Social Media Adoption and Usage in Family Firms

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ABSTRACT

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Social media, such as Facebook, Twitter, or Instagram, have not only become a popular communication tool among individuals but also provided companies with an additional channel for marketing communications. While social media marketing is becoming widely spread, there are still companies that struggle to implement it within their marketing strategies. An especially vulnerable group of companies is family firms due to their unique characteristics, such as involvement of family members in ownership and management, a conflict between family-oriented and business-oriented goals, and concerns for succession.

Using secondary data and social media metrics of 151 family firms in North America, we investigated the effect of family involvement on marketing management. We first showed that family owners decrease the amount of unexpected marketing spending and lower the likelihood of Facebook adoption for marketing communications. We then found that involvement of family members on the board of directors promoted an earlier adoption of Facebook and enhanced a more effective usage of the Facebook account by attracting more followers.

These results suggest that family owners and family directors do not participate in the decision-making process and implementation of selected strategies to the same extent: while family involvement in ownership hinders innovative approaches to marketing, family involvement in management enables the firm to use the unique resources and capabilities provided by family directors to achieve the firm objectives.

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Introduction

Family firms are an important part of the economy as they contribute more than 60% to the GDP and create a large number of jobs (Institute for Corporate Directors, 2017). Family firms also prevail on the market constituting almost 90% of all North American companies (Astrachan & Shanker, 2003). Although multiple ways to define family business exist, most definitions require that family members are involved in the firm governance and equity ownership. According to this definition, some large companies, such as Walmart and Ford, represent examples of family firms in North America, as families own more than 40% of the firm equity (CampdenFB, 2011). Other examples of family firms include not only world-known corporations but also medium enterprises and small local businesses. Such abundance of family firms makes them an important part of the business landscape worldwide. However, despite the significance of family-owned businesses for the current economy, family business research is still in its infancy. This research is particularly important, given that family firms differ significantly from non-family businesses due to several unique characteristics, which include: involvement of family members in governance, conflict between family-oriented and business-oriented goals, and ensuring the firm success for future generations. Family firms also possess a unique set of resources, frequently referred to as "familiness", that includes family ties, family interactions, and vision (Cabrera-Suarez, De Saa-Perez, & Garcia-Almeida, 2001; Habbershon & Williams, 1999). Therefore, theories of strategic management, including marketing management, may not apply squarely to family firms, and researchers need to investigate the dynamics of family firm management in light of their unique characteristics. Understanding the dynamics of family firm governance will help to develop useful tools and guidelines to maximizing their effectiveness.

While research on family firm management is gaining momentum, there is still very little academic work on family firms in marketing, especially within the realm of digital marketing (Barroso, González-López, Sanguino, & Buenadicha-Mateos, 2018). Marketing communication directly affects the firm success, as it promotes brand awareness, establishes a lasting relationship with the consumer, and increases sales though promotion and effective product distribution. However, it is currently unclear, which marketing strategies are utilized by family firms, how they distribute their budget for marketing activities, and how they keep up with the recent advancements of digital marketing.

Social media is one example of a relatively recent development in digital marketing that has a potential to become an important marketing communication tool, as it creates awareness about the brand, builds trust toward the company, increases attachment to the brand, and connects consumers with each other (Batra & Keller, 2016). To remain competitive and effective, the companies, including family businesses, need to be up to date with the latest trends in marketing management. However, family firms are less likely to adopt social media as a marketing communication tool than corporate businesses (Toker et al., 2016). Therefore, one major goal of the present research is to address this gap in the marketing literature by focusing on the specific characteristics of family firms that are associated with the overall marketing spending and the likelihood of adopting social media as a marketing tool. Specifically, we address the following research questions: 1) Do family firms differ from non-family firms in the amount of resources they invest into marketing? 2) Does family involvement in ownership and management affect the extent of marketing spending and the decision to adopt social media for marketing communications?

The present project makes a significant contribution to the research on the functioning of family businesses, corporate governance, and social media marketing management. The study extends previous literature on the effect of family involvement in governance on decision making by focusing on a specific marketing decision to adopt social media for market communications. Results of this research will be particularly valuable for family firm executives, as they show which characteristic of family governance can impede or facilitate the company success in social media marketing.

Literature Review

Defining Family Firms

Contrary to the widely accepted belief that family firms comprise small local companies (Carrigan & Buckley, 2008), many global corporations (such as Nike or Michael Kors) fall in the category of family business based on the definition provided above. In fact, there are different ways to define a family firm (Chrisman, Chua, & Sharma, 2005). One way is to define family firms using the "components-of involvement" approach, which focuses on family involvement in management and ownership (Chrisman et al., 2005). For example, some researchers use rather strict definitions that require family to hold the majority of the firm equity (e.g., Zahra, Neubaum, & Larrañeta, 2007). Others, on the other hand, classify companies as family firms if one or more family members holds company shares and (or) is present on the board of directors (e.g., Anderson & Reeb, 2003). Some additional requirements for defining a family business based on governance may include a minimum proportion of votes held by the family (e.g., 20%) or involvement of further generations in the firm governance (Villalonga & Amit, 2006).

Another approach to defining a family firm is based on its nature ("essence" approach, Chrisman et al., 2005), which takes into account not only family involvement but also specific

firm behavior and resources available uniquely to family firms. Contrary to the "components-of-involvement" approach, this method taps into the conceptual, rather than structural, difference between family and non-family firms. Indeed, apart from family involvement in business ownership and management, one of the defining features of family firms is their socioemotional wealth. Socioemotional wealth refers to the non-financial resources that help family firms maintain their identity, preserve family control, and ensure successful succession (Gomez-Mejia, Cruz, Berrone, & Castro, 2011). Socioemotional wealth provides family firms with access to the unique resources, which include flexibility and future-oriented business culture as well as social capital, such as family ties, trust, and loyalty (Habbershon & Williams, 1999). These unique resources enable family firms to implement flexible strategic planning and quickly respond to external opportunities (Lee, 2006), which allows family firms to stay innovative and achieve higher performance (Craig et al., 2014). Desire to preserve socioemotional wealth in family firms also affects goal-setting. According to Aparicio, Naldi, Nordqvist, and Hitt (2017), family presence in a company alters the pursued goals by adding a new dimension of family-oriented objectives. Thus, goals within family firms can be classified into four broad categories: business-oriented economic goals (e.g., increase market share, increase sales), business-oriented noneconomic goals (e.g., create jobs, improve customer relations), family-oriented economic goals (e.g., provide the family with enough means, maintain the firm performance for future generations), and family-oriented noneconomic goals (e.g., maintain family involvement, enhance family values within the firm). In addition, family firms, unlike non-family firms, have particular concerns for succession (i.e., activities directed at maintaining family ownership and control or preparing the successor) and concerns for professionalization (i.e., activities directed at involving non-family members in management or including outside directors; Chua, Chrisman, & Sharma, 1999).

Each approach has specific advantage and disadvantages. For example, governance measures for public companies are easily accessible through secondary databases, such as Institutional Shareholder Services (ISS). Researchers can obtain information about the board composition and equity ownership of the firm directors as well as find out if one or more directors are family members. However, there are currently no clear guidelines to defining a family firm based on the governance metrics. While some researchers rely on the more inclusive definition of having one or more family members as a shareholder and (or) director, other researchers may exclude firms that are run by the first generation or do not constitute the largest voteholder/shareholder. This lack of consensus makes it difficult to generalize research findings and compare effects of family ownership on various measures. For example, Villalonga and Amit (2006) compared nine definitions of family firms that varied on the degree of minimum family involvement in the company governance. They found that the selected definition significantly impacted the proportion of family firms in the sample, such that 37% of the companies were classified as family firms using the least strict definition (i.e., one or more family member is a director or holds shares in the company), while only 7% qualified as family firms under the strictest definition (i.e., at least one family member is an officer and one family member is a director; family holds more than 20% of shares and is the largest voteholder; the owning family is at least in the second generation). Moreover, the selected definition affected the study results: defining family firms based on the governance by descendant generations changed the direction of family involvement effect on firm value from positive to negative. Chrisman et al. (2005) also highlighted that defining family firms based on governance is not theoretically justified because it is unclear how exactly family involvement affects various outcomes, such as performance and firm value.

On the other hand, including firm behavior and resources in the definition of a family firm is more valuable for theory development because it allows explaining why family firm operations and performance differ from that of non-family firms. Specifically, this approach highlights "familiness", or the unique capabilities or family firms derived from family ties, goals, and vision, which positively affects firm performance and growth (Chrisman et al., 2005). Yet, determining family vision and quantifying "familiness" poses a challenge in terms of data collection. One attempt to resolve this challenge was made by Astrachan et al. (2002), who developed a single index of family influence. Administering this instrument, however, requires contacting family firm representatives, who are competent enough to answer questions about the firm's power, experience, and culture. Therefore, for the purpose of the present research, we selected to rely on the governance-based definition that takes into account only family involvement. Specifically, we adopted the more inclusive definition provided by Anderson and Reeb (2003) because it does not set a minimum requirement for family ownership (see Villalonga & Amit, 2006). Furthermore, this definition has been more widely used in family firm research, which will facilitate comparison of the obtained findings with those in the previous literature. According to this definition, any company, in which family members are directors or shareholders can be classified as a family firm.

Marketing in Family Firms

Despite the abundance of literature on strategic management in family firms, marketing literature devoted to marketing management in family firms is scarce. Furthermore, no studies to date have directly compared the extent of marketing spending in family and non-family firms and the effect of family involvement on marketing spending. Therefore, the present project aims to fill this gap.

The unique characteristics of family firms mentioned above are directly associated with the pursued marketing strategies. Firstly, the co-existence of economic and non-economic goals within family firms encourages these companies to be market-oriented in order to fulfil the financial needs of the family and the business as well as ensure the firm reputation and build a lasting relationship with the consumers. In fact, Aparicio et al. (2017) showed that family firms rank market-oriented goals, such as meeting consumer needs and employing consumer-focused approach, among the 10 most important goals for the firm. Such market orientation allows family firms to build close relationships with the consumers by listening to their voices, understanding their needs, and responding to them with the right product mix (Gomez-Mejia, Nunez-Nickel, & Gutierrez, 2001). Greater social capital within family firms (i.e., family ties, trust, loyalty, and commitment) helps to implement market orientation, and thus, achieve higher performance (Cabrera-Suarez et al., 2011). Results of a qualitative analysis showed that family firms indeed are better equipped to pursue market orientation due the unique qualities of familiness, which include family relations, strategic orientation, and customer orientation (Tokarczyk, Hansen, Green, & Down, 2007). In turn, such market orientation is related to enhanced performance as well as customer and employee satisfaction.

