A MULTILEVEL PERSPECTIVE OF ORGANIZATIONAL LEARNING IN THE TRANSGENERATIONAL ENTREPRENEURIAL FAMILY FIRM

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ABSTRACT

In this study, we explore how organizational learning (OL) manifests at multiple levels within a transgenerational entrepreneurial family business, in terms of learning outcomes and transgenerational entrepreneurship. We draw upon Crossan, Lane and White's (1999) 4I organizational learning framework, as a means to enhance process-based understanding at multiple levels (individual, group and organization). Building on this, we then followed an 84-year-old transgenerational entrepreneurial family, spanning three generations, drawing upon 40 interviews, 162 archival documents and 21 observational instances across a five-year period. Our findings enrich the OL literature by illuminating the cross-generational nature of the learning process within a transgenerational entrepreneurial family and providing greater understanding of the institutionalizing process for transgenerational entrepreneurial family firms. We also advance current theory into the family ownership group's involvement in the OL process, whilst informing both policy makers and practitioners as to how the transgenerational entrepreneurial family's entrepreneurship functions are facilitated.

Keywords: family business; learning; entrepreneurship

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Keywords:

Organizational learning; Transgenerational entrepreneurial family; Multilevel longitudinal case study.

INTRODUCTION

Organizational learning (OL) deemed "central to the success of organizations" (Argote, 2011, p. 444), has been positively associated with organizational innovation, survival and performance (Alegre and Chiva, 2013; Chaston *et al.*, 2001; Dodgson, 1993; Fiol and Lyles, 1985). However, despite its clear significance for various aspects of organizational longevity, there is surprisingly little theoretical development of the concept and no established OL theory in existence (Crossan *et al.*, 2011). What we do understand about OL is that it is a multilevel process encompassing the individual, the group and the organization (Crossan *et al.*, 1999). While individuals are the prerequisite vessels for learning, a larger entity or 'supra-individual repository' is needed for OL to become embedded (Argote, 2011). Recent scholarly work on OL has categorically stated that future research should focus more explicitly on the multilevel aspect of individual and collective learning (Wang and Chugh, 2014), in what Holmqvist (2003) describes as an 'explorative learning' approach. In this paper, we adopt the multi-level perception of OL by Argote (2011), defined as the creation, retention and transference of knowledge within and across individuals, units or the organization as a whole. Thus, multi-level OL may be manifested as changes in cognitions, routines and behaviours in relation to one of more of these levels. As the associated literature has signified an inadequacy of empirical studies that have addressed the relationship between OL and knowledge transfer within organizational settings (Rhodes *et al.*, 2008), this avenue is therefore ripe for further academic exploratory investigation.

Organizational members use their experience to generate a social reality through explorative learning (Holmqvist, 2003) and participate in communities of practice, "a set of relations among persons, activity and world over time and in relation with other tangential and overlapping communities of practice" (Lave and Wenger, 2002, p. 115). One such community of practice is the family business, where learning extends beyond a single generation and becomes a cyclical co-participative process (Hamilton, 2011). Of particular interest is the family business that consistently engages in entrepreneurial activities, including innovation, new venturing and/or strategic renewal across multiple generations (Sharma *et al.*, 2012). The need for more research into this specific and unique management area is attested by Konopaski et al. (2015, p. 362), who recently stated that "further investigation of the dynamics of intergenerational learning in family business would offer fruitful avenues for research." Such entities are often referred to as transgenerational entrepreneurial families (Habbershon and Pistrui, 2002), which recognize the role of family influence and the family ownership group in transgenerational entrepreneurship (Habbershon *et al.*, 2003; Zellweger *et al.*, 2012). Moreover, these firms are a complex set of subsystems comprising family and non-family owners and employees, which provides a rich context for multilevel investigation.

Indeed, family-influenced wealth creation, longitudinal entrepreneurial performance, and in this case OL, are more accurately investigated when the family ownership group (defined as the continuing dominant coalition of a family line) is the unit of analysis rather than a particular business entity (Habbershon and Pistrui, 2002, p. 239). Accordingly, the family ownership group's long-term horizons support entrepreneurial activity (Miller and Le Breton-Miller, 2005; Sirmon and Hitt, 2003; Zellweger, 2007) and their in-group family dynamics often influence how accumulated experience and learning is passed onto younger generations (Cucculelli and Bettinelli, 2016).

However, while family firms provide an intriguing context where 'the incentive to learn readily exists' (Zahra, 2012, p. 61), there is a limited knowledge of how the interaction across organizational levels and generations facilitates the institutionalization of OL outcomes. This point is compounded with the lack of research more generally on the relationship between OL concepts and entrepreneurial performance (Alegre and Chiva, 2013). The existing research on the OL experience in family businesses has focused on the family context as a key organizing condition in which learning occurs (Birdthistle and Fleming, 2005; Cucculelli and Bettinelli, 2016; Zahra, 2012). However, the process through which learning is embedded and perpetuated across multiple generations has been insufficiently explored (Konopaski *et al.*, 2015). Consequently, building on the previous work by Konopaski et al. and others as discussed above, our underpinning research question is: How does the OL process manifest at multiple levels within a transgenerational entrepreneurial family business; and what are the implications for learning outcomes and transgenerational entrepreneurship?

In order to answer this question, we use Crossan et al.'s 4I OL framework – a multilevel model that enables a process-based understanding of this particular community of practice. By exploring how the OL process unfolds in a transgenerational entrepreneurial family, meaning how learning outcomes are perpetuated and institutionalized, we contribute to this emerging content area within family business research. This exploratory approach addresses a recent call for longitudinal research into the relationship between knowledge, learning enablers, learning outcomes and learning paths, as suggested by Haho (2014). Moreover, we respond to concerns by Crossan et al. (2011) regarding a lack of empirical research investigating the 4I framework, especially in relation to the institutionalizing process. Accordingly, we present empirical data from an 84-year-old transgenerational entrepreneurial family, spanning three generations, drawing upon 40 interviews, 162 archival documents and 21 observational instances across a five-year period.

