Wang, F. (2020). Digital marketing capabilities in international firms: a relational perspective. <i>International Marketing Review</i> , 37(3), 559-577. Doi:10.1108/imr-04-2018-0128
			Customer-linking digital capabilities (i.e., creating and managing durable customer relationships through digital media		

			Market-sensing digital capabilities (i.e., predicting changes in customer preferences using digital media)		
			Channel-bonding digital capabilities (i.e., creating durable relationships with channel members such as wholesalers, retailers using digital media)		
			Capabilities in creating durable relationships with suppliers through digital platforms		
			Ability to use digital marketing to retain customers		
	Digital Marketing Capability (extension)		What type of Search Engine Optimization (SEO) strategies do you currently invest? (Please select the one that best describes your investment)	Dummy Code: 0=I Don't invest 1=I Invest only in SEO 2=I Invest only in Paid Placement (PP) 3=I Invest in SEO and Paid Placement	This question is adapted from Sen, R. (2005). Optimal search engine marketing strategy. International Journal of Electronic Commerce, 10(1), 9-25.
			How often frequently do you post new digital marketing content? (select one)	____# per week	
			How often are the following social media platforms used for business related postings?  Facebook Instagram Twitter Tik Tok LinkedIn Other	Likert Scale (Past 12 months) 1= Much more frequently, 2= Frequently, 3=Average frequency, 4=Less frequently, 5= Much less frequently (Past Three Years) 1= Much more frequently, 2= Frequently, 3=Average frequency, 4=less frequently, 5= Much less frequently	
			Have you hired a social media professional? (check all that apply)	Categorical No Yes – FT –(##) Yes – PT –(##) Yes (SMMC) __\$	
			How much total financial capital would you say you have invested in digital marketing capabilities (staffing hours, advertising, management tools, etc.) last year? (select one)	Dummy Code: 1=0\$ 2=\$1,000-\$5,000 3=\$5,001-\$10,000 4=\$10,001- 5=\$15,000 6=\$15,001 -\$20,000 7=\$20,001-\$25,000 8=More than \$25,000	
			How hours would you say you dedicated to digital marketing per week? (select one)	____#per week	

Moderator	Gender			Dummy Code: 1=Male, 0=Female	
Control	Industry			Dummy Code: 1=Education, 2=Banking, 3=Agriculture, 4=Insurance, 5=Technology, 6=Marketing, 7=Communications, 8=Administration, 9=Government, 10=Culinary Arts, 11=Trades, 12=Other	
Control	Growth			Dummy Code: 1=None, 2=Uncertain, 3=Desired	
Control	Education			Dummy Code: 0= no high school diploma, 1= high school diploma, 2=associate degree, 4=bachelor's degree, 5=professional degree, 6=doctoral degree	
Control	Firm Age			Years xxxx	
Control	Firm Size		Number of employees	Collected as a continuous variable.	
Control	Family Owned		What % of your firm is family owned?	Dummy Code: <50%=0, ≥51%=1	Firms greater than 51% ownership by family will be considered a family firm.



Control	Environmental Munificence		How would you rate characterize the external environment within which your firm operates?	Likert Scale: 1 = Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree	Bantel, K. A. (1998). Technology-based, “adolescent” firm configurations: strategy identification, context, and performance. <i>Journal of Business Venturing</i> , 13(3), 205-230.
			Very safe, little threat to the survival and wellbeing of my firm – Very risky, a false step can mean my firm’s undoing		
			Rich in investment and marketing opportunities – Very stressful, exacting, hostile; very hard to keep afloat		
			An environment that my firm can control and manipulate to its own advantage, such as a dominant firm has in an industry with little competition and few hindrances – A dominant environment in which my firm’s initiative count for very little against the tremendous competitive political, or technological forces		
Control	Environmental Heterogeneity		How would you rate your firm’s environmental heterogeneity?	Likert Scale: 1 = Strongly Disagree, 2= Disagree, 3= Neutral, 4= Agree, 5 = Strongly Agree	Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. <i>Strategic management journal</i> , 3(1), 1-25. Doi:10.1002/smj.4250030102
Control			Customers’ buying habits vary a great deal from one (product or service) line to another		