As a consequence of employing market orientation, family firms are motivated to improve product quality and customer service (Basco, 2014). Consumers then perceive family firms to be more open to a deep authentic contact and providing personalized treatment. In turn, this philosophy allows family firms to benefit from greater consumer loyalty and trust toward the firm (Carrigan & Buckey, 2008). Indeed, consumers have more favorable attitudes toward family firms due to their relational characteristics, such as trustworthiness or tendency for sustainability,

rather than business characteristics, such as innovation and high-quality products (Binz, Hair Jr, Pieper, & Baldauf, 2013).

Family firms also tend to use different branding strategies by revealing the family to a different extent. Micelotta and Raynard (2011) differentiate three types of family business branding strategies. Family preservation strategy emphasizes family presence, which helps to maintain close contact with consumers and preserve the traditions (usually employed by small local companies). Family enrichment strategy, on the other hand, focuses on developing and improving product and services. The role of the family in this scenario includes preserving the original product know-how and passing it to further generations by enriching it with latest advancements. Finally, the strategy of family subordination involves distancing the family from business operations and portraying the company as a corporate brand rather than a family identity (usually employed by large international companies).

R&D and Advertising Spending. While marketing seems to play a crucial role in a functioning of family business, no research to date addressed the extent of marketing spending in family firms. Even though marketing spending helps to build brand equity and increase stock performance in a long run (Currim et al., 2018), firms often times cut marketing expenses to help the companies to preserve current profit level (Cohen, Mashruwala, & Zach, 2010). Research also shows that family firms tend to have lower resources, which prevents them from conducting effective marketing campaigns (Basco, 2014). Such practice of prioritizing short-term gains over long-term benefits derived from the investments into marketing is referred to as myopic management, which leads to lower stock market valuations in the future (Mizik, 2010).

Despite of the evidence that family firms tend to be future-oriented, myopic management is frequently exercised by family firms, as evidenced by lower research and development (R&D)

spending. Specifically, Chrisman and Patel (2012) showed that family firms spend less on R&D, even though it is an important investment in the long-term success of the firm. In the context of family firms, R&D spending undermines non-economic family goals, which include the maintenance of the firm reputation and family control over the firm (Chrisman & Patel, 2012). Firstly, conducting R&D projects may require external human resources that possess the necessary knowledge and skills. However, including outsiders in the firm operations threatens socioemotional wealth of the family firms. Limited access to resources also makes R&D investments risky because they decrease short-term earnings, which lowers firm performance, and consequently, affects prestige of the family. Finally, unsuccessful R&D endeavors can damage the firm reputation. To conclude, despite the long-term orientation of the family firms, research shows that long-terms investments often tend to be sacrificed in family firms in order to preserve socioemotional wealth.

In contrast to R&D, there is no extant literature on advertising spending patterns of family firms. This paper will be the first study that reports family firms' advertising spending patterns and contrasts them with non-family firms. Specifically, we examine the extent of unexpected marketing spending, which represents the deviation in marketing expenditures from the expected amount based on previous periods (see Currim et al., 2018). We predict that family firms demonstrate lower unexpected marketing spending than non-family firms, in line with the tendency of family firm to avoid risks. Therefore, we set the following hypothesis with regards to marketing spending:

H1a: Family firms demonstrate lower unexpected marketing spending than non-family firms.

Effect of Family Involvement on Marketing Spending

While a large body of research was devoted to finding differences between family and non-family firms, recent studies have focused on investigating family firm heterogeneity (Chua et al., 2012; Daspit, Chrisman, Sharma, Pearson, & Mahto, 2018). Indeed, family firms vary along the dimensions of family involvement in governance (Nordqvist, Sharma, & Chirico, 2014; Villalonga & Amit, 2006). As discussed above, family governance is the key characteristic that defines family firms, which has important implications for decision-making.

Firstly, it is important to differentiate the dimensions of family governance, which include family ownership and family management. Although different approaches have been developed to define family ownership, the most common way to capture this construct is by using the proportion of shares held by the family members (e.g., Matzler, Veider, Hautz, & Stadler, 2014). Overall, family ownership has been associated with both positive and negative outcomes. For example, in family firms headed by a family CEO, it can have a positive influence on performance in times of economic crisis as members with a large number of shares provide important resources in form of higher risk-taking, contributing opinions, skills, and networks (Minichilli, Brogi, & Calabrò, 2016). Anderson and Reeb (2003) also suggested that family members acts as stewards, who are well familiar with the company's needs. Since business and family often align, strategies that improve firm performance also meet family financial needs, which motivates family members to engage in more effective firm management.

On the other hand, greater level of family ownership could be related to lower trust to the outsiders (Barroso, González-López, Sanguino, & Buenadicha-Mateo, 2018), and therefore, decrease the intentions to seek help from experts that are not affiliated with the firm. Indeed, involvement of non-family members in ownership is important because it allows for greater access

to external resources. For example, Arregle, Naldi, Nordqvist, and Hitt (2012) showed that family firms with greater involvement of non-family members are more successful in internalization. Lower family ownership (i.e., greater involvement of external shareholders) allows family firms accessing external financial and human resources necessary for internationalization activities.

While previous literature has identified the effect of family ownership on various indicators, it is currently unclear how family ownership affects marketing management in general and marketing spending in particular. Therefore, the present project aims to fill this gap. Hence, we expect that greater family ownership is associated with lower unexpected marketing spending because family owners are motivated to preserve socioemotional wealth by excluding the outsiders from strategic planning. Therefore, we set the following hypothesis:

H1b: Proportion of shares held by the family members negatively predicts unexpected marketing spending.

While the number of shares represents family ownership, it does not represent the degree of control over the firm (Lee, 2006). Therefore, researchers adopted the number of family members serving on the board of directors as a measure of family management. Board representation can serve as a proxy for management control because board members are considered to participate in managerial decision-making to a greater extent than shareholders (Forbes & Milliken, 1999; Lee, 2006). It has been found that higher family management reflected in a greater number of family members on the board of directors predicted higher company performance and growth (Lee, 2006). According to Zattoni et al. (2015), family involvement in board activities also promotes more efficient management practices and use of directors' knowledge and skills for improved performance. However, it is beneficial to include non-family family members on the board because they help to avoid myopic management and prevent family from serving their

needs in favor of the company needs. Thus, Basco (2014) showed that inclusion of non-family members in decision-making can help the firms achieve a balance between family and business goals. External directors also contribute skills and knowledge as well as new perspectives (Institute for Corporate Directors, 2017). While marketing spending helps the firm to achieve business objectives, it may undermine short-term family needs. Therefore, greater presence of family members on the board of directors may force the company to adopt a family-first orientation and forgo marketing expenditures.

Effect of family management on marketing spending remains largely unexplored. Therefore, this study will address this gap in the marketing literature. We expect that greater proportion of family members on the board of directors is associated with lower unexpected marketing spending, largely due to the lack of access to external resourced, skills, and knowledge provided by non-family directors. Therefore, we set the following hypotheses with regards to marketing spending:

H1c: Proportion of members on the board of directors negatively predicts unexpected marketing spending.

Social Media Adoption

The rise of social media not only changed interpersonal relations but also introduced new opportunities and challenges in the business world. Firstly, social networks help companies create awareness about the brand, build trust toward the company, increase attachment to the brand, and connect consumers with each other (Batra & Keller, 2016). Social media provide a variety of new touch points with the consumers that allow leveraging consumer engagement to increase sales and brand loyalty (Valos et al., 2015). A personalized communication with the consumer is important in increasing product value and attachment to the brand. In addition, social media now

serve as a distribution channel that allows service delivery because they help to identify consumer needs and concerns and offer personalized services (Valos, Polonsky, Mavondo, & Lipscomb, 2015).

Even though social media platforms are gaining popularity and companies are showing a growing awareness of their importance for business affairs, many companies still struggle in implicating social media in their operations (Kiron, Palmer, Phillips, & Berkman, 2013). Indeed, social media come with a range of challenges that prevent companies from using them to the full potential. As summarized by Valos et al. (2015), the challenges to adopt and use social media for marketing communication arise largely from their unique characteristics, such as interactivity, integration of communication and distribution channels, co-creation of content, as well as speed and efficiency of collecting information from the consumers (Valos et al., 2015). A thematic analysis of responses of firm executives showed that managers find it challenging to maintain marketing communication and brand image because it is difficult to control the behavior of employees and consumers on social media. They also struggle to coordinate social media marketing efforts within the organization and between the firm and external suppliers. Although social media represent a rich source of market information, many executives doubt its validity and lack appropriate tools for collection and analyses of social media metrics. Among those companies that have ensured their online presence on social media, many organizations recognize a lack of skills in using social media platforms to the full potential.

According to Technology Acceptance Model (Davis, 1989), which is frequently applied to study social media adoption, the main factors that predict social media adoption are perceived ease of use and perceive usefulness. Based on this model, Bogea & Brito (2018) examined the determinants of social media adoption among large corporations. A thematic analysis of semi-

structured interviews showed that executives are reluctant to use social media because it is difficult to quantify the results of social media activities (i.e., obtain a return of investment estimation). The presence of the customers on social media was related to the perception of their usefulness. Thus, companies whose target audience was less present on social media identified it as a barrier to using social networks for marketing purposes. Importantly, many executives reported being unfamiliar with social media functionalities, which points at low perceived ease of use.

Another factor that affects social media adoption is size. For example, Verheyden and Goeman (2013) showed that SMEs are behind in adoption and use of social media as compared to large organizations. Some reasons associated with the company size and slow social media adoption include the absence of clear objectives with regards to social media integration, lack (or unwillingness to invest) of money and time, as well as unrealistic expectations of immediate return on investment (Verheyden & Goeman, 2013). He, Wang, Chen, & Zha (2017) also identified factors that affect social media adoption in SMEs, which include perception of its usefulness and ease of use; characteristics of the manager (e.g., age, skill, openness to new technology); social pressure to adopt; as well as current performance and objectives. In the analysis of social media adoption among non-profit organizations, Nah and Saxton (2012) found that greater assets predicted greater social media adoption and use. With regards to family business, the authors found that some family-owned SMEs reported unwillingness to use social media due to limited resources and satisfaction with the current customer base.