Within this paper, we make the following contributions. First, we contribute to the OL literature by illuminating the cross-generational nature of the learning process within a transgenerational entrepreneurial family by demonstrating how learning outcomes prompted by trigger events persist after the founders' influence has dissipated (Locke and Golden-Biddle, 1997). The association of trigger events with OL is well established in a seminal work by Ang and Joseph (1996, p. 1), in which their analysis of over 1,000 OL literature abstracts concluded with the identification of a "nomological network of […] triggering events that render organizational learning necessary". Moreover, we contest that not only do these learnings outlast the founder's influence but that they become embedded and eventually institutionalized as the distinct generations engage in parallel and collaborative learning. Second, our empirical application of the 4I OL framework (Crossan *et al.*, 1999; Crossan *et al.*, 2011) not only provides insights into the institutionalizing process but also results in its extension through our provision of a more nuanced understanding of group level learning, namely the family ownership group, within this particular type of family business (Habbershon and Pistrui, 2002). Thus, we find that the institutionalization of the learning enactment at the group level is denoted by the integration of learning about long-term investment acceptance into their strategic partnerships. Third, in relation to the family business literature, we contribute to this emerging space, namely transgenerational entrepreneurship, by acknowledging the family ownership group's influence in the learning process, whereby learning outcomes are perpetuated and institutionalized. Our findings here refute previously held theory that the support for reflection facilitates collective learning meanings, and demonstrate that the group's contribution to learning enables interpretive and integrative processes. Finally, in practical terms, we concur with Klandt (2004) regarding the importance of educating those who advise family businesses by proposing that the transgenerational entrepreneurial family's entrepreneurship functions are facilitated by the family ownership group's participation in cross-generational learning. Thus, we theorize that feedback and feedforward learning channels are implemented as newer generations adopt learning outcomes in a unified perspective.

We commence by presenting the transgenerational entrepreneurial family as a community of practice for OL. Next, we outline the rationale for our chosen theoretical framework, which we view as a socially embedded process involving individual, family ownership group and organizational levels. In the following section, we discuss our methodological rationale and method; this is followed by critical evaluation of the empirical evidence from a detailed longitudinal case study. Finally, the implications for theory and practice are considered.

THE TRANSGENERATIONAL ENTREPRENEURIAL FAMILY

Within this paper, we consider the transgenerational entrepreneurial family as a community of practice (Wenger, 1998) where learning unfolds through participation (Hamilton, 2011). Learning is particularly relevant in this community of practice as this particular type of family business repeatedly engages in entrepreneurship across multiple generations (Jaskiewicz *et al.*, 2015). This provides a learning opportunity whereby family members accumulate experience which is passed onto younger generations (Cucculelli and Bettinelli, 2016). Accordingly, transgenerational entrepreneurship is the "processes through which a family uses and develops entrepreneurial mind-sets and family influenced capabilities to create new streams of entrepreneurial, financial and social value onto generations" (Habbershon *et al.*, 2010, p. 1). Such mind-sets are the beliefs and attitudes that are the catalysts for entrepreneurship within the transgenerational entrepreneurial family (Rogoff and Heck, 2003). New streams of entrepreneurial, financial and social value refer to a broader understanding of performance and value that goes beyond the boundaries of pure economic outcomes in the context of enterprising families (Zellweger *et al.*, 2013).

Within the family business field, the transgenerational entrepreneurial family is considered distinctive from the traditional family business which is often considered conservative and risk-averse (Miller and Le Breton-Miller, 2005). This distinction is based on the premise of their entrepreneurial legacy and long-term orientation (Jaskiewicz *et al.*, 2015). It has resulted in increased attention afforded to the role of family influence and the family ownership group in transgenerational entrepreneurship (Chrisman *et al.*, 2015; Habbershon *et al.*, 2003; Sirmon *et al.*, 2008; Zellweger *et al.*, 2012). Indeed, such firms tend to act with the incentive and opportunity to create new businesses, innovate or generate wealth provided by the family ownership group (Zahra, 2012). Thus, the entrepreneurial process is perpetual, constantly aimed at discovering, evaluating and exploiting new business opportunities (Shane and Venkataraman, 2000). Hence, what makes the phenomenon of learning especially relevant for the transgenerational entrepreneurial family is not only cross-generational involvement, but also the transferral of OL outcomes between individuals, family ownership group and the firm.

Conceptualizing our OL Framework

While the individual level in OL was the preoccupation of early research (Wang and Ahmed, 2003), collective learning has gained sustained scholarly attention in the organization and management fields (Bunderson and Reagans, 2011). Increasingly, scholars recognize the accumulative role of the individual, the group and the organization in the learning process (e.g. Bontis *et al.*, 2002; Crossan *et al.*, 1999; Di Milia and Birdi, 2010; Vera and Crossan, 2004). OL is a collective phenomenon whereby the organization learns as a direct result of its members learning (Moreno-Luzón *et al.*, 2000). The process may involve individuals partaking in communities of practice (Elkjaer, 2004) and extends to interactions between individuals and firms, inter-organizational relations and engagement between the firms and its contexts (Wang and Ahmed, 2003). It is defined as the "process of gaining information and transforming it into knowledge at a firm's operational level" (Franco and Haase, 2009, p. 628).

The conversion of individual learning to OL, whereby new knowledge is transferred to an organization, consists of two processes: integrating, which is "the process of developing shared understanding amongst individuals and the taking of coordinated action through mutual adjustment"; and institutionalizing, which is "the process of ensuring that routinized actions occur" (Dutta and Crossan, 2005, p. 434). These interrelated continuous learning processes enable the individual to act as a learning agent for development while enabling venture renewal in changing environments (Cope, 2005; Zahra, 2012). While the importance of individual learning is well recognized, there is a lack of research which focuses on learning at the group or organizational level (Wang and Chugh, 2014). This is surprising, given the increasing acknowledgement of the importance of collective learning in organizations (Wang and Chugh, 2014). Unger & Lorscheider (1996) consider groups as the fundamental link between individual learning and OL. A group-level perspective is imperative in relating individual cognition and behavior to organizational outcomes (Edmondson, 2002). Moreover, explorative or feed forward learning from individuals to organizations is bridged by the group that engages in both interpreting and integrating processes (Crossan *et al.*, 1999). Thus, we adopt the family ownership group, a cross-generational division (Hamilton, 2011), as our unit of analysis.

In organizing the various arguments relating to the learning process within a transgenerational entrepreneurial family, a framework is required that incorporates elements of OL, comprised of evolving knowledge stored in individuals, the family ownership group and the organizations that constitute the fundamental family infrastructure. Hence, we draw upon Crossan et al.'s (1999) 4I OL framework and use their identified four main processes (intuiting, interpreting, integrating and institutionalizing) to interrogate our empirical data from the context of transgenerational entrepreneurial family businesses. In so doing, we respond to calls by Crossan et al. (2011) for more empirical research investigating the 4I framework. This framework was deemed the most appropriate learning framework given our research question due to its acknowledgment of learning at three levels (individual, group, organization).