			The nature of the competition varies a great deal from one (product or service) line to another		
			Market dynamism and uncertainty varies a great deal from one (product or service) line to another		

## APPENDIX B: LITERATURE SUMMARY

### ENTREPRENEURIAL ORIENTATION □ FIRM PERFORMANCE

Contributions	Source	Important insights
Innovation	Schumpeter 1934,1942	Highlighted the importance of innovation and creativity in response to market dynamics
Adaptive	Mintzberg 1973	Strategy making = adaptive modes of organizational structure
Product innovations are a function of strategy	Miller & Friesen 1982	Innovation a product of hostile environment tied to managerial decision making
Organic structure mediates the environment and entrepreneurship	Miller 1983	Organic firms = dynamic firms– face hostile environments with a responsive nature
Construct Validity	Venkatraman 1989	Identifies multi-dimensional behaviors associated with entrepreneurship
Role of the Environment	Covin & Slevin 1989	Environmental hostility and strategic posture moderates firm performance
Business Strategy and Technology interface	Zahra & Covin 1993	Innovation and technology configured to create a competitive advantage – includes marketing intensity as a dimension of business strategy
Risk taking, innovative, and proactive	Covin & Slevin 1991	outlines of strategic posture of entrepreneurial behaviors, suggest model adapts to small firms
Explicitly links Entrepreneurial behaviors to firm performance	Lumpkin & Dess 1996	Explores contingency models and applicability of moderators, mediators and interaction effect between entrepreneurship and firm performance. (add Competitive Aggressiveness and Autonomy to ENT behaviors)
New Ventures	Zahra & Neubaum 1998	Entrepreneurial firms in low- and high-tech experience entrepreneurial orientation differently in new ventures – links knowledge and financial resources
Triangulation and theory development, measurement contingencies	Lyon, Lumpkin & Dess 2000	Construct refinement – evaluates Management perspectives, firm behaviors and resource allocations in EO – firm performance relationship
Opportunity seeking	Ireland, Hitt & Simon, 2003	Strategic entrepreneurs will maneuver deliberately and purposefully toward their strategic goals
Configuration Effects of EO (context specific research approach)	Wiklund & Shepard, 2005	Proposes more complex examination of EO – Perf relationship with org configurations – resources, environmental dynamism
Proposes the use of moderators to explore EO-Performance relationship	Rauch, Wiklund, Lumpkin, Frese, 2009	Moderators change the strength of the EO Performance relationship.
Absorptive Capacity	Engelen, Kube, Schmidt, Flatten, 2014	Absorptive capacity enhances opportunity seeking – 1 <sup>st</sup> to introduces dynamic capabilities as a moderator.

## DYNAMIC CAPABILITIES → DIGITAL MARKETING CAPABILITIES

Contributions	Source	Important insights
Competitive Rationality	Dickenson, 1992	Firm success depends upon imperfect procedural rationality of marketing planners - alert and adaptive = hustle competitive advantage
Mastery of market sensing supports customer linking ability	Day, 1994	Internal bundles of organizational knowledge, tied to Total Quality Management (TQM) , tied to org change
Dynamic Capabilities	Teece, Pisano & Shuen, 1997	Rapid technological change meets with internal management processes to formulate a response to gain competitive advantage
Ties dynamic capabilities to RBV	Eisenhardt and Martin, 2000	DC is seen as an enhancement to RBV- bundling resources to achieve long-term competitive advantage.
Defines dynamic capabilities apart from substantive capabilities	Zahra, Sapienza, and Davidsson, 2006	Proposes superior DC meets emerging challenges in a timely fashion
Reconfiguration of organizational capabilities in new product development	Pavlou & Sawy, 2011	Identifies a set of capabilities, sensing the environment, learning, coordinating, and integrating to reconfigure existing capabilities into new ones.
Not all dimensions of DC are important for small businesses	Hernandez-Linares, Kellermans, & Lopez-Fernandez, 2021	Test sensing, learning, integrating, and coordinating capabilities positively associated with firm performance – Market Orientation significantly moderates DC
Identifies growing gap between complexity of Marketing and organizational capacities.	Day, 2011	Learning deep market insights, adaptive experimentation, open marketing and social networking - coordination of DC
DIY – Technology Adoption in firms	Ritz, Wolf & McQuitty, 2018	Shows resource constrained use skills requiring special knowledge as motivation. – Digital tools for SME
Small and Large firm benefits from DMC not significantly different	Wang, 2020	Firms adjust resource configurations to develop new skills