Overall, digitalization poses a critical problem to the family companies in Canada and worldwide, as family firms feel threatened by the fast-paced changes introduced by the latest trends. Even though the majority of family firms acknowledge the usefulness of digital technologies (and by extension, social media), 41% of family firms in Canada struggle to keep up with

digital technology (PwC, 2016a). One of the barriers that prevents family firms from achieving digitalization goals is limited human capital and lack of employees with a right set of skills (PwC, 2016b). In fact, being innovative and attracting workforce with the right skills is the main challenge the family firms face nowadays (PwC, 2019). Considering the reluctance to involve outsiders in the functioning of the company, family firms are especially affected by the lack of skills necessary to implement social media in their operations. Similar to internationalization process, which requires skilled human resources to reach foreign markets (Arregle et al., 2012), social media adoption is more likely to be successful among the family firms with greater involvement of non-family members, who contribute important knowledge and skills.

It is therefore suggested that the board of directors with the combination of the right skills can provide the needed motivation and ability to embrace digitalization. In terms of adopting and using social media to the full potential, family firms will need to allow the outsiders within the company and find the professionals suitable for that role. Indeed, external board members with the knowledge of information technology in general are becoming more demanded (PwC, 2019). However, family firms with greater family influence are motivated to preserve socioemotional wealth, and as a result, avoid innovative initiatives and involvement of outsiders. In addition, family firms may lack understanding of social media usefulness and specific ways of their usage. With greater involvement of family members in ownership and management, the access to professionals with the right skills and knowledge becomes increasingly limited. Due to the lack of understanding social media benefits and implementation strategies, introducing social media may be perceived as an innovative approach to marketing, which requires risking current family image. In addition, lower trust toward outsiders and reluctance to involve external experts into firm operations makes family firms with high family involvement less likely to adopt social media.

The present project aims to examine the effect of family involvement on social media adoption (assessed with regards to Facebook usage due to its popularity). We therefore predict that:

H2a: Greater proportion of shares held by the family members predicts lower likelihood of having a corporate Facebook account.

H2b: Greater proportion of family members on the board of directors predicts lower likelihood of having a corporate Facebook account.

While it is important to understand what factors drive the decision to adopt social media, marketing research will also benefit from investigating what determinants can speed up this decision. Considering that social media are now widely used by individuals and corporation, it is possible that variation is social media adoption rates is limited. Therefore, investigation of the specific time of creating a social media account for corporate activities may yield important insights into social media marketing management. In family firms, family involvement should impede the recognition of social media benefits for marketing activities, and consequently, lead to later adoption of social media.

H3a: Greater proportion of shares held by the family members predicts later Facebook adoption.

H3b: Greater proportion of family members on the board of directors predicts later adoption of Facebook.

As shown by previous studies, family firms are more efficient in implementing innovative initiatives, once they made a decision to engage in these activities. Thus, Matzler et al. (2014) found that greater number of family directors was related to a lower innovation ***input*** measured as R&D intensity. In contrast, greater family involvement in management was related

to higher innovation ***output*** measured with patent and citation intensity. This finding suggests that family involvement can be beneficial in effective usage of innovation investments, even though it impedes the decision to invest in innovative projects. Indeed, decision to innovate is different from the choice of implementation strategies: while family directors may contribute important resources to achieving greater return on innovation investment, they may be reluctant to invest in risky operations in the first place.

Similar to the way family firms utilize unique family resources to convert innovation input into successful innovation output, family firms with greater family involvement may be more effective in managing social media accounts, once the decision to adopt social media has been made. One of the indicators of successful social media management is the number of account followers: social media users with greater follower base normally devote more time and resources to attracting and retaining consumers by providing valuable content and actively engaging with them. Therefore, we predict that:

H4a: Among the companies that adopted Facebook, greater proportion of shares held by the family members predicts greater number of Facebook followers.

H4b: Among the companies that adopted Facebook, greater proportion of family members on the board of directors predicts greater number of Facebook followers.

Models

The following section presents the description of variables used to test the hypotheses as well as model specifications. We first outline the model to predict marketing spending followed by the models that predict social media adoption.

Marketing Spending

Unexpected Marketing spending is conceptualized as the ratio of the difference in expected and actual marketing spending to sales. Expected marketing spending is determined based on marketing spending and ROA in the previous years. This approach allows considering the portion of marketing spending that deviates from the expected amount. To calculate the expected marketing spending, we first estimate $\hat{\delta}$s of the equation (1). We first estimated the expected marketing spending as the difference between the firm's actual spending and the average marketing spending using the following formula:

$$(1)\ M_{it} - \overline{M}_t = \delta_{0i} + \delta_1(M_{it-1} - \overline{M}_{t-1}) + \delta_2(M_{it-2} - \overline{M}_{t-2}) + \delta_3(ROA_{it-1} - \overline{ROA}_{t-1}) + \delta_4(ROA_{it-2} - \overline{ROA}_{t-2})$$

In this formula, M_{it} represents the following ratio for firm *i* in a period *t:* (SG&A – R&D) / Sales; $\overline{M}_t$ refers to the average marketing in period *t* for each industry; ROA_{it} refers to the ROA of each firm in a period, while $\overline{ROA}_t$ refers to the average ROA in each industry for that period. Using the estimated $\hat{\delta}$s, we then obtain the predicted marketing spending for each firm, which is the expected marketing spending, and then calculate the unexpected marketing spending as the difference between expected and actual spending.

The models for hypotheses testing. To establish the difference between family and non-family firms in unexpected marketing spending, as well as detect a variation within family firms, we tested the following model:

$$(2)\ M_{it} - \widehat{M}_{it} = \beta_0 + \beta_1 FF + \beta_2 MTB_{it-1} + \beta_3 SLACK_{it-1} + \beta_4 ROA_{it-1} + \beta_{5t} YEAR_t + \beta_6 TIC + \varepsilon_{it}$$

In this model, FF refers for the status of the firm: the observation was coded as 1 if the firm was classified as a family firm and 0 otherwise. Family firms were determined based on the presence of family members on the board of directors, in line with the definition of Anderson and Reeb (2003). The ISS database provides information about each board member, including whether or not the director is a relative to an executive of the company. Thus, the company was classified as a family firm if one of more members of the board was identified as a relative of the company executive. It is hypothesized that β_1 is lower than zero, which signifies that family firms demonstrate lower unexpected marketing spending.

We also included control variables that are linked to firm performance and can have an impact on marketing spending, such as market-to-book ratio (MTB), ROA, and SLACK. While ROA and SLACK control for the firm's resources in terms of returns during previous periods and liquidity, MTB is included to account for the firm's growth opportunity (see Currim et al., 2018). Finally, the presented models included fixed effect of year to account for the variation in the external environment and fixed effect of the company where the company ticker was used as the identifier.

Once the unexpected marketing spending was contrasted between family firms and non-family firms, we subsequently tested the effect of the family involvement in ownership and management on unexpected marketing spending among the family firms. Therefore, we replaced FF

with SHARES, the proportion of shares held by family members, and MEMBERS, the proportion of family members on the board of directors, to examine the differences in marketing spending within family firms.

The proportion of family members on the board of directors was obtained by dividing the total number of family members by the total number of directors (see Arregle et al., 2012). Similarly, we computed the proportion of shares held by the family members by dividing the total number of shares held by all family members the total number of shares held by all directors (Lee, 2006).

$$(3)\ M_{it} - \widehat{M}_{it} = \beta_0 + \beta_1 SHARES\ + \beta_2 MEMBERS + \beta_3 MTB_{it-1} + \beta_4 SLACK_{it-1} + \beta_5 ROA_{it-1} + \beta_{6t} YEAR_t + \beta_7 TIC + \varepsilon_{it}$$

It is hypothesized that both proportion of shares held by the family members and proportion of family members on the board of directors predict lower marketing spending. Therefore, we expect that coefficients β_1 and $\beta_2$will be both lower than zero.

Social Media Adoption

Adoption Decision. The following set of models was designed to test the effect of family involvement on adoption of social media, as represented by the presence of a corporate Facebook account. Firstly, logistic regression was used to estimate the likelihood of having a Facebook account. The main independent variables included the proportion of shares held by the family members and proportion of family members on the board of directors.

Resources available to the firm can also affects social media adoption and usage (He et al., 2017). Although family firms are generally smaller in size than non-family firms, there is also a significant variation within family businesses. Therefore, it is important to consider the

economic and human capital available to the firms. Thus, we included the number of employees and total assets as control variables in the model. In addition, we included marketing spending as another control variable in light of the suggested variation in marketing spending among family firms. Finally, similar to the models described above, we also included MTB, SLACK, and ROA as control variables. In it important to note that the values for the model predictors were obtained from 2016, which was the latest year available in ISS at the time of data collection. Therefore, to ensure the consistency in time between the dependent and independent variables, we coded if the company had a Facebook account in 2016 (1) or not (0). Based on the date of the Facebook account creation obtained from the Facebook account of each firm, we determined if the company had a Facebook account prior to the end of 2016.

The firm's decision to adopt or not adopt Facebook for marketing purposes can be modeled with a binary logit, in which the probability of adopting Facebook (P(FB)) for a company j is given by:

$$\text{logit}_{\text{FB}} = \ln\left(\frac{P(\text{FB})}{1 - P(\text{FB})}\right)$$

Therefore,

$$\text{P}j(\text{FB}) = \frac{\exp(\beta_0 + \beta X_j)}{1 + \exp(\beta_0 + \beta X_j)}$$

where β_0 is the intercept and β is the vector of response coefficients for explanatory variable X_j. Therefore, the model is specified as follows:

$$(4)\ \text{logit}_{\text{FB}} = \beta_0 + \beta_1 SHARES_j + \beta_2 MEMBERS_j + \beta_3 EMP_j + \beta_4 AT_j + \beta_5 M_j + \beta_6 MTB_j + \beta_7 SLACK_j + \beta_8 ROA_j + \varepsilon_j$$

As stated in the Hypotheses 2a and 2b, greater proportion of shares held by the family members and greater proportion of family members on the board of directors should predict lower likelihood of having a corporate Facebook account. Therefore, we expect that coefficients β_1 and β_2 will be negative.