As noted, OL has progressed beyond the idea of learning as cognition and the sum of individuals' learning, towards the belief that learning is situated and multilevel, encompassing individual, group and organization (Chaston *et al.*, 2001; Easterby-Smith *et al.*, 2000). We contest that this multilevel learning is activated by trigger events that "act as catalysts to organizational learning" (Ang and Joseph, 1996, p. 2). Trigger events, which can be internal or external in nature, invite the need for organizations to learn which, in turn, generate learning outcomes (Ang and Joseph, 1996). For the purposes of this study, learning outcomes are defined as results, both tangible and intangible, of the OL process (Haho, 2014). This viewpoint is consistent with the seminal work of Duncan & Weiss (1979), which theorizes learning outcomes as goal-oriented and pragmatic concepts. We consider OL an important construct of our analytical framing, given that the transgenerational entrepreneurial family repeatedly engages in cross-generational entrepreneurship and encourages growth and learning orientations within the family and the firm (Jaskiewicz *et al.*, 2015; Pistrui *et al.*, 2010).

We highlight how each of the four processes identified in Crossan et al.'s (1999) framework yield insights into the learning process in a transgenerational entrepreneurial family. At the individual level, intuiting, a preconscious process, occurs when individuals recognize patterns in their own past or present experiences and identify their potential use in their current work environment (Crossan *et al.*, 1999). This stage of the framework necessarily entails the exploration of new ideas that may result in innovation and change (Berthon *et al.*, 2008). According to Crossan et al. (1999), interpreting is the process through which individuals verbalize or enact their own insights and ideas. This phenomenon can manifest as either self-explanation or shared explanation with others through this use of words and/or actions (Cramer, 2005), therefore occurring at either the individual or group level.

As the interpretation process moves beyond the individual and the ideas are embraced by the group, integration occurs. Integrating is, therefore, the collective development of a shared understanding of new ideas and of how to enact them (Crossan *et al.*, 1999). This stage of the 4I framework may even involve the execution of coordinated action through mutual adjustment (Dutta and Crossan, 2005), thus adhering to OL at either the group or organizational level. According to Crossan et al. (1999), when new behaviors and actions are recurrent and have a sufficiently significant impact on organizational action, the changes become institutionalized. Hence, institutionalization is the process that distinguishes OL from individual and group learning as it is through this process that ideas are transformed into organizational institutions, which are available to all employees (Lawrence *et al.*, 2005). Accordingly, this framework aligns with the emerging body of multilevel analysis in family business research (McKenny *et al.*, 2014; Sieger *et al.*, 2011) by providing a multilevel and dynamic conceptualization of learning from intuition to institutionalization. In doing so, it enables a nuanced understanding of the learning process within a transgenerational entrepreneurial family.

METHODOLOGY

In framing our study, we view OL in the transgenerational entrepreneurial family as a socially embedded process involving individual, family ownership group and organizational levels. In order to capture this contextually complex process, and in so doing answer our underpinning research, a richly detailed single case methodology, which is often utilized for longitudinal research (Voss *et al.*, 2002), was deemed appropriate.

Since OL unfolds across time, longitudinal inquiry is necessitated (Argote and Miron-Spektor, 2011) that aligns with our chosen research design. In particular, case study design is suited to the purposes of exploratory research (Gerring, 2004) that features throughout the OL literature (e.g., Lagrosen *et al.*, 2011; Saru, 2007; Snell, 2002; Sosna *et al.*, 2010). Furthermore, we respond to recent calls for more qualitative longitudinal studies in the family business field (e.g., Chenail, 2009; De Massis and Kotlar, 2014; Reay and Zhang, 2014). For the reasons outlined above, our research design is consistent with our research question, which asks about the manifestation of the OL process (at various levels) in a transgenerational entrepreneurial family, in addition to the implications for learning outcomes and transgenerational entrepreneurship.

Case selection

Our sampling was purposive (Pratt, 2009) and theoretical in having the characteristics that fitted our investigation (McKeever *et al.*, 2015). We concur with Habbershon & Pistrui (2002) that in order to establish a transgenerational perspective, the appropriate unit of analysis is the family ownership group. Therefore, our evidence of learning includes insights from the family ownership group and the top management team (including non-family) of a third-generation family business known in this paper as Stonebrook. Stonebrook is part of the Successful Transgenerational Entrepreneurship Practices (STEP) Project. The STEP Project is a worldwide research initiative that examines how the entrepreneurial and innovative mind-set within family businesses is cascaded between generations. Recent publications using STEP project data have addressed issues such as portfolio entrepreneurship in family firms (Sieger *et al.*, 2011), as well as their transgenerational professionalization in terms of next generation leadership roles (Brumana *et al.*, 2015). This latter study adopted a single, longitudinal case study approach that is similar to the methodological approach taken in the current paper.

For the purposes of our study, which was to explore OL in a transgenerational entrepreneurial family, we sought a firm for our longitudinal study based on four criteria. First, a firm that is large enough to represent the family's main income and, therefore, ensures family management are financially motivated to engage in entrepreneurship (Jaskiewicz *et al.*, 2015). Second, the family must aspire to pass the business to the next generation, which is necessary for transgenerational control intentions. Third, a family ownership group (dominant coalition of a family line) was needed as our unit of analysis. Fourth, we aimed to uncover entrepreneurial behaviors and processes that occurred in and beyond the founder's lifetime (Hamilton, 2011), thus we chose a third-generation family business. Furthermore, for the study of transgenerational entrepreneurship, we ensured that the senior generation was of succession age (over 55 years old) (Jaskiewicz *et al.*, 2015). An overview of Stonebrook is provided in

Table 1 below. The specific research tools utilised to investigate OL within our chosen case study firm included interviews, observation and archival analysis, as detailed below.

[Table 1 about here]

Data collection

Archival records

We collected several thousand pages of archives on Stonebrook consisting of public records, supplemented by other information sources provided by the family. These archival records, which detail the Brown family's involvement in business over 80 years, assisted us in identifying the firm's trigger events. Moreover, these records (i.e., 162 sources) which were typically produced in 'real time' served as a means of method triangulation, to counteract any anomalies, preferential hindsight or retrospective memory bias that may have arisen during interviewing (Yin, 2013). A comprehensive review of our archival sources is presented in Table 2 below.

[Table 2 about here]

Interviews and observations

We conducted a five-year primary data collection process that consisted of interviews, a focus group and participant observations. Given Stonebrook's involvement with the STEP Project, the research team were afforded excellent access to the research site. This, in turn, provided access to key informants including top management team members (family and non-family), members of the family ownership group and advisers to the family. Thus, our sampling technique was both deliberate and emergent (Dacin *et al.*, 2010).

Four waves of core interviews were conducted in the family business environment over a five-year period (2007-2012), which totalled 21 interviews that varied in length between 90 and 120 minutes. The heterogeneity of the informant sample was imperative as non-family interviewees noted similar learnings to family members, thus providing us with confidence that institutionalized learnings occurred.