## FEMALE OWNERSHIP → NETWORKS &amp; SOCIAL CAPITAL

Contributions	Source	Important insights
Gender is complex for Female owners	Marlow 2002	Female owners subordinate in most societies' androgenetic norms and masculine masculinized hegemony
Female entrepreneurship research needs change	Ahl, 2006	Proposed moving beyond male female discourse in the study of female owners
Social Capital with EO and RBV	Runyan, Huddleston & Swinney, 2006	Women report higher levels of social capital and EO no different from men in achieving firm performance.
Women less likely to apply for external funding	Orser 2006	Women less high-tech owners, low risk tolerance. Author calls for more studies in this area.
Growth choices of women deliberate	Morris, 2006	Growth choice is tied to whether women are "pushed" or "pulled" into entrepreneurship.
Coherent research call for female enterprise	De Bruin, Brush & Welter, 2007	Call for additional research to capture women unique experiences as entrepreneurs, arguing the scope has been too narrow
Self-confidants and networks. Important to female owners	Langowitz and Minniti, 2007	Review 17 countries to explore the entrepreneurial propensity of women
Gendered processes may shape firm size industry and focus	De Bruin, 2007	Argues the need to sift women's entrepreneurship research to a more social context
Female networks focus on family and friends for \$\$	Powell, 2012	Motivations tied to resources, opportunities and expected outcomes
Entrepreneurial Competencies in Females	Michelmore & Rowley, 2013	Knowledge and competencies can help women understand their businesses. Females build strong network relationships,
Females not significantly rewarded for their signals	Eddleston, 2016	Venture investment outcomes not same for women, as females are not significantly rewarded for commitment and viability signals.
Knowledge Acquisition driver in female firms	Fuentes-Fuentes, María Del Mar Bojica, Ana M. Ruiz-Arroyo, Matilde, 2015	EO a significant driver of Performance in. Female owned firms (Stable non tech sectors)
Gender socialization plays a role in entrepreneurial propensity of women	Shahriar, 2019	A women's role in the household encourages or discourages entrepreneurship
High growth male and females similar	Gupta, Wieland, & Turban, 2019	Commercial and high-growth female entrepreneurs are perceived as more similar to men than women and higher on agency than communality.
High growth can be locked in existing systems	Ngoasong & Kimbu, 2019	In scarce resource societies, existing social structures can constrain female entrepreneurship growth
Entrepreneurial passion. Differs based on gender	Murnieks, Cardon, Haynie, 2020	Passion is fueled by affective interpersonal commitment and is moderated by gender