Adoption Timing. Considering that the majority of companies currently have a Facebook account, the adoption timing is investigated in addition to the adoption status. To assess the effect of family involvement on the timing of social media adoption we conducted survival analysis using Cox Proportional Hazard Model. Hazard model allows estimating the effect of selected covariates on the timing of a specific event (Kleinbaum & Klein, 2012). In the present research, the event constitutes the creation of a Facebook account. Obtaining the exact date of a Facebook page registration allows estimating the survival time, which is conceptualized as the number of days elapsed between the launch of the platform and account registration. Since survival time is unknown for the companies that have not adopted Facebook at the time of data collection, these observations become censored. The hazard function (i.e., the risk of Facebook adoption) was estimated as follows.

Let $\lambda\left(t\middle|X_{1j}, X_{2j}, \ldots, X_{kj}\right)$ denote the hazard function for the *j*th company at time *t* (*j*=1, 2, …, *n*), where the *k* regressors are denoted as X_{1j}, X_{2j}, …, X_{kj}. The baseline hazard function at time *t* (i.e., when X_{1j}=0, X_{2j}=0, …, X_{kj}=0) is denotes as $\lambda_0(t)$. The hazard ratio $\lambda_1(t) \,/\, \lambda_0(t)$ can then be regarded as the relative risk of Facebook adoption occurring at time *t*. For our study, the log of the hazard ratio (i.e., the hazard function divided by the baseline hazard function at time *t*), is a linear combination of parameters and regressors:

$$\log\left(\frac{\lambda\,(t|Z_j)}{\lambda_0(t)}\right) = \beta Z_j,$$

where β is the vector of response coefficients for the explanatory variables Z_j. Therefore, the model in terms of the hazard function at time *t* is:

$$\lambda\,(t|Zi) = \lambda_0(t) * \exp(\beta Z_j)$$

We predict that Facebook adoption timing will depend on family governance, as measured by the proportion of shares held by the family members and proportion of family members on the board of directors. Similar to the previous models, we also include variables that are presumably related to social media adoption: company resources (as measured by the number of employees and total assets) and marketing spending, as well as economic indicators, such as MTB, SLACK, and ROA. Therefore, the hazard model is specified as follows:

$$(5)\ \beta Z_j = \beta_1 SHARES_j + \beta_2 MEMBERS_j + \beta_3 EMP_j + \beta_4 AT_j + \beta_5 M_j + \beta_6 MTB_j + \beta_7 SLACK_j + \beta_8 ROA_j$$

Similar to the analysis of adoption likelihood, we predict the proportion of shares held by the family members and proportion of family members on the board of directors will be negatively associated with the time of Facebook adoption. Hence, greater family ownership in terms of shares and family control in terms of board membership should lower risk of creating a Facebook account at an earlier time. Therefore, coefficients β_1 and β_2 are expected to be negative (i.e., predict lower risk of Facebook adoption at time *t*).

Social Media Usage

The final model examined in the present research assessed the effect of the variables listed above on the social media usage, as indicated by the number of Facebook followers. Using a multiple linear regression, we predicted the number of followers on Facebook from family involvement in ownership and management while controlling for resources, marketing spending,

and economic indicators. In contrast to the social media adoption model, for which we were able to obtain information from 2016, it is impossible to determine the number of followers the corporate account had in 2016. Therefore, we relied on the number of Facebook followers in 2018, at the time of data collection. Considering that family involvement in ownership and management should remain relatively stable over time, this time gap is considered acceptable. The model is defined as follows:

$$(6)\ FB\_FOLLOW = \beta_0 + \beta_1 SHARES + \beta_2 MEMBERS + \beta_3 EMP + \beta_4 AT + \beta_5 M + \beta_6 MTB + \beta_7 SLACK + \beta_8 ROA + \varepsilon_{it}$$

Once decision to adopt Facebook for social media communications is made, we expect that family firms are more likely to find effective ways of implementing the social media strategy. In line with Hypotheses H4a and H4b, we expect that β_1 and β_2 will be positive, thus, predicting greater number of Facebook followers for companies with higher proportion of shares held by the family members and higher proportion of family members on the board of directors.

Empirical Test

Sample

To test the outlined models, we combined data obtained from secondary data sources and manual research of corporate websites and social media accounts. Firstly, we obtained the following databases: Institutional Shareholder Services (ISS) and COMPUSTAT. The ISS database provides information about the board of directors of S&P 1500 companies, which includes the demographic information of the board members, the number of shares they hold, whether the director is related to the company executives, and other attributes. This database was used to identify family firms, such that a company was categorized as a family firm if one or more board

members was listed as a relative of the company executive (see Anderson & Reeb, 2003). The earliest available year for the ISS was 2007, however, there were few observations available for family firms until 2013. Therefore, the data were obtained for the period between 2013 and 2016. Table 1 provides frequency distribution of family and non-family firms during this period. Overall, family firms comprised 13.23% of the total sample. In year 2016, which was the focus of the present research, family firms comprised 12.68% of the sample.

Table 1

Distribution of Family and Non-Family Firms between 2013 and 2016 obtained from the ISS

	Fiscal Year			
	2013	2014	2015	2016
Non-Family Firms	1224	1244	1257	1285
Family Firms	170	166	164	163

The COMPUSTAT database included annual financial reports for publicly traded companies in North America between years 1987 and 2017. Using the unique company identification code (ticker) and the fiscal year, we matched the data obtained from COMPUSTAT with ISS. The final sample included 5673 observations from 1647 companies over the period of 4 years.

Measures

Independent Variables. *Family ownership* (SHARES) was measured as the proportion of shares held by the family members on the board of directors (see Arregle et al., 2012). *Family management* (MEMBERS) was measured as a proportion of family members on the board of directors relative to the total number of directors (Lee, 2006).

Dependent Variables. To further obtain information about social media presence among family firms, we manually explored the corporate websites, provided in the ISS database. The

collected information included the number of social media icons included on the home page (*M*=2.95, *SD*=2.20) and the specific social networks adopted by the company to investigate which networks are popular among family firms. The maximum number of adopted social networks was 8. Among the most popular social networks were Twitter (67.55% adoption rate), Facebook (64.24% adoption rate) and LinkedIn (50.99% adoption rate). Other adopted social networks included YouTube (44.37% adoption rate), Instagram (28.48% adoption rate), Google+ (13.91% adoption rate) and Pinterest (10.60% adoption rate). Snapchat (1.99% adoption rate), Flickr (1.32% adoption rate), and Tumblr (0.66% adoption rate) were present only in a small amount of the firms in our sample.

For purpose of the present study, we focused on Facebook, as the most used social network with more than 2 billion active monthly users worldwide, as of 2018 (Statista, 2019). We examined the corporate website of each family firm to find the link to the official Facebook account. It is important to note that several companies in our sample owned more than one brand. In this case, the companies generally create individual social media accounts for each brand. For parsimony purposes, we excluded companies with multiple brands from the sample because they introduce unclarity in accessing the specific metrics of social media adoption and usage. In addition, financial data provided in COMPUSTAT is reported at the firm level, rather than a brand level, which makes it challenging to match the firm level financial information with brand level social media activities. Therefore, we investigated the corporate Facebook accounts of the 151 companies that own a single brand and collected the following data (data were collected between July and August 2018).As a measure of *Facebook adoption*, we coded whether the company had a corporate account on Facebook (1) or not (0), as indicated on the corporate website. As a measure of *Facebook usage*, we recorded the number of followers (*M*=1,297,824.11, *SD*=

5,628,681.77). Finally, we recorded the date when the Facebook page was created and calculated the *latency of Facebook adoption* using the official launch of Facebook as a benchmark. Since Facebook was officially launched on February 4th, 2004, we calculated the exact number of days between this date and the registration of the company's corporate account. This measure was further used as an outcome in the hazard model. As seen in Table 2, the earliest adoption year in this sample was 2007, while one company didn't have a Facebook account up until 2018. The majority of the companies also adopted Facebook between 2008 and 2012.

Table 2

Distribution of the Facebook Adoption Year among Family Firms

Facebook Adoption Year	Frequency	Percent
2007	6	5.04
2008	13	10.92
2009	26	21.85
2010	19	15.97
2011	23	19.33
2012	14	11.76
2013	6	5.04
2014	3	2.52
2015	3	2.52
2016	2	1.68
2017	3	2.52
2018	1	0.84

Control Variables. To measure company resources, we focused on both human and financial capital. Firstly, we obtained the *number of employees* (EMP) registered in the company from COMPUSTAT (in thousands). This variable represents the number of workers employed at the company during the specified year. The measure of *total assets* (AT) was also obtained from COMPUSTAT (in million dollars). To facilitate interpretation of the coefficients obtained for total assets, we converted the unit of measure from million into billion dollars by dividing total assets by 1000. The measures of marketing spending, ROA, SLACK, and MTB were also obtained using COMPUSTAT. As mentioned in the previous section, marketing spending was calculated as follows: (SG&A – R&D) / Sales. To obtain ROA of a firm, we calculated the ratio of the net income (NI) to total assets (AT); to obtain SLACK, we subtracted the ratio between the total long-term debt (DLTT) and total equity (SEQ) from 1; to obtain MTB, we calculated the ratio between market value (MKVLT) and total assets (AT).

Results

Appendix 1 provides the definitions of the independent and dependent variables and control measures, the database they were obtained from, the total available number of observations as well as their means and standard deviations. Appendix 2 also provides the correlation matrix among the measures included in the present research. Results indicated that proportion of family members on the board of directors was significantly correlated with the proportion of shares held by the family members. However, this association was moderate, suggesting that greater ownership does not necessarily imply greater control over management, and vice versa. The moderate strength of the correlation also justified using both variables as predictors in subsequent regression analyses. In addition, the VIF for family ownership and family management were both below 10, the recommended threshold to detect multicollinearity (Pituch & Stevens, 2016). Both

proportion of family members on the board of directors and proportion of shares held by the family members were related to lower assets of the company (although the correlation for the proportion of family members was only marginal). These results are in line with the previous findings that family ownership and family control are negatively related to the firm size measured with total assets (e.g., Chu, 2011; Sacristán-Navarro 2011). Proportion of family members on the board of directors (but not proportion of shares held by the family members) was also related to higher market-to-book ratio, which suggests that family involvement is related to higher firm value. Proportion of family members on the board of directors (but not proportion of shares held by the family members) was also related to lower number of days elapsed between the creation of Facebook and Facebook adoption. On the other hand, proportion of shares held by the family members was related to lower assets and unexpected marketing spending.