Drawing from our semi-structured interview design, we posed questions relating to the firm's history and externalities to uncover trigger events from which learning arose. Following a review of the learning literature, we noted an alignment between learning in Stonebrook and the 4I OL framework. Drawing upon this framework, and in line with our underpinning research question, we conducted further interviews to gain a nuanced understanding of the thoughts and actions associated with learning processes resulting from trigger events. Follow-up interviews (n=18) were also conducted to clarify interviewees' points or to pose additional questions. Furthermore, a focus group interview with six members of the family ownership group also occurred. This focus group was facilitated by two members of the research team; one chaired the group interview whilst the other took notes. Focus groups reveal "dimensions of understanding that often remain untapped by the more conventional one-to-one interview" (Kitzinger, 1994, p. 109), which in this case allowed us to reach consensus on the trigger events suitable for this study.

To supplement our evidence, a total of 21 observational instances were made in numerous settings such as family council meetings, AGMs, family dinners, family away-days, conferences and plant tours. One of the most significant observations was the legal dispute which occurred within the family in 2007. One member of the research team observed court hearings and heard testimony from the third generation who stated the important lesson of implementing family governance. In other instances, the researcher witnessed family business members interacting with customers, family and other stakeholders. The observation of family interactions with the wider organization provided further evidence of institutionalized learnings, thus enriching the inquiry process. A full review of all primary data sources is presented in Table 3.

[Table 3 about here]

Data analysis

The core interviews were transcribed verbatim resulting in 419 pages of transcript from approximately 31 hours of tape. Based on these interview transcripts and the archival records, a case study of the firm was completed using rigorous case study protocol. Following Yin (2011, p. 177), our data analysis was a non-liner iterative process of data "compiling, disassembling, reassembling, interpreting and concluding". This process involved stages: first, we identified the trigger events central to OL in the firm; second, we interrogated the resulting trigger events using the 4I OL framework; and third, we determined which trigger events resulted in learning outcomes resulting in transgenerational entrepreneurial value. This three-stage analysis process was conducted in adherence to Ang & Joseph's (1996) nomological network of OL, which perceives trigger events as an antecedent that is associated with the 'core concept' of OL processes and the 'consequences' of learning outcomes.

Identifying trigger events

During the first stage of analysis, two members of the research team coded the interviews for trigger events which are defined as 'circumstances which act as catalysts to OL' (Ang and Joseph, 1996, p. 2). To consolidate our trigger events list, we conducted a focus group with six members of the family ownership group who were asked to name and describe the company's milestones. The family assisted while unaware of and unprompted by the list of potential trigger events. When comparing the lists, we refined our analysis to ensure our findings' reliability. If there was unanimous agreement between individual and collective opinion, then the milestone was deemed a trigger event. As a form of method triangulation, further analysis involved corroborating interviewees' retelling of incidents both against those of fellow interviewees and against observations and secondary sources, thus validating the events' significance in the OL process. As seen in Table 4, we showcase the evidence from interviews, observations and archives that support our final trigger events. Only when the importance of an event was corroborated by evidence from at least six interviewees and at least four observations or archival types was such an occurrence deemed a trigger event. Five trigger events were identified; these were essential to the subsequent documentation of explorative learning within the firm. As Holmqvist (2003, p. 96) noted in his theoretical work on developing a dynamic model of intra- and interorganizational learning, "[t]he explorative character of much interorganizational learning does not occur by itself; it occurs as a result of a confrontation and a combination of single organizations' experiences." Thus, the identification of these five trigger events represented the first step towards ascertaining the explorative learning associated with the findings.

[Table 4 about here]

Interrogating the trigger events using the 4I framework

In the next stage of data analysis, we gathered evidence of the five trigger events. The evidence comprised of textual pieces (for example, article snippets and interview quotations). The research team proceeded to interrogate the trigger events in conjunction with the four learning phases (namely intuiting, interpreting, integrating and institutionalizing) (see Table 4). The final list of trigger events totalled 123 textual pieces. Two members of the research team calculated the interrater agreement and reached a result of 0.93, in excess of the recommended minimum threshold of 0.70 (Cohen, 1960).

Learning outcomes

In the final phase of data analysis, the research team reviewed the transgenerational entrepreneurship literature to determine which trigger events resulted in 'entrepreneurial, financial and social value across generations' (Habbershon *et al.*, 2010, p. 1) and thus transgenerational entrepreneurial learning outcomes. To achieve this, we examined the transgenerational entrepreneurship literature (e.g., Habbershon *et al.*, 2010; Zahra and Covin, 1995; Zellweger and Nason, 2008) and drew together descriptions for each of three performance indicators (entrepreneurial, financial and social), based on the theoretical grounding by Habbershon et al. (2010).

The first indicator was ‘Entrepreneurial Performance’, defined as embodying the entrepreneurial concepts of innovation, renewal and venturing (Zahra and Covin, 1995). The use of this performance indicator as a determining factor for OL trigger events is advocated in a seminal work by Kaish & Gilad (1991), in which they discuss the inherent interrelated nature between the concepts of prior/new information learning, trigger events and entrepreneurial conjecture. The second indicator was ‘Financial Performance’ which, according to Eddleston et al. (2008), incorporates both subjective performance data as well as objective measures. Justification of the use of financial performance indicators for OL trigger events is provided by the theoretical analysis model by Ho (2008), which demonstrates a clear link between financial performance and the organizational performance aspects of self-directed learning and OL. The final indicator was ‘Social Performance’, with included a myriad of constituent activities including philanthropy, social/environmental initiatives, funding, support and job creation (Zellweger and Nason, 2008), in addition to a range of non-financial performance goals (Corbetta and Salvato, 2004; Ward, 1997). Details of all of the performance indicators are provided in Table 4. The relevance of trigger events to social performance indicators in OL is attested by Cope (2005), who has highlighted the relationship between individual triggers for small business entrepreneurship and the results of social learning.

The research team evaluated the interview segments relating to entrepreneurial, financial and social performance, cross-checked their relevance to current theory and corroborated this evidence with secondary sources (e.g., financial accounts filed with the national companies register). Each trigger event needed to satisfy the criteria of at least one performance indicator for inclusion in the study. During this process, the research team met at regular intervals to discuss the inclusion and relevance of each trigger event. In order to be considered a relevant trigger event, the incident had to be supported by at least ten pieces of evidence (i.e., six+ interviewees and four+ observations or four+ archival records) (See Table 4). We endeavored to guarantee the trustworthiness of our data as we continually sought to clarify and validate our analysis through our traceable chain of evidence and follow-up interviews with informants (Morse, 1991).