## APPENDIX C: MALE REGRESSION MODEL

	Model 1	Model 2	Model 3	Model 4
<b>Controls</b>	$\beta$	$\beta$	$\beta$	$\beta$
Firm Age	-0.109	<b>-0.233**</b>	-0.151	-0.150
Industry: Agriculture	0.104	-0.010	0.038	0.039
Industry: Technology	-0.172	<b>-0.222</b>	-0.212	-0.238
Industry: Marketing	0.075	0.043	0.063	0.057
Industry: Communications	0.019	0.053	0.032	0.032
Industry: Administration	0.117	0.113	0.072	0.067
Industry: Government	0.054	0.036	0.016	0.011
Industry: Culinary Arts	0.061	0.132	0.049	0.036
Industry: Trades	-0.004	-0.043	-0.120	-0.149
Industry: Other Industries	0.118	0.003	-0.042	-0.088
Family Owned	<b>0.218*</b>	0.104	0.082	0.062
Environmental: Munificence	<b>-0.372***</b>	<b>-0.268*</b>	-0.271	<b>-0.273*</b>
Environmental: Heterogeneity	0.108	0.134	0.114	0.111
<b>Independent Variables</b>				
Risk Taking		0.155	0.078	0.114
Innovativeness		<b>0.192~</b>	0.078	0.085
Proactiveness		<b>0.217*</b>	<b>0.165~</b>	0.160
<b>Moderating Variables</b>				
Digital Marketing Capabilities			<b>0.379***</b>	<b>0.368***</b>
Male Gender			0.072	0.069
<b>Interaction Effects</b>				
RISKx Digital Marketing Capabilities				0.083
INNOVx Digital Marketing Capabilities				0.027
PROACTx Digital Marketing Capabilities				0.050
RISKx Male Gender				0.016
INNOVx Male Gender				0.023
PROACTx Male Gender				-0.103
R	0.530	0.658	0.737	0.746
R <sup>2</sup>	0.281	0.433	0.542	0.557
Adjusted R <sup>2</sup>	<b>0.181**</b>	<b>0.332***</b>	<b>0.449***</b>	0.427
$\Delta R^2$	0.281	0.152	0.110	0.014
F	2.798	8.032	10.532	0.443

n=107 Standardized regression coefficients shown. ~significant at the 0.10 Level \*Significant at the 0.05 level \*\*significant at the 0.01 level \*\*\*significant at the 0.001 level

# APPENDIX D: EO (SINGLE MEASURE) REGRESSION MODEL

	Model 1	Model 2	Model 3	Model 4
<b>Controls</b>	$\beta$	$\beta$	$\beta$	$\beta$
Firm Age	-0.109	<b>-0.236**</b>	-0.155	<b>-0.153</b>
Industry: Agriculture	0.104	-0.018	0.029	0.028
Industry: Technology	-0.172	<b>-0.229*</b>	<b>-0.221*</b>	<b>-0.245</b>
Industry: Marketing	0.075	0.037	0.057	0.052
Industry: Communications	0.019	0.061	0.033	0.026
Industry: Administration	0.117	0.104	0.060	0.054
Industry: Government	0.054	0.036	0.017	0.011
Industry: Culinary Arts	0.061	0.131	0.053	0.031
Industry: Trades	-0.004	-0.042	-0.121	-0.155
Industry: Other Industries	0.118	0.014	-0.033	-0.095
Family Owned	0.218	0.118	0.101	0.073
Environmental: Munificence	<b>-0.372***</b>	<b>-0.276*</b>	<b>-0.282***</b>	<b>-0.281</b>
Environmental: Heterogeneity	0.108	0.124	0.103	0.107
<b>Independent Variables</b>				
Entrepreneurial Orientation		<b>0.435***</b>	<b>0.225**</b>	<b>0.240**</b>
<b>Moderating Variables</b>				
Digital Marketing Capabilities			<b>0.379***</b>	<b>0.366***</b>
Female Gender			-0.072	-0.075
<b>Interaction Effects</b>				
RISKx Digital Marketing Capabilities				0.087
INNOVx Digital Marketing Capabilities				0.053
PROACTx Digital Marketing Capabilities				0.030
RISKx Female Gender				-0.021
INNOVx Female Gender				-0.017
PROACTx Female Gender				0.091
R	0.530	0.655	0.734	0.745
R <sup>2</sup>	0.281	0.429	0.538	0.555
Adjusted R <sup>2</sup>	<b>0.181**</b>	<b>0.342***</b>	<b>0.456***</b>	0.438
$\Delta R^2$	0.281	0.147	0.110	0.017
F	2.798	23.731	10.672	.533

n=107 Standardized regression coefficients shown. ~significant at the 0.10 Level \*Significant at the 0.05 level \*\*significant at the 0.01 level \*\*\*significant at the 0.001 level

## APPENDIX E: Consent Letter and Survey

Dear (recipient):

My name is Darlene Johnson-Deberry, and I am a doctoral student at The University of North Carolina, Charlotte. Under the guidance of Faculty Advisor Dr. Laura J. Stanley, I am conducting a research study to examine if entrepreneurial firms with digital marketing capabilities experience greater firm performance and if female owner firms are experiencing greater firm performance within an increasingly digital economy. We expect significant theoretical and managerial contributions from this study; thus, I am looking for survey responses from business owners with decision-making authority over 18 years of age. As such, there are no right or wrong answers to the questions. Your participation will be a valuable input for this research work.