Interestingly, greater number of employees in the company was associated with more Facebook followers. Indeed, gaining followers base on social media requires significant investment of time and effort, which can be easier with dedicated personnel responsible for social media promotion. Finally, number of adopted social media accounts and number of Facebook followers were both negatively related to Facebook adoption latency. Indeed, companies that decided to ensure their online present on social media earlier had more time to examine various platforms and register corporate accounts. Longer presence of Facebook may also have allowed them to promote the social account by increasing the number of followers.

Preliminary Analyses

A large body of research indicated that family firms are different from non-family firms. To check this assumption, we conducted a series of one-way ANOVAs comparing family firms and non-family firms on several indicators. As shown in Table 3, family firms have a higher

number of employees than non-family firms. Family firms are also more profitable, as indicated by higher ROA. However, contrary to our expectations that family firms demonstrate lower marketing expenditures than non-family firms, we did not observe any differences in overall marketing spending or unexpected marketing spending.

Table 3

ANOVAs Comparing Family and Non-Family Firms on Financial Variables

	Family Firms *n*=163		Non-Family Firms *n*=1285			
	M	*SD*	*M*	*SD*	*F(df)*	η_p^2
Number of employees (in thousands)	37.01	189.05	21.60	48.94	5.59* (1,1440)	0.004
Total Assets (in billion dollars)	25.57	14.92	24.96	12.35	0.00 (1, 1446)	0.00
ROA	0.06	0.05	0.04	0.09	4.83* (1, 1445)	0.003
MTB	2.27	10.72	2.64	31.07	0.02 (1, 1345)	0.00
SLACK	0.70	7.66	0.22	6.49	0.74 (1, 1443)	0.001
Marketing Spending	0.19	0.15	0.21	0.14	0.87 (1, 774)	0.001
Unexpected marketing spending	1.11	1.33	1.38	1.63	1.91 (1, 759)	0.003

$^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

Unexpected Marketing Spending

Overall, 2802 observations from 1577 firms were included to estimate Model 1 (Table 4). The dummy variable to code whether the company was a family firm or not did not emerge as a significant predictor of marketing spending (β = -0.35, p = .503).

Table 4

Results of the Models Predicting Unexpected Marketing Spending

	$M_{it} - \hat{M}_{it}$ Unexpected marketing spending to sales ratio (Actual −Predicted)	
	Model 1 β (*SE*)	Model 2 β (*SE*)
Main Independent Variables		
Family Firm Dummy	-0.35 (0.53)	
Proportion of Shares (in %)		-0.02* (0.01)
Proportion of Members (in %)		0.03 (0.03)
Control Variables		
$ROA_{(t-1)}$	-0.86 (1.09)	0.89 (2.94)
$MTB_{(t-1)}$	-0.001 (0.002)	-0.002 (0.03)
$SLACK_{(t-1)}$	-0.0002 (0.002)	-0.05 (0.10)
Intercept	-0.85 (1.20)	3.24*** (0.77)
Year fixed effects	Included	Included
Number of observations	2802	274
Number of firm dummies	1576	203
R^2	0.43***	0.70***

*$p < .05$; ***$p < .001$.

We further tested Model 2, which included proportion of family members on the board of directors and proportion of shares held by the family members as predictors of unexpected marketing spending. This model included 274 observations from 204 firms (Table 4). Firstly, greater proportion of shares held by the family members predicted lower deviation in marketing spending in the current year as compared to the expected marketing spending for that period (β = -

0.02, $p < .05$). Therefore, the prediction that family involvement in ownership is related to lower deviation from expected marketing spending is supported. However, we did not find an effect of family management on marketing spending, as the coefficient for the proportion of family members of the board of directors was not significantly different from zero ($\beta = 0.03$, $p = .286$). This result may suggest that family directors are not involved in marketing strategy, including planning marketing expenditures. Finally, none of the control variables predicted marketing spending (all ps > .10), which contradicts the results obtained by Currim et al. (2018).

Facebook Adoption

The next step involved predicting adoption of Facebook from family involvement and available resources (see Table 5). To this aim, we conducted a binary logistic regression with Facebook presence (coded as 1) as a dependent variable. Overall, 94 out of 151 companies (62.25%) had a Facebook account in 2016. In support for Hypothesis 2a, which stated that greater proportion of shares held by the family members would predict lower likelihood of having a Facebook account, we observed a significant negative coefficient for the proportion of shares held by the family members ($\beta = -0.04$, $p < .05$). One percent increase in equity ownership by the family predicted a 4% decrease in the likelihood of adoption Facebook for marketing purposes. However, contrary to our predictions about the negative effect of family directors on the likelihood of Facebook adoption, proportion of family members on the board of directors did not significantly predict Facebook adoption ($\beta = 0.08$, $p = .118$). Again, this suggested that the strategic decisions, such as decision to adopt social media for marketing purposes, are not influenced by the board members. Company resources, including the number of employees and total assets also did not emerge as significant predictors. However, overall marketing spending predicted greater likelihood of Facebook adoption ($\beta = 10.81$, $p < .05$). Indeed, the total available resources

may not be an indicator of the company's ability to invest into social media marketing because it is difficult to know how the resources are distributed. On the other hand, the amount dedicated to marketing spending is a better representation: greater resources invested into marketing activities suggest that the company may attribute a portion of these expenses to developing and implementing a social media strategy. Another notable predictor of Facebook adoption is return on asset ($\beta = 29.39$, $p < .05$). This measure was included as an indicator of firm profitability. Again, this supports the idea that total assets are an inferior predictor because this variable does not take into account the way the company utilizes the assets. Instead, ROA shows that companies with greater financial returns have a greater likelihood of adoption Facebook.

Table 5

Results of The Models Predicting Social Media Metrics

	Model 3: Facebook Adoption β (*SE*)	Model 4: Adoption Time β (*SE*)	Model 5: Facebook Followers β (*SE*)
Main Independent Variables			
Proportion of Shares (in %)	-0.04* (0.02)	-0.01† (0.01)	-0.01 (0.01)
Proportion of Members (in %)	0.09 (0.05)	0.08** (0.03)	0.14* (0.06)
Number of Employees (in thousands)	0.05 (0.04)	-0.001 (0.001)	0.001 (0.002)
Total Assets (in billion dollars)	-0.04 (0.04)	0.02† (0.01)	0.05* (0.02)
Marketing Spending	10.81* (4.71)	-0.95 (1.17)	4.36 (2.93)
Control Variables			
ROA	29.39* (12.41)	8.43 (5.60)	21.27* (9.51)
MTB	-0.37 (0.20)	-0.01 (0.01)	-0.03 (0.16)
SLACK	0.20 (0.20)	-0.07 (0.27)	-0.58 (0.48)
Intercept	-0.69 (1.54)		4.43***
Number of observations	58	49	49

Goodness of fit	χ^2 (9) = 16.83*	χ^2 (8) = 14.19†	F (8,40) = 4.30***
R^2	0.32		0.46

$^{\dagger}p < .10$; $^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$.

While logistic regression allowed testing which specific attributes affect the likelihood of Facebook adoption, it does not indicate which variables facilitate earlier adoption. Therefore, the next step involved survival analysis. Prior to estimating the Cox proportional hazard model, we compared survival curves for different types of family firms classified on the basis of the family ownership and management using median split. Family firms with a proportion of shares below 81.49% (i.e., the median proportion of shares held by family members) were classified as low family ownership, while family firms with a proportion of shares above 81.49% were classifies as high family ownership. In addition, family firms with a proportion of family members on the board of directors below 18.18% (the median proportion of family directors) were classified as firms with low family management, while firms with the proportion of family members above 18.18%, were classifies as firms high in family management. Such classification resulted in four groups of family firms. We then plotted survival curves for each group to test whether survival probability (i.e., likelihood of Facebook adoption) differed for these groups. Figure 1 demonstrates the likelihood of not having a Facebook account for each group over time, starting from the date of Facebook launch, when the probability of not having a Facebook account was 100%. The curves suggested that there is certain variability in the date of Facebook adoption. Indeed, the Log-Rank test was marginally significant ($\chi^2(3) = 6.76$, $p = .080$). Table 6 demonstrates p-values for the individual comparison of survival time between the company categories. It was revealed that companies with low family involvement in ownership and control over management

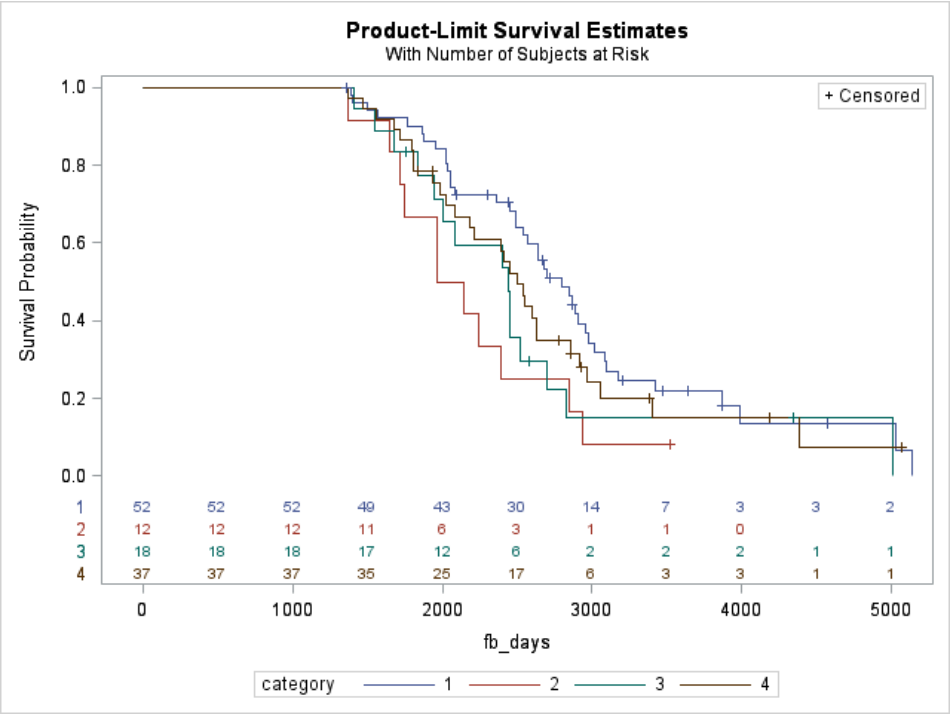
were marginally different from companies with low involvement in ownership but high involvement in management control, as indicated by Sidak-adjusted *p*-values. Sidak adjustment helps to account for chance in multiple comparisons, and therefore, represents a superior method of comparing groups in survival analysis. Thus, among family firms with low family ownership, those companies in which family members occupy a high proportion of spots on the board of directors generally adopt Facebook at an earlier time.