FINDINGS

From our analysis, five trigger events resulting in distinct learning outcomes. We identify these learning outcomes as High Risk Innovation Strategy; Long-Term Capital Investment; Professionalization; Family Corporate Governance; and Leveraging Family Reputation. We present these findings within narrative accounts that underpin our longitudinal investigation.

Learning outcome #1— high risk innovation strategy

As group CEO, Jack has adopted an entrepreneurial, risk-taking perspective based on his individual learning: “His leadership style was visionary and boundaries were not something he recognized. ‘We can do this if we want to’ was his attitude” (Scott, 2G). A prominent trigger event was Jack’s purchase of steel worth €762,000 for toll bridge construction before securing planning permission. Scott, who expressed concern, recalled his father’s statement: “don’t worry, we’ll find a way”.

Jack’s entrepreneurial insight underwent interpretation following the involvement of his son, Scott. As group CEO, Scott oversaw Stonebrook’s engagement in a high-risk diversification strategy. “Some ventures were successful and some not very successful but that is the nature of entrepreneurship, you learn from your mistakes and use the learning experience as a source for future ventures” (Scott, 2G). Both generations engaged in explorative learning and reflected on risk tolerance. The third learning phase, integrating, occurred within the Brown Family Group as the members adopted risk-taking, innovative practices. “[Stonebrook] is always in a start-up model, it is all about starting new business, the new edge.... the family don't want to change that" (David Brown, 3G). In line with previous generations' behavior, Scott's son, David Brown, established his own telecommunications company, showing that "the need for entrepreneurial activity and risk is a gene that has passed across the generations" (Scott, 2G).

A high-risk investment strategy is an accepted feature of the learning environment within Stonebrook: "They have a risk tolerance, consistent with the family heritage" (Stephen Jackson, non-family CEO). Many of the company's endeavors involved significant capital investment in emerging technologies within new markets, thus making them high risk. As Stonebrook matured, the founder's learnings were engrained in the organization after his departure: "The culture has come out in the model (business model) we are trying to pursue and when we are trying to attract employees and managers to come work with us they look at this culture and it particularly attracts them" (Stephen Jackson, non-family CEO).

Learning outcome #2 — long-term capital investment

In 1980, a new partnership model for investing in infrastructure development emerged in the subject country[1]. The Founder, Jack Brown, entered this novel alliance and secured 30-year bridge tolling rights for Stonebrook. This trigger event formed the impetus for Stonebrook's organizational learning relating to long-term investments.

The individual learning process of Stonebrook involved Jack engaging in an intuitive process when assessing the value potential of the agreement. "We were building this project for many decades ahead" (Scott, 2G). Considerable financial capital was required for this project which totalled 81 weeks and cost €7.7 million. The success of the subsequent deal guided Jack's entrepreneurial learning, so much so that he considered a second state toll bridge "a no brainer". Through interpretation, Scott and Jack verbalized the initial insight which

[1] The subject country is based in a Western European Region.

resulted in the development of a long-term investment focus: “We had the security of a state partnership, while risky at the time; we knew we would be paid” (Scott, 2G).

As observable from their actions and behaviors, the Brown family learned from and integrated the long-term perspective of Jack and Scott. “They (the family) are long-term in their thinking. They see the need for capital investment to source long-term gain”, said Stephen Jackson. The family’s shared acceptance of long-term investments led to Stonebrook’s transition into a portfolio business that invests in long standing projects with slow rewards. “We invest significantly in large physical infrastructure, which may take time to bear fruition, but we are in this for the long run” (David, 3G).

The founder’s learnings are perpetuated after his departure as evidenced by the family’s support for projects related to firm growth and survival, rather than immediate wealth creation. “We know we can make decisions that will have a short-term impact on profits but we are building significant value for the future” (Stephen Jackson). This learning led to a recurring pattern of long-term investments in emerging industries.

Learning outcome #3 — professionalization

Scott’s formal education was the trigger event leading to Stonebrook’s increased professionalism and structure. During his CEO tenure, Scott aided the transition of Stonebrook from toll road operations to a global portfolio firm as his business intuition came to the fore: “The idea is the important thing…and the idea is to get the best result regardless of where it comes from” (Scott, 2G). After a period of gradual disengagement, Jack (1G) “washed his hands of the board and the independent non-executives were in the ascendency” (Stephen Jackson). As Scott’s individual learning, or professionalism insight, was interpreted, a shared understanding developed: “Scott has always liked […] having institutional third party shareholders who contribute capital and provide strong corporate governance” (Stephen).

Professionalizing operations and managing family involvement were learnings embraced by the family ownership group: “We recognize we don’t know everything so we seek to secure professional skilled people” (David Brown, 3G). The group prioritized business survival over family employment opportunities: “All positions will go to the best person for the job, there is no family favoritism” (Financial Adviser). From the family ownership group level, Scott’s initial learning was fed forward to the firm where it was accessible to all organizational members. “Experienced PLC executives and non-executives began to put PLC type manners on the business” (Family Adviser). Stephen Jackson provided insight into Stonebrook’s feedback learning loop: “I also meet with Scott on a weekly basis and discuss Stonebrook issues which he communicates to the family (Brown Family Group) if applicable”.

Learning outcome #4 — family corporate governance

Through marriage, Scott Brown joined the Smith family hotel group where he witnessed first-hand the need for family conflict resolution: “The family needed to have the issues resolved or face the ultimate demise of the thriving hotel chain”. Consequently, the Smith sibling rivalry served as a trigger event as Scott intuited a similar situation for Stonebrook. As a family “we were highly proficient at the ‘hard’ issues of operating a business but lacked the understanding to deal with the ‘soft’ issues” (Scott, 2G). This insight was the catalyst for family governance in Stonebrook.

Given the magnitude of in-law conflict, Scott found it was “impossible to resolve it without going outside the family ownership group”. In their interaction with a family business consultant, the family learned about the function of family governance in conflict management, succession and development of a family vision statement. “It’s when you encounter trouble than you rely on the foundation within the family developed as a result of the family business consulting” (David, 3G).

Managing affective issues has formed an integral part of family learning. “It is all about discussion, communication, regular updates, if you leave someone in the dark they get frustrated” (David, 3G). The family ownership group learned through effective reflection, a key mechanism of OL: “We’ve learned the hard way” (Scott, 2G). Now following best practice, the Brown Family Group has a family office, council, constitution, and monthly and quarterly family meetings. The family’s integrative learning led to established protocols for family-business relations within Stonebrook. “[Stonebrook’s] policy is to go nowhere near a family that doesn’t have very strong governance over itself and how it interacts with the business, because you stand no chance as a professional executive if there is no stability in how the family works together and how the family works within the business” (Stephen Jackson).