Additional Information about this study:

1. Eligible participants include businesses with a desire to grow.
2. All responses are completely anonymous.
3. Participants are asked questions related to digital marketing, business market conditions and firm performance.
4. This survey contains no identifiers that could point to your identity.
5. The survey will take approximately 20-25 minutes to complete.
6. Your participation is voluntary.
7. You are free to exit the survey at any time.
8. The survey data may be included in future academic research studies.
9. The data may also be included in academic or business-related publications in the future.
10. The data collected from this survey will not be sold.
11. There are no known adverse consequences associated with either choosing or forgoing participation in this research study.

If you are interested in participating, please click the link below to anonymously participate. You will be required to provide your consent before proceeding with the questionnaire. Dr. Stanley and I sincerely appreciate your consideration and hope to receive your valuable participation. Study participants receive a \$10.00 Amazon shop card and a drawing entry for a Professional Virtual Assistant to support your social media marketing efforts (a \$500.00 value).

**Please click [here](#) to start the survey or copy and paste the URL below into your internet browser:**

Thank you,

For further questions regarding this study, please contact:

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### Survey - Consent to Participate

I have read the participant letter and understand that I am being asked to participate in a survey as a part of a research project related to entrepreneurship, marketing and the digital economy. I am at least 18 years of age and understand that I am free to decline to participate without consequence at any point prior to or during the activity. I also understand that the information is confidential and that there are no risk involved for those participating in this activity beyond those risk experienced in everyday life. I have read the information above and.....

I give my consent to participate in this research study, please take me to the survey

I DO NOT give my consent to participate in this research study

Qualifying Survey Question: My goal for business growth is? (select one)

1. None
2. Uncertain
3. Desired

### Section 1: Please provide some background information about yourself.

Gender	Race	Education: Highest Educational Degree earned
<input type="checkbox"/> Male <input type="checkbox"/> Female <input type="checkbox"/> Non-binary	<input type="checkbox"/> American Indian or Alaska Native <input type="checkbox"/> Asian <input type="checkbox"/> Hispanic or Latino <input type="checkbox"/> Black or African American <input type="checkbox"/> Native Hawaiian or other Pacific Islander <input type="checkbox"/> White or European American <input type="checkbox"/> Other _____ <input type="checkbox"/> Prefer not to disclose	<input type="checkbox"/> High School Diploma <input type="checkbox"/> Associates Degree (2yrs) <input type="checkbox"/> Bachelor's Degree (4yrs) <input type="checkbox"/> Master's Degree <input type="checkbox"/> Professional Degree <input type="checkbox"/> Doctoral Degree
		Field of Highest Degree Earned
		Education, Banking, Agriculture, Insurance, Technology, Marketing, Communications, Administration, Government, Culinary Arts, Trades

### Section 2: Please provide some background information about yourself/firm:

What is the current age of your firm?	Years	
Are you a small business owner? (less than 500 employees)	Yes	No
Industry	Education, Banking, Agriculture, Insurance, Technology, Marketing, Communications, Administration, Government, Culinary Arts, Trades	
How many employees does your firm have?		
Time with your current firm?	Years	

Is your firm family-owned?	Yes	No
Owners Age #	Years	
Internet Service Provider	AOL, ATT, Spectrum, Xfinity, Google Fiber, Verizon, Century Link, Hugh's Net, ViaSat, Earthlink, Windstream, Frontier	

To what extent do you agree with the following statements (**1=Strongly Disagree; 5=Strongly agree**).

### Work-life balance/ Life satisfaction

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
When things are going well at work, my outlook regarding my family responsibilities is improved	1	2	3	4	5
Having a good day at work improves my frame of mind concerning family responsibilities.	1	2	3	4	5

Section 3: How would you rate your firm's current performance as compared to your competitors? (**1=Much worse than Competitors; 5=Much better than your major competitors**).