Table 6

Results of Survival Curve Comparisons

Strata Comparison			*p*-values	
		χ^2	Raw	Sidak
1. Low ownership, low management	2. Low ownership, high management	5.80	0.016	0.092
1. Low ownership, low management	3. High ownership, low management	3.95	0.047	0.250
1. Low ownership, low management	4. High ownership, high management	1.65	0.199	0.735
2. Low ownership, high management	3. High ownership, low management	0.07	0.798	0.9999
2. Low ownership, high management	4. High ownership, high management	0.41	0.520	0.989
4. High ownership, low management	3. High ownership, high management	0.16	0.689	0.999

Figure 1. Comparison of Survival Curves for Family Firms with Various Levels of Family Ownership and Family Management.



Note. 1 = Low ownership, low management control; 2 = Low ownership, high management control; 3 = High ownership, low management control; 4 = High ownership, high management control.

We further estimated the Cox Proportion Hazard Model that tested all covariates of interest simultaneously. Specifically, we tested whether proportion of shares held by the family members and proportion of family members on the board of directors as well as control measures of company resources (measured as the number of employees and total assets), marketing spending, ROA, MTB, and SLACK predicted the timing of Facebook adoption. Table 5 presents the coefficients and *p*-values for each of the listed covariates. Even though the overall model was marginally significant (χ^2 (8) = 14.19, p = .077), we proceeded with interpreting the hazard ratios for the covariates with significant coefficients. Thus, in line with Hypothesis 3a, which stated that greater proportion of shares held by the family members would predict later adoption of Facebook, we found a marginally significant negative effect of the proportion of shares held by the

family members on Facebook adoption risk (β = -.01, p = .051). An increase of family ownership by 1% predicted a 1.4% decrease in Facebook adoption risk. However, contrary to our predictions regarding the negative effect of the proportion of family members on the board of directors on the risk of Facebook adoption, we found that, while holding constant other variables, greater proportion of family members on the board of directors was associated with a greater risk of Facebook adoption (i.e., earlier Facebook adoption; β = 0.08, p < .01). The hazard ratio for this variable was significantly greater than 1, indicating that hazard risk increases with increase proportion of family members on the board of directors: for an increase in 1% of family members on the board of directors, the firm's hazard rate increased by 8.4%. Therefore, Hypothesis 3b was not supported. These results may suggest that family directors may in fact speed up decisions to engage in new marketing initiatives by contributing relevant insights and knowledge.

Facebook Usage

For the purpose of the present research, the number of Facebook followers was taken as an indicator of Facebook usage. Therefore, we estimated the model that predicted the number of Facebook followers from the covariates included in the models above using multiple regression analysis. We took the natural log of the Facebook followers. The model was statistically significant and explained 46% of the variance in the dependent variable (F (8, 40) = 4.30, p < .001). Results indicated (see Table 5) that proportion of family members on the board of directors positively predicted the number of Facebook followers (β = 0.14, p < .05), thus, supporting Hypothesis 4b. However, proportion of shares held by the family members was not related to the number of Facebook followers (β = -0.01, p = .417), suggesting that Hypothesis 4a was not supported. These results suggest that family directors indeed contribute to the effective usage of social media, while family owners do not seem to be involved in the direct management of social media

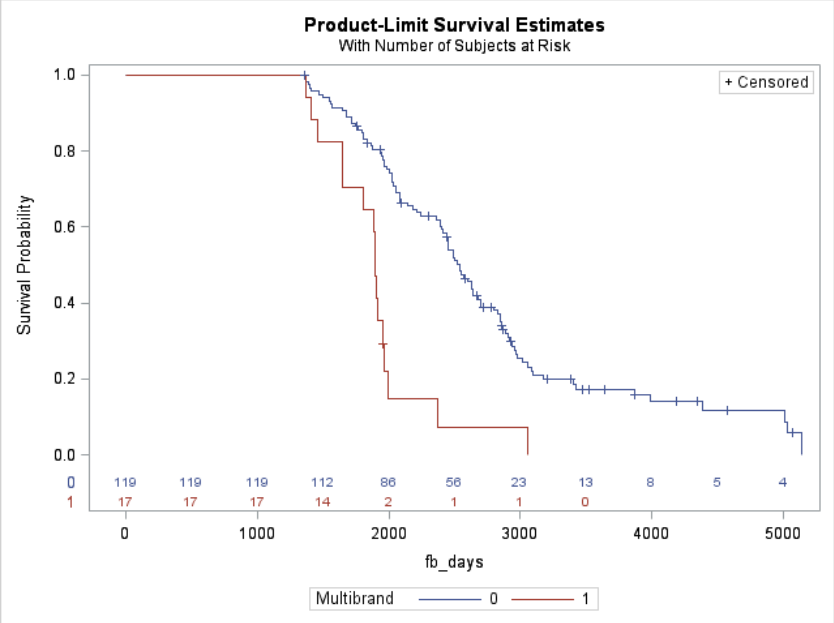
activities. In addition, total assets ($\beta = .05$, $p < .05$) and return on assets ($\beta = 21.27$, $p < .05$) also predicted greater Facebook followers. Therefore, the firm total resource availability and return on these assets suggest greater ability to invest in Facebook promotion, which may in turn be associated with greater Facebook awareness.

Additional Analyses of Companies with Multiple Brands

Manual investigation of the Facebook accounts showed that companies normally create accounts on the brand rather than company level. Thus, there were 17 companies (10.12%) with more than one Facebook account devoted to a specific brand. This is problematic because it creates variability in social media adoption within a particular firm. As previously noted, the presented analyses excluded the companies that owned multiple brands.

An interesting question remains whether companies with multiple brands exhibit different patterns of social media adoption. Thus, we created a dummy variable indicating whether the firm had multiple brands (1) or not (0). We then recorded the creation of a Facebook account for each brand and selected the earliest date to represent Facebook adoption time of the company. Comparing survival curves of the companies with a single brand to the companies with multiple brands showed that the former category of family firms adopted Facebook for marketing purposes at an earlier time ($\chi^2(1) = 22.09$, $p < .001$). Figure 2 represents the survival curves for family firms with multiple brands and family firms with a single brand.

Figure 2. Comparison of Survival Curves for Family Firms with Multiple Brands.



Note. 1 = Family firms with multiple brands; 0 = Family firms with a single brand.

Cox proportional hazard model confirmed these results ($\chi^2(1) = 19.51$, $p < .001$) showing that family firms with multiple brands had a higher risk of adopting Facebook at an earlier time, as indicated by a positive coefficient ($\beta = 1.26$, $p < .001$). Overall, family firms with multiple brands had a 351% higher chance of adopting Facebook at an earlier time. The fact that a company has multiple brands may mean that the company is more marketing oriented, and thus, engages in social media marketing by creating multiple Facebook accounts.

Discussion

The present project presents the first attempt to bridge the research on marketing and family firm dynamics by examining marketing spending and social media adoption pattern within family firms. In addition to testing the differences between family and non-family firms, we addressed the question of heterogeneity among family firms. Specifically, we examined how the extent of family involvement in governance affects marketing decisions, such as marketing

spending, social media adoption, and social media usage. Another contribution of the present project is the distinction between the dimensions of family governance into family ownership and family management.

We first showed that family firms demonstrate a higher ROA than non-family firms, which is in line with the previous literature that found family firms to be superior to non-family firms in performance and longevity (McConaughy et al., 2001; Anderson and Reeb, 2003). We then found evidence that family firms generally do not differ from non-family firms in the extent to which they deviate from the expected marketing expenditures. This finding supports the literature on family firm heterogeneity, which highlights the importance of investigating the variation within family firms on the dimensions of family governance, available resources, and goal setting rather than comparing family and no-family firms (Chua et al., 2012). Indeed, we found that variation in family governance was more important in predicting unexpected marketing spending then the status of the firm.

We further addressed the question of family firm heterogeneity in greater details by separating family ownership from family management. Contrary to the widely accepted belief that involvement of family members promotes future-oriented activities due to the desire to preserve family legacy and ensure success for the future generations, we showed that firms with high family ownership tend to engage in myopic management and make short-sighted marketing decisions. Family involvement in ownership seems to promote orientation toward short-term goals of increased earnings rather than long-term objectives of brand awareness and enhanced customer satisfaction. These results support the prediction that family firms prioritize immediate returns that promote socioemotional wealth rather than invest in long-term initiatives. For example,

Chen & Hsu (2009) found that greater family ownership was associated with lower R&D investments. Although R&D spending increases the firm's innovativeness and performance in a long run, it undermines short-term profits. In addition, unsuccessful implementation of R&D expenses may significantly damage the reputation of the company name, and by extension, the family name (Dyer & Whetten, 2006). Similarly, marketing spending can be regarded as a short-term loss that that can negatively affect the image of the family firm, if marketing activities are implemented unsuccessfully.

Similar results were found for social media adoption: family ownership seems to impede adoption of social media for marketing communication, as indicated by the lower likelihood of having a corporate Facebook account and later adoption date among Facebook users. In line with the logic that family owners tend to be attached to existing practices (Konig et al., 2013), family firms with higher family involvement in ownership may resist adopting new approaches in marketing, which involve social media. These findings are also in line with the previous research that revealed a negative effect of family ownership on innovation and expansion (e.g., internalization; Arregle et al., 2012).