Learning outcome #5 — leveraging family reputation

In his former infrastructure company, Jack Brown, as CEO, led the company’s international trade strategy. Based on this experience, Jack formed learning insights into potential partners for Stonebrook. asking (according to Scott, 2G): “The people in the business [we are investing in], are they the type of people we believe in? Do they share our set of values?” Interpreting this insight coincided with Stonebrook’s internationalization strategy, which focused on “partnering with entrepreneurs who hold common values to those of the Brown family” (Stephen). Through an explorative learning process, Jack and Scott interpreted this idea of leveraging the family reputation: “We are dealing with people who possibly share our own family values, who do not like dealing with a faceless company” (Scott, 2G).

This learning reflection was shared by the Brown Family Group, whose members actively preserved the family image as an asset after the founder’s departure. “The reputation and family legacy cannot be destroyed” (David, 3G). Leveraging the family reputation was considered a way to secure both family and company proponents: “The ability to use the Brown name and its link with [Stonebrook] instantly gets you a foot in the door…” (David, 3G).

This learning was adopted by Stonebrook management who utilized the family affiliation in partnership pitches: “The *familiness* element is a very important part of our package” (Stephen Jackson). Stonebrook’s strategy of “partnering with entrepreneurs who hold common values to those of the Brown family” (Stephen Jackson) became an institutionalized learning, transcending both the individual (founder) and group learning levels.

DISCUSSION

Our findings identified the learning outcomes that resulted from five trigger events in a transgenerational entrepreneurial family. We now examine the discrete learning levels within the 4I framework to explore the OL process in our chosen family firm in terms of implications for learning outcomes and transgenerational entrepreneurship.

Individual learning and the transgenerational entrepreneurial family

Individual learning, a necessary component and prerequisite to OL (Franco and Haase, 2009), is evident throughout as the founder or CEO uncovers lessons from trigger events that reverberate after his departure. The first trigger event (the founder purchasing €762,000 of steel for a toll bridge) resulted in a learning outcome regarding risk tolerance in investments. Crossan et al. (1999, p. 526) state that “entrepreneurial intuition is future possibility oriented”. This statement is supported and advanced by our empirical findings: Jack’s idea for the nation’s first toll bridge resulted from his entrepreneurial intuition and his resilience about finding a way reflects his future possibility oriented approach. We now understand how this approach in transgenerational entrepreneurial family firms can be taken against construction and financial risks, through the confidence of multiple generations in monetary returns.

In another case of intuitive learning, Jack engaged in a second similar venture by drawing from his past experiences known as experiential learning. Kolb (1984, p. 21) describes experiential learning theory as “a holistic integrative perspective on learning that combines experience, perception, cognition, and behavior”. Our findings build upon this theoretical concept by providing insights from a transgenerational entrepreneurial family firm. Within this context, we now know that this involved using the knowledge gained from the success of a profitable state deal and, through entrepreneurial intuition, using the review of this experience to inform their existing situation.

As the interpretive phase moves from individual to group level learning, ambiguous interpretations can emerge (Crossan *et al.*, 1999, p. 525). This was seen during the appointment of non-family professionals to top management in Stonebrook. This move was approached with caution by the leader Scott due to its implications for change and their indeterminate alignment with his entrepreneurial ambitions. However, it has also become apparent from the interview data that, for transgenerational entrepreneurial family firms, professionalizing may be interpreted by the new generation as an opportunity to develop the company, whereas the preceding generation may view it as a dilution of power. In Stonebrook, despite conflicting views, the learning process was expedited by Scott's appointment as CEO, and the reflection moved beyond the individual and entered a group interpretive process. Cramer (2005, p. 4) suggests that this entering into the interpretation stage is characterized by single loop learning and adjustments, which he defines as "a form of practical learning that changes strategies for action". From the context of transgenerational entrepreneurial family firms, our findings advance this statement by demonstrating how the process can be especially applicable when it comes to realising the requirement for family consultancy for conflict resolution, and can result in stronger development of a family foundation.

Group learning and the transgenerational entrepreneurial family

It has been stated that OL in a family business context is a co-participative process that extends beyond a single generation (Hamilton, 2011). A prominent example of this emerged with Scott's return to Stonebrook with an internationally qualified MBA. It appears that both Jack and Scott Brown have engaged in 'entrepreneurial bridging', defined by Jaskiewicz et al.

(2015, p. 42) as “transgenerational collaboration of at least two generations over several years to foster entrepreneurship”. Our findings develop this theoretical notion by showing how distinct generations can engage in bi-directional learning in tandem, with the younger generation using their education and experience to shape the company’s future direction.

As majority shareholder, Zahra (2012) suggests that the family ownership group can be motivated to engage in extensive learning across various areas. We corroborate this theoretical statement, as our findings indicate that this has undoubtedly resulted in Stonebrook’s vast portfolio of industries and international acquisitions. The firm’s acquisition strategy has accommodated Jack Brown’s vision for mutuality between them and prospective partners, many of which were, incidentally, family businesses themselves. Berson et al. (2006, p. 583) claim that “a leader’s vision may be a source for building a shared language or mental model ultimately making the individual idea a group process”. Although we find this statement to be true to a certain extent on account of Jack’s vision to acquire companies with similar vision to his own, our findings suggest wider implications for transgenerational entrepreneurial family firms. We now know that learning within the family ownership group requires both feedback and feed forward channels whereby the older generation informs the younger and vice versa. The OLs of the first and second generations have transferred to the latest generation who embrace a unified perspective regarding high risk investments, long-term thinking, family corporate governance and professionalization. The longitudinal implications here are prevalent, in which the maturation of the firm has been the catalyst for the learnings of both the founder and the founding family becoming engrained in the organization itself.

Crossan et al. (1999, p. 529) argue that, at the institutionalization stage, “as organizations mature, [they] attempt to capture the patterns of interaction by formalizing them”. They also state that, over time, the embedded learning within the organization guides the actions and learning of organizational members. Our findings support and advance these theoretical statements by demonstrating that, with transgenerational entrepreneurial family firms, this longitudinal embedment of OL may cause structures and policies to be supported and enacted at both group and firm levels.

Our findings have also revealed that issue management in relation to affective learning – described by Postle (1993) as referring to learning by direct experience – necessarily involves the need for input and inclusion as part of the business. Hoyrup (2004, pp. 453-454) concluded in his theoretical work that support for reflection in collective learning settings is essential "so that people can engage in finding common meanings in making sense of the collective work they are doing". For Stonebrook, the family ownership group eventually learned this attribute of input and inclusion through effective reflection of their internal communication and knowledge transfer. What we now know from our analysis is that, once the family ownership group integrates such a learning reflection (for example, the family's acceptance and support of long-term capital investments), it then moves beyond the individuals' understanding and into the collective learning realm through social communication. This finding challenges the theoretical statement above by Hoyrup by suggesting that, for transgenerational entrepreneurial family firms, it is not the support for reflection itself that is conducive to collective meaning, but rather the socially-driven transfer of knowledge through internal communication that manifests as a corollary of this supported reflection.