### Firm Performance

	Current (Past 12 Months)					Past Three years				
	Much Worse	Worse	Neutral	Better	Much Better	Much Worse	Worse	Neutral	Better	Much Better
Growth in sales	1	2	3	4	5	1	2	3	4	5
Growth in market share	1	2	3	4	5	1	2	3	4	5
Growth in profit	1	2	3	4	5	1	2	3	4	5
Growth in jobs created	1	2	3	4	5	1	2	3	4	5
Growth in profitability	1	2	3	4	5	1	2	3	4	5

Section 4: To what extent do you agree with the following statements (**1=Strongly Disagree; 5=Strongly agree**).

### Risk Taking

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
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Our firm stresses a fully delegated policy for employees.	1	2	3	4	5
Our firm gives the freedom for individuals or teams to develop new ideas.	1	2	3	4	5
In general, the top managers of our firm have a strong tendency to be ahead of others in introducing novel product or ideas.	1	2	3	4	5

## Innovativeness

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Our firm encourages and stimulates creativity and experimentation.	1	2	3	4	5
Our firm stimulates creativity and experimentation.	1	2	3	4	5
Our firm's innovative initiatives are hard for competitors to successfully imitate	1	2	3	4	5

## Proactiveness

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
In dealing with competitors, our firm typically initiates actions which competitors respond to.	1	2	3	4	5
In dealing with competitors, our firm is very often the first business to introduce new products/services, administrative techniques, operating technologies, etc.	1	2	3	4	5

Section 5: Please evaluate how well or poorly you believe that this business unit performs the specific capabilities relative to your major competitors (1=Much worse than Competitors; 5=Much better than your major competitors).

## Digital Marketing Capabilities

	Much Worse	Worse	Neutral	Better	Much Better
Customer-linking digital capabilities (i.e., creating and managing durable customer relationships through digital media)	1	2	3	4	5
Market-sensing digital capabilities (i.e., predicting changes in customer preferences using digital media)	1	2	3	4	5
Channel-bonding digital capabilities (i.e., creating durable relationship with channel members such as wholesalers, retailers using digital media)	1	2	3	4	5
Capabilities in creating durable relationships with suppliers through digital platforms	1	2	3	4	5
Ability to use digital marketing to retain customers	1	2	3	4	5

Please indicate the degree in which you agree or disagree with the following statements (1=Strongly Disagree; 5=Strongly agree).

### Sensing Capability

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We frequently scan the environment to identify new business opportunities.	1	2	3	4	5
We periodically review the likely effect of changes in our business environment on customers	1	2	3	4	5
We often review our product development efforts to ensure they are in line with what Customers want	1	2	3	4	5
We devote a lot of time implementing ideas for new products and improving our existing products	1	2	3	4	5

Please indicate the degree in which you agree or disagree with the following statements (1=Strongly Disagree; 5=Strongly agree).

### Learning Capability

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We have effective routines to identify, value, and import new information and knowledge.	1	2	3	4	5
We have adequate routines to assimilate new information and knowledge	1	2	3	4	5
We are effective in transforming existing information into new knowledge	1	2	3	4	5
We are effective in utilizing knowledge into new products	1	2	3	4	5
We are effective in developing new knowledge that has the potential to influence product development	1	2	3	4	5

Please indicate the degree in which you agree or disagree with the following statements (1=Strongly Disagree; 5=Strongly agree).

### Integrating Capability

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We are forthcoming in contributing our individual input into the group	1	2	3	4	5
We have a global understanding of each other's task and responsibilities	1	2	3	4	5
We are fully aware who in the group has specialized skills and knowledge relative to our work	1	2	3	4	5
We carefully interrelate our actions to each other to meet changing conditions	1	2	3	4	5

We ensure that there is compatibility between group members expertise and work processes	1	2	3	4	5
Overall, our group is well coordinated	1	2	3	4	5

Please indicate the degree in which you agree or disagree with the following statements (1=Strongly Disagree; 5=Strongly agree).