However, among the companies that have a registered Facebook account, firms with more family members on the board of directors generally adopted Facebook at an earlier time. In addition, these firms had more followers on their corporate accounts. Greater number of followers indicates greater awareness about the company and allows establishing deeper connection with the consumers, which is especially important for family managers. Matzler et al. (2014) also found that family involvement in management through the presence on the board of directors contributed to higher innovation output in terms of patent and citation intensity. Similar to re-

search of Matzler et al. (2014) that revealed a different effect of family involvement on the decision to invest in innovation activities and the outcome of these activities, we found that family ownership and family management play different roles in the decision to adopt social media for marketing communication and the efficiency of its usage. Family owners may be motivated to protect current firm operations and performance, and therefore, be reluctant to invest time and resources into adoption of social media. However, once social networks are adopted, unique capabilities introduced by the family managers help to achieve better effectiveness of their usage. Family directors may also have a stronger identification with the firm, and consequently, desire to increase performance and improve customer relations. In terms of marketing, these goals motivate family directors to improve marketing effectiveness. Overall, the differential effect of these dimensions on marketing decisions is in line with the previous literature (e.g., Arregle et al., 2012; Chen & Hsu, 2009; Matzler et al., 2014; Zahra, 2003).

Finally, additional analyses revealed that firms with multiple brands generally adopt social media at an earlier time, suggesting that these companies are more oriented toward the market and aim to achieve a more transparent and effective contact with their consumers.

Theoretical Implications

In light of these findings, our research makes a significant contribution by bridging the literature on marketing and management within family firms and by employing quantitative assessment of social media adoption. No studies have so far examined the effect of family firm governance heterogeneity on marketing management. Therefore, our study provides the first evidence that family ownership and family management have a significant effect on marketing strategies and their implementations.

One of the main contributions of the present project is also the evidence that family ownership and family management do not affect marketing management in the same direction. While family ownership seems to impede expansion of marketing activities and following the latest marketing trends, family management contributes important resources to successfully implementing new marketing initiatives. These findings add to the body of research that examines the differential effect of family governance dimensions and encourages the researchers to consider these differences in the future research. Specifically, it is recommended to include family ownership and family management as independent predictors rather than rely on a single index of family influence.

Managerial Implications

In a digital era, adoption of social media for marketing communication has become a crucial step for business. However, effective adoption and management of social networks requires a significant investment of resources that include primarily marketing managers with sufficient expertise in the field of social media. Hiring new employees or providing training for the current marketing managers forces companies to increase marketing spending and risk family reputation. However, social media presence enhances the firm equity value (Luo et al., 2013), therefore, social networks expenses should be considered as a long-term investment into firm performance and creating value for shareholders rather than immediate costs. Family owners need to recognize the benefits of marketing investment for the long-term preservation of the socioemotional wealth within their firms.

In addition, family firms should carefully examine the composition of the board. Our results show that the composition of the board of directors plays a role in strategic decisions, including digitalization of marketing efforts through social media. Although multiple studies have

suggested that inclusion of non-family members is beneficial for the firm performance, we showed that family directors can positively affect marketing management by successfully implementing new marketing initiatives, such as social media marketing. In light of the previous literature and our findings, family firms should aim to achieve the right balance between family directors and external members of the board. While family members promote adherence to the family goals and objectives, board members with low knowledge of the family business provide important insights and assess external threats and opportunities. Family firms should also formally recognize the members' responsibilities, objectively evaluate their skills and determine how these skills can help to fill the current gaps.

Limitations and Future Directions

Even though the present results revealed important insights into marketing management within family firms, they should be taken with caution considering a number of limitations. Firstly, our sample did not demonstrate a representative distribution of family firm. While family firms constitute close to 90% of all North American companies, our sample contained less than 15% of family firms. Due to the low number of family firms, the groups involved in comparing family and non-family companies were unequal in size, and regression analyses were conducted on a small sample. Future research may consider collecting primary data directly from family firms rather than rely on secondary databases to ensure a greater coverage of family firms in the sample.

Furthermore, the scope of the present research included examination of only one social network. However, adoption and usage pattern of other social media platforms may not mimic that of Facebook. Social media platforms differ in the type of content they allow: while platforms like Instagram or Pinterest favor visual content, Twitter requires the use of short texts, and Facebook

and LinkedIn allow a combination of both. Company goals as well as industry requirements may determine which type of social network is most compatible. For example, fashion industry may benefit from visual platforms, such as Instagram or Pinterest, because they allow showcasing the product. However, financial industry may find Facebook more convenient because it allows to employ more text. Since the present study did not account for the variation in social network types, future research may examine whether social media adoption in family firms is contingent on the specific social network.

It is important to note that the present research did not address the effect of other variables related to social media adoption. Specifically, perceived ease of use and perceived usefulness of social media are among the primary predictors of technology adoption. These variables have also consistently been associated with social media adoption. Gaining insights into the managers' perception of social media would require direct contact with the representatives of the company involved in decision making. Therefore, future studies could obtain this information directly from family firms using interviews or questionnaires. Such method would also allow evaluating the importance economic and non-economic goals. According to Aparicio et al. (2017), family firms differ in the extent to which they prioritize one type of goals over the other. In the context of social media, non-economic goals could be a significant driver of adoption and active usage of various social platforms because they allow establishing deep and authentic connection with the consumer.

Another idea for future research includes a direct cross-culture comparison of family involvement effect. Family firm research has been conducted in different parts of the world including North America (e.g., Villalonga & Amit, 2006), Europe (e.g., Arregle et al., 2012) and Asia

(e.g., Chen & Hsu, 2009). Considering the variation in family values across cultures, it is reasonable to suggest that the effect of family involvement in ownership and management can also vary. Finally, future studies may collect additional information from the social media accounts. For example, some indicators of social media usage include frequency of social media posts and the degree of engagement with the followers.

To sum up, the present research highlights the importance of family owners and family directors on the board of directors for marketing management, as a part of strategic management in a company. We examined the defining dimensions of family firms in the context of social media adoption and showed that they can have a different effect on marketing decisions and marketing activities. Further research of family governance and social media usage within family firms can help to develop guidelines for the governance structure that facilitates implementation of effective marketing strategies.

References

Anderson, R. C., & Reeb, D. M. (2003). Founding-family ownership and firm performance: evidence from the S&P 500. *The Journal of Finance*, *58*(3), 1301-1328. doi: 10.1111/1540-6261.00567

Aparicio, G., Basco, R., Iturralde, T., & Maseda, A. (2017). An exploratory study of firm goals in the context of family firms: An institutional logics perspective. *Journal of Family Business Strategy*, *8*(3), 157-169. doi: 10.1016/j.jfbs.2017.08.002

Arregle, J. L., Naldi, L., Nordqvist, M., & Hitt, M. A. (2012). Internationalization of family–controlled firms: A study of the effects of external involvement in governance. *Entrepreneurship Theory and Practice*, *36*(6), 1115-1143. doi: 10.1111/j.1540-6520.2012.00541.x

Astrachan, J. H., Klein, S. B., & Smyrnios, K. X. (2002). The F-PEC scale of family influence: A proposal for solving the family business definition problem1. *Family Business Review*, *15*(1), 45-58. doi: 10.1111/j.1741-6248.2002.00045.x

Astrachan, J. H., & Shanker, M. C. (2003). Family businesses' contribution to the US economy: A closer look. *Family Business Review*, *16*(3), 211-219. doi: 10.1177/08944865030160030601

Barroso, A., González-López, Ó., Sanguino, R., & Buenadicha-Mateos, M. (2018). Analysis and evaluation of the largest 500 family firms' websites through PLS-SEM technique. *Sustainability*, *10*(2), 557. doi: 10.3390/su10020557

Basco, R. (2014). Exploring the influence of the family upon firm performance: Does strategic behaviour matter?. *International Small Business Journal*, *32*(8), 967-995. doi: 10.1177/0266242613484946

Batra, R., & Keller, K. L. (2016). Integrating marketing communications: New findings, new lessons, and new ideas. *Journal of Marketing*, *80*(6), 122-145. doi: 10.1509/jm.15.0419

Binz, C., Hair Jr, J. F., Pieper, T. M., & Baldauf, A. (2013). Exploring the effect of distinct family firm reputation on consumers' preferences. *Journal of Family Business Strategy*, *4*(1), 3-11. doi: 10.1016/j.jfbs.2012.12.004

Bogea, F., & Brito, E. P. Z. (2018). Determinants of social media adoption by large companies. *Journal of Technology Management & Innovation*, *13*(1), 11-18. doi: 10.4067/S0718-27242018000100011

Cabrera-Suárez, M. K., de la Cruz Déniz-Déniz, M., & Martín-Santana, J. D. (2011). Familiness and market orientation: A stakeholder approach. *Journal of Family Business Strategy*, *2*(1), 34-42. doi: 10.1016/j.jfbs.2011.01.001

Cabrera-Suárez, K., De Saá-Pérez, P., & García-Almeida, D. (2001). The succession process from a resource-and knowledge-based view of the family firm. *Family Business Review*, *14*(1), 37-48. doi: 10.1111/j.1741-6248.2001.00037.x

CampdenFB (2011). *Top 100 Family Businesses in North America*. Retrieved from: http://www.campdenfb.com/article/top-100-family-businesses-north-america

Carrigan, M., & Buckley, J. (2008). 'What's so special about family business?'An exploratory study of UK and Irish consumer experiences of family businesses. *International Journal of Consumer Studies*, *32*(6), 656-666. doi: 10.1111/j.1470-6431.2008.00696.x

Chrisman, J. J., Chua, J. H., & Sharma, P. (2005). Trends and directions in the development of a strategic management theory of the family firm. *Entrepreneurship Theory and Practice*, *29*(5), 555-575. doi: 10.1111/j.1540-6520.2005.00098.x

Chrisman, J. J., & Patel, P. C. (2012). Variations in R&D investments of family and nonfamily firms: Behavioral agency and myopic loss aversion perspectives. *Academy of Management Journal*, *55*(4), 976-997. doi: doi.org/10.5465/amj.2011.0211

Chua, J. H., Chrisman, J. J., & Sharma, P. (1999). Defining the family business by behavior. *Entrepreneurship Theory and Practice*, *23*(4), 19-39. doi: 10.1177/104225879902300402

Chua, J. H., Chrisman, J. J., Steier, L. P., & Rau, S. B. (2012). Sources of heterogeneity in family firms: An introduction. *Entrepreneurship Theory and Practice, 36*(6), 1103–1113. doi: 10.1111/j.1540-6520.2012.00540.x