The family business literature states that in order for the family ownership group to fully integrate these learnings, the individual members' interpretation must be supported and reaffirmed, especially when hesitation exists (Lawrence *et al.*, 2005). From our own observations of the family ownership group of Stonebrook, we advance these understandings by suggesting that the family's patience for long range investment returns is underpinned by an engrained collective belief in the family's long-term market perseverance. We also propose that the family ownership group's participation in learning enables the group interpretive and integrative processes. It has been suggested that the “shared understanding and taking of coordinated action” by the family ownership group facilitates the transfer of individual’s ideas to the organization in a feed forward process (Crossan *et al.*, 1999). As demonstrated across our case study interviews and archival data, these learnings do not dissipate following the founder’s departure. Rather, the family ownership group’s ongoing participation in learning facilitates the institutionalization process as the founder’s actions and attitudes are mirrored by the family even after his death. These insights advance the work on entrepreneurial learning by Rae (2005, p. 327), which expresses the necessity for the family component not to be “omitted from a consideration of entrepreneurial development”. Through our findings, we now understand that, regardless of changes in managerial structure, the family ownership group is constant and this constancy ensures that learnings become institutionalized in the organization.

Our findings also provide evidence of the transgenerational entrepreneurial family as a distinct ‘community of practice’ (Lave and Wenger, 2002) that ensures the preservation of learnings following the founder’s departure. We demonstrate through our empirical findings that the ongoing participation in OL from the family ownership group has had positive effects on the relevancy of leveraging the family image. Consequently, we believe that the value potential of this leveraging has been exposed through the process of explorative or feed forward learning at the group level.

Organizational learning and the transgenerational entrepreneurial family

A key learning event in Stonebrook’s history is the Smith conflict that led to the institutionalization of family corporate governance. This conflict originated from the establishment of a family group board consisting of five sibling members, which instigated acrimonious family disputes. The resolution of this conflict at the organizational level appears to be associated with experiential learning at the individual level by Scott. Crossan et al. (1999, p. 525) claim that experiential learning “can affect the intuitive individual’s actions, but it only affects others when they attempt to interact with that individual". In our study, however, Scott used his personal stream of experience to generate a subconscious insight from his exposure to this in-law family business conflict and his subsequent learning about the need for conflict resolution. Thus, our findings demonstrate that, for transgenerational entrepreneurial family firms, the personal stream of experience not only affects other individuals through conscious interactions, as proposed by Crossan et al. (1999), but can also infiltrate the institutionalization of the firm through learning associated with conflict resolution at the organizational level.

Lawrence et al. (2005, p. 181) theorized that with OL institutionalization "ideas are transformed into organizational institutions that are available to members on an ongoing basis, at least partially independent of their individual or group origins". Our findings reflect and advance this statement for transgenerational entrepreneurship and family business contexts. Through the analysis of our case study data, we argue that the family's learned acceptance of high risk venturing becomes institutionalized where it affects the business strategies, many of which can involve the exploration of new markets and industries. Consequently, we now know that, for transgenerational entrepreneurial family firms, the family ownership group integrates the learning of long-term investment acceptance into their strategies and partnerships, signifying the institutionalization of the learning enactment. This has ultimately led to their willingness to provide patient financial capital for projects with future growth potential, rather than what is described in the associated literature as 'immediate wealth creation' (Donckels and Fröhlich, 1991). Additionally, we have found that the institutionalization of learning associated with the professionalization of the firm and the family has resulted in a more structured company environment. Often, entrepreneurial family businesses are particularly attentive towards innovative approaches and strategies (Craig and Moores, 2005). This was apparent across the interviews and archival data in our case study, given Stonebrook's focus on institutionalizing strategies (new market entry, long-term investment, risk-taking and professionalism) promoting business growth and development.

Family corporate governance, while not connected to new venture creation or strategic renewal, can aid positive family relations. In turn, it is stated by Eddleston et al. (2008) that family harmony can enhance company performance and develop a firm's competitive advantage. Our findings advocate this suggestion as the Stonebrook group were fully engaged in integrating and institutionalizing the learning regarding family corporate governance. However, we also found that trigger events that are unique to family businesses, e.g., sibling rivalry, created potential for learning opportunities. More specifically, these opportunities were then converted into outcomes that are perpetuated and embedded. We therefore contribute to the theoretical knowledge base on family corporate governance, and its effects on competitive advantage, by demonstrating how the family ownership group's participation in OL facilitates the institutionalized learnings that create new streams of cross-generational value.

CONCLUSION

By examining how the OL process unfolds in a transgenerational entrepreneurial family, we address an important gap within family business research. Although family firms provide an intriguing context where "the incentive to learn readily exists" (Zahra, 2012, p. 61), little is known about how the interaction across organizational levels and generations facilitates the institutionalization of OL outcomes.

To address this gap in the literature, we followed an 84-year-old transgenerational family over a five-year period drawing upon 40 interviews, including a focus group interview with family members, 162 archival documents, ranging from company reports to television documentaries, and 21 observational instances. Furthermore, in order to facilitate this longitudinal investigation, we adopted Crossan et al.'s (1999) 4I OL framework, which enabled a more nuanced understanding of the learning dynamics within a transgenerational entrepreneurial family. In concluding our arguments, we identify contributions to debate and theory development, outline suggestions for future research and note our limitations.

Based on this evidence, we make the following contributions. First, we contribute to the OL literature by illuminating the cross-generational nature of the learning process within a transgenerational entrepreneurial family. Through our analysis of Jack's entrepreneurial intuition and resilience, we conclude that the future possibility oriented approach to OL by transgenerational entrepreneurial family firms, when combined with confidence in financial returns by multiple generations, can supersede monetary and construction risks to result in innovative idea generation. In relation to the learning outcome of professionalism, we theorize that there exists a dichotomy of its interpretation within the family unit - perceived as a dilution of power by the older generation and a developmental opportunity by the newer generation. Moreover, we advance theoretical discussion surrounding entrepreneurial bridging by concluding that distinct generations within transgenerational entrepreneurial family firms engage in parallel and collaborative learning, as the new generation influences the firm's future strategic direction through the combined implementation of their experiences and education.