### Coordinating Capability

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
We ensure that the output of our work is synchronized with the work of others	1	2	3	4	5
We ensure an appropriate allocation of resources (e.g., information, time reports) within our group	1	2	3	4	5
Group members are assigned to tasks commensurate with their task relevant knowledge and skills	1	2	3	4	5
We ensure that there is compatibility between group members expertise and work processes	1	2	3	4	5
We ensure that there is compatibility between group members expertise and work processes	1	2	3	4	5
Overall, our group is well coordinated	1	2	3	4	5

What type of Search Engine Optimization (SEO) strategies do you currently invest? (Adapted from Sen, R. (2005). (Please select the one that best describes your investment)

1. I Don't invest.
2. I Invest only in SEO
3. I Invest only in Paid Placement (PP)
4. I Invest in SEO and Paid Placement

How often frequently do you post new digital marketing content? (Select one)

\_\_\_\_\_ # of times per week

How often are the following social media platforms used for business related postings? (1= Much more frequently, 2= Frequently, 3=Average frequency, 4=Less frequently, 5= Much less frequently/ Past Three Years (1= Much more frequently, 2= Frequently, 3=Average frequency, 4=less frequently, 5= Much less frequently)

Platform	Current (Past 12 Months)					Past Three years				
	Much more	Frequently	Average frequency	Less frequently	Much less frequently	Much more frequently	Frequently	Average frequency	Less frequently	Much less frequently
	frequently									
Facebook (Meta)	1	2	3	4	5	1	2	3	4	5
Instagram	1	2	3	4	5	1	2	3	4	5
Twitter	1	2	3	4	5	1	2	3	4	5

Tik Tok	1	2	3	4	5	1	2	3	4	5
LinkedIn	1	2	3	4	5	1	2	3	4	5
Other	1	2	3	4	5	1	2	3	4	5

Have you hired a social media professional? (Check all that apply)

No		
Yes	Full-time employee(s)	How many?
Yes	Part-time employee(s)	How Many?
Yes	Social Media Company	Amount spent last year \$

How much total financial capital would you say you have invested in digital marketing capabilities (staffing hours, advertising, management tools, etc.) last year? (Select one)

1. \$0
2. \$1,000-\$5,000
3. \$5,001-\$10,000
4. \$10,001-\$15,000
5. \$15,001-\$20,000
6. \$20,001-\$25,000
7. More than \$25,000

How hours would you say you dedicated to digital marketing per week? (Select one)

\_\_\_\_\_ # hours per week

Section 6: Please indicate the degree in which you agree or disagree with the following: **(1=Strongly Disagree; 5=Strongly agree).**

## Environmental Dynamism

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Environmental changes in our local market are intense.	1	2	3	4	5
Customers regularly ask for complete, new products and services	1	2	3	4	5
In our market, changes are taking place continually.	1	2	3	4	5
We ensure that there is compatibility between group members expertise and work processes	1	2	3	4	5

Please indicate the degree in which you agree or disagree with the following statements (**1=Strongly Disagree; 5=Strongly agree**).

How would you rate characterize the external environment within which your firm operates?

## Environmental Munificence

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	
Very safe, little threat to the survival and wellbeing of my firm	1	2	3	4	5	Very risky, a false step can mean my firm's undoing
Rich in investment and marketing opportunities	1	2	3	4	5	Very stressful, exacting, hostile; very hard to keep afloat
An environment that my firm can control and manipulate to its own advantage, such as a dominant firm has in an industry with little competition and few hindrances	1	2	3	4	5	A dominant environment in which my firm's initiative count for very little against the tremendous competitive political, or technological forces

Please indicate the degree in which you agree or disagree with the following statements (**1=Strongly Disagree; 5=Strongly agree**).

How would you rate your firm's environmental heterogeneity?

## Environmental Heterogeneity

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Customers' buying habits varies a great deal from one (product or service) line to another	1	2	3	4	5
The nature of the competition varies a great deal from one (product or service) line to another	1	2	3	4	5
Market dynamism and uncertainty varies a great deal from one (product or service) line to another	1	2	3	4	5