Cohen, D., Mashruwala, R., & Zach, T. (2010). The use of advertising activities to meet earnings benchmarks: evidence from monthly data. *Review of Accounting Studies, 15*, 808 –832. doi:

Craig, J. B., Dibrell, C., & Garrett, R. (2014). Examining relationships among family influence, family culture, flexible planning systems, innovativeness and firm performance. *Journal of Family Business Strategy*, *5*(3), 229-238. doi: 10.1016/j.jfbs.2013.09.002

Currim, I. S., Lim, J., & Zhang, Y. (2018). Effect of analysts' earnings pressure on marketing spending and stock market performance. *Journal of the Academy of Marketing Science*, *46*(3), 431-452. doi: 10.1007/s11747-017-0540-y

Daspit, J. J., Chrisman, J. J., Sharma, P., Pearson, A. W., & Mahto, R. V. (2018). Governance as a source of family firm heterogeneity. *Journal of Business Research, 84*. 293-300. doi: 10.1016/j.jbusres.2017.12.041

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 319-340. doi: 10.2307/249008

Dyer Jr, W. G., & Whetten, D. A. (2006). Family firms and social responsibility: Preliminary evidence from the S&P 500. *Entrepreneurship Theory and Practice*, *30*(6), 785-802. doi: 10.1111/j.1540-6520.2006.00151.x

Forbes, D. P., & Milliken, F. J. (1999). Cognition and corporate governance: Understanding boards of directors as strategic decision-making groups. *Academy of Management Review*, *24*(3), 489-505. doi: 10.5465/amr.1999.2202133

Gomez-Mejia, L. R., Cruz, C., Berrone, P., & De Castro, J. (2011). The bind that ties: Socioemotional wealth preservation in family firms. *Academy of Management Annals*, *5*(1), 653-707. doi: 10.5465/19416520.2011.593320

Gomez-Mejia, L. R., Nunez-Nickel, M., & Gutierrez, I. (2001). The role of family ties in agency contracts. *Academy of Management Journal*, *44*(1), 81-95. doi: 10.5465/3069338

Habbershon, T. G., & Williams, M. L. (1999). A resource-based framework for assessing the strategic advantages of family firms. *Family Business Review*, *12*(1), 1-25. doi: 10.1111/j.1741-6248.1999.00001.x

He, W., Wang, F. K., Chen, Y., & Zha, S. (2017). An exploratory investigation of social media adoption by small businesses. *Information Technology and Management*, *18*(2), 149-160. doi:

Institute for Corporate Directors (2017). *Private Family Enterprise Governance Survey*. Retrieved from: https://www.icd.ca/getmedia/bd077e87-14a0-4707-baf0-168e1de38cff/Private-Family-Business-Governance-Survey.aspx

James Jr, H. S. (1999). What can the family contribute to business? Examining contractual relationships. *Family Business Review*, *12*(1), 61-71. doi: 10.1111/j.1741-6248.1999.00061.x

Kiron, D., Palmer, D., Phillips, A. N., & Berkman, R. (2013). Social business: Shifting out of first gear. *MIT Sloan Management Review*, *55*(1), 1-32. Retrieved from: https://sloanreview.mit.edu/projects/social-business-shifting-out-of-first-gear/

Kleinbaum, D. G., & Klein, M. (2012). Kaplan-Meier survival curves and the log-rank test. In *Survival analysis* (pp. 55-96). Springer, New York, NY.

König, A., Kammerlander, N., & Enders, A. (2013). The family innovator's dilemma: How family influence affects the adoption of discontinuous technologies by incumbent firms. *Academy of Management Review*, *38*(3), 418-441. doi: 10.5465/amr.2011.0162

Lee, J. (2006). Family firm performance: Further evidence. *Family Business Review*, *19*(2), 103-114. doi: 10.1111/j.1741-6248.2006.00060.x

Luo, X., Zhang, J., & Duan, W. (2013). Social media and firm equity value. *Information Systems Research*, *24*(1), 146-163. doi: 10.1287/isre.1120.0462

Matzler, K., Veider, V., Hautz, J., & Stadler, C. (2015). The impact of family ownership, management, and governance on innovation. *Journal of Product Innovation Management*, *32*(3), 319-333. doi: 10.1111/jpim.12202

Micelotta, E. R., & Raynard, M. (2011). Concealing or revealing the family? Corporate brand identity strategies in family firms. *Family Business Review*, *24*(3), 197-216. doi: 10.1177/0894486511407321

Minichilli, A., Brogi, M., & Calabrò, A. (2016). Weathering the storm: Family ownership, governance, and performance through the financial and economic crisis. *Corporate Governance: An International Review*, *24*(6), 552-568. doi: 10.1111/corg.12125

Mizik, N. (2010). The theory and practice of myopic management. *Journal of Marketing Research*, *47*(4), 594-611. doi: 10.1509/jmkr.47.4.594

Nah, S., & Saxton, G. D. (2013). Modeling the adoption and use of social media by nonprofit organizations. *New Media & Society*, *15*(2), 294-313. doi: 10.1177/1461444812452411

Nordqvist, M., Sharma, P., & Chirico, F. (2014). Family firm heterogeneity and governance: A configuration approach. *Journal of Small Business Management*, *52*(2), 192-209. doi: 10.1111/jsbm.12096

PwC (2016a). *2016 Global Family Business Survey: The "missin middle". Canadian results*. Retrieved from: https://www.pwc.com/ca/en/private-company/family-business.html

PwC (2016b*). Strong Growth Forecast for Canadian Family Businesses: 89% expect to grow over the next five years*. Retrieved from: https://www.pwc.com/ca/en/media/release/strong-growth-forecast-for-canadian-family-businesses.html

PwC (2019). *US Family Business Survey 2019*. Retrieved from: https://www.pwc.com/us/en/industries/private-company-services/library/family-business-survey.html

Statista (2019). *Number of monthly active Facebook users worldwide as of 4th quarter 2018 (in millions).* Retrieved from: https://www.statista.com/statistics/264810/number-of-monthly-active-facebook-users-worldwide/

Tokarczyk, J., Hansen, E., Green, M., & Down, J. (2007). A resource-based view and market orientation theory examination of the role of "familiness" in family business success. *Family Business Review*, *20*(1), 17-31. doi: 10.1111/j.1741-6248.2007.00081.x

Toker, A., Seraj, M., Kuscu, A., Yavuz, R., Koch, S., & Bisson, C. (2016). Social media adoption: A process-based approach. *Journal of Organizational Computing and Electronic Commerce*, *26*(4), 344-363. doi: 10.1080/10919392.2016.1228361

Valos, M., Polonsky, M. J., Mavondo, F., & Lipscomb, J. (2015). Senior marketers' insights into the challenges of social media implementation in large organisations: assessing generic and electronic orientation models as potential solutions. *Journal of Marketing Management*, *31*(7-8), 713-746. doi: 10.1080/0267257X.2014.977931

Verheyden, M., & Goeman, K. (2013). Does (company) size matter? Differences in social media usage for business purposes. *Journal of Applied Quantitative Methods*, *8*(4).

Villalonga, B., & Amit, R. (2006). How do family ownership, control and management affect firm value?. *Journal of financial Economics*, *80*(2), 385-417. doi: 10.1016/j.jfineco.2004.12.005

Zahra, S. A. (2003). International expansion of US manufacturing family businesses: The effect of ownership and involvement. *Journal of Business Venturing*, *18*(4), 495-512. doi: 10.1016/S0883-9026(03)00057-0

Zahra, S. A., Neubaum, D. O., & Larrañeta, B. (2007). Knowledge sharing and technological capabilities: The moderating role of family involvement. *Journal of Business Research*, *60*(10), 1070-1079. doi: 10.1016/j.jbusres.2006.12.014

Zattoni, A., Gnan, L., & Huse, M. (2015). Does family involvement influence firm performance? Exploring the mediating effects of board processes and tasks. *Journal of Management*, *41*(4), 1214-1243. doi: 10.1177/0149206312463936

Appendices

Appendix 1: Variables Definitions, Descriptive Statistics, and Sources

Variables	Notation	Definition	Number of observations	*M*	*SD*	Source
Independent Variables						
Proportion of family members (in %)	MEMB	(Total number of family members on the board of directors / Total number of board members) *100	163	65.01	36.38	ISS
Proportion of shares held by the family members (in %)	SHARES	(Total number of shares held by the family members / Total number of shares held by all directors) * 100	163	18.70	9.11	ISS
Dependent Variables						
Facebook adoption	FB		151	n/a	n/a	Manual search
Number of Facebook followers	FOLLOW		119	1297824.11	5628681.77	Manual search
Days until Facebook adoption	FB_DAYS		119	2552.13	832.72	Manual search
Control Variables						
Marketing Spending	M	(Selling, General and Administrative Expenses - Research and Development Expenses) / Sales	775	0.21	0.14	COMPUSTAT

Number of employees (in thousands)	EMP		1442	23.34	78.53	COMPUSTAT
Total assets (in billion dollars)	AT		1448	25.03	126630.85	COMPUSTAT
Market-to-book ratio	MTB	Market value / Total stockholders equity	1346	2.60	29.56	COMPUSTAT
Liquidity	SLACK	1 – (Long-term debts / Total stockholders equity)	1445	0.28	6.63	COMPUSTAT
Return on asset	ROA	Net income (Loss) / Total assets	1447	0.04	0.08	COMPUSTAT

Appendix 2: Correlations among The Variables in The Study

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Proportion of shares held	-	.59***	.02	-.17*	.01	.10	-.13**	-.11	-.21†	.08	.03	-.06
2. Proportion of family members		-	.01	-.16†	.08	.18*	-.07	-.03	-.04	.11	.04	-.19*
3. Number of employees			-	.22**	.03	-.03	.02	.04	-.04	.12	.50***	-.04
4. Total assets				-	-.09	-.07	.01	.06	-.03	.09	.04	.11
5. ROA					-	.29**	.07	.07	.11	.12	.12	-.05
6. MTB						-	-.59***	.26*	.08	.10	.10	-.07
7. SLACK							-	.14	.08	-.10	.02	.02
8. Marketing spending								-	.66***	.34**	.04	.01
9. Unexpected marketing spending									-	.04	-.06	.19
10. Number of adopted social media										-	.02	-.40***
11. Number of Facebook followers											-	-.23*
12. Number of days until Facebook adoption												-

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$.