Second, we respond to calls by Crossan et al. (2011) for more empirical research investigating the 4I OL framework, and in doing so, we provide greater understanding of the institutionalizing process for transgenerational entrepreneurial family firms. From our analysis and theoretical discussion, we conclude that the personal stream of influence permeates organizational institutionalization via learning associated with conflict management at the organizational level. This evidence of a direct and influential correlation between OL at the individual and organizational levels may indicate a paradigmatic shift in how the 4I theoretical framework of OL is constructed within the transgenerational entrepreneurial family firm context. In relation to the learning outcome of high risk innovation strategy, our empirical investigation concludes that the family's learned acceptance of high risk venturing becomes institutionalized where it affects pioneering business strategies. Thus, for the family ownership group, the institutionalization of the learning enactment is denoted by the integration of learning about long-term investment acceptance into their strategic partnerships. In relation to the learning outcome of family corporate governance, as we found that trigger events unique to family firms create prospects for learning opportunities, we affirm that the family ownership group's involvement in OL is conducive to institutionalized learnings that generate new avenues of transgenerational value.

Third, we acknowledge the Family Ownership Group's involvement in the OL process within this community of practice (i.e., transgenerational entrepreneurial family) where learning is perpetuated and institutionalized (Hamilton, 2011). Our findings refute the previously held theory that the support for reflection itself facilitates collective learning meanings. Instead, from the context of transgenerational entrepreneurial family firms, we conclude that they are facilitated by the socially-embedded transmission of knowledge via interior communication as a consequence of this supported learning reflection. In relation to the learning outcome of long-term capital investment, we propose that the entrenched collective belief in the family's long-term market persistence underscores their tolerance of investment returns. Accordingly, the family ownership group's contribution to learning enables the group interpretive and integrative processes. Ultimately, we conclude that the group's ongoing involvement in OL supersede the founder's departure, regardless of structural changes in management, as the group's constancy safeguards the institutionalization of OL. These findings support the notion of the transgenerational entrepreneurial family as a distinctive 'community of practice' (Lave and Wenger 2002) through our insights into the preservation of learnings.

Finally, in practical terms, we inform both policy makers and practitioners as to how the transgenerational entrepreneurial family's entrepreneurship functions are facilitated by the family ownership group's participation in cross-generational learning. In advancement of experiential learning theory, the results of our empirical investigation conclude that, for transgenerational entrepreneurial family firms, it entails utilising the knowledge ascertained from financial success, through an entrepreneurial intuition lens, to review the experience and inform their current situation. As a result of our findings and analysis, we also theorize that OL within the family ownership group necessitates both feedback and feed forward channels across family generations. This is actualized as the newer generations are recipients of the collective learning and adopt a unified perspective that encompasses the learning outcomes that we have identified in this study. Furthermore, we affirm that the longitudinal embedment of OL enables policies and structures to be instigated and supported at the group and organizational levels.

Our discussion provides future research opportunities in addressing our limitations and advancing debate within the transgenerational entrepreneurship field. Given the emergence of the 'sibling rivalry trigger event' during our analysis, further research could examine the role of family cohesiveness in enabling the bi-directional influence of learning. Another possible avenue could be the relationship between learning and imprinting; an emergent theory that shows a link between sensitive periods in a firm and certain features developing in individuals and firms which persist across time (Marquis and Tilcsik, 2013). Further development of the OL field could entail a quantitative analysis of learning across multiple transgenerational entrepreneurial families to ensure external validation of our claims (Winter, 2000).Our findings are based on a single case study of a third-generation transgenerational entrepreneurial family. Although appropriate given our aim and intention to contribute to theoretical generalization (Yin, 2013), future research could adopt a multiple case study approach and/or explore OL in transgenerational entrepreneurial families with longer family involvement (generation $n>3$). Notwithstanding this limitation, our study provides a significant contribution both to family business and OL domains, in addition to transgenerational entrepreneurship research.

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Table 1 Description of Stonebrook

Family Name	Brown
Business Name	Stonebrook
Core Industries	Renewable energy; Waste management; Water; Infrastructure.
No. of employees	3300
No. of operating countries	5
Turnover (€)	672 million
Age (in 2017)	39
Year founded	1978[2]
No. of generations	Three
Family CEO	No
Family percent ownership	40 %
Family board	Two members
Family ownership group	Six members

[2] While Stonebrook was founded in 1978, the Brown family's association with the infrastructure industry dates back to 1932. Jack Brown began delivering sand, coal and gravel as a teenager and this graduated to a coal and sand business in 1932 run by Jack and his brother. Then in 1944, the two brothers founded a quarry and supply company. In 1961, the company expanded internationally and in 1970, merged with a multi-national infrastructure firm to form the world's third largest infrastructure company. The company continued its international growth through acquisition of quarries (mainly family-owned) starting in North-East America.

Table 2 Archival Data

Archival Records	**# of documents**	**1970-1980**	**1981-1990**	**1991-2000**	**2001-2010**	**2011-2015**
Media articles	89	12	6	10	37	24
Company reports	29	2	4	3	12	8
National companies register[3]	24	-	-	6	8	10
Planning applications	8	3	2	1	2	-
Corporate presentations	5	-	-	-	-	5
State contract applications	4	-	2	2	-	-
Court proceeding documents	2	-	-	2	-	-
Television documentaries	1	-	1	-	-	-
Total:	**162**	**17**	**15**	**24**	**59**	**47**

[3] Denotes current and previous directorships registered with the national companies register, as accessed through the FAME database of Bureau van Dijk.

Table 3 **Interview and Participant Observation Data (2007-2012)**

Interviews	**Family member**	**S'holder**	**# of core interviews**	**Length (min per interview)**	**Follow-up interviews**	**Focus group interview**	**Year of Interview '07**	**'08**	**'10**	**'12**
Executive Chairman	2G	Yes	6	90	5	Yes	xx	x	xx	x
CEO	No	No	3	80	1	No	x	x	x	-
Business Development Manager	3G	Yes	5	90	6	Yes	xx	x	x	x
Financial Director	No	No	3	90	3	No	x	x	-	x
Non-executive Director	3G	Yes	1	80	0	Yes	x	-	-	-
Financial Adviser	No	No	2	85	1	No	-	-	x	x
Family Office-Financial Adviser	No	No	1	85	2	No	x	-	-	-
Family Council member	3G (3)	No	0	90	0	Yes (3)	-	x	-	-
Total:	**6**	**3**	**21**	**690**	**18**	**6**				

Observations	**# of observations**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**
Family Council Meeting	2	-	x	--	x	-	-
Annual General Meeting (AGM)	4	x	x	x	-	x	-
Family Dinner	3	x	x	-	-	-	x
Family Away Day	2	x	-	x	-	-	-
Plant Tours	3	x	-	x	-	-	x
Conference	5	x	x	x	x	-	x
Court Case Hearing	2	xx	-	-	-	-	-
Total:	**21**	**7**	**4**	**4**	**2**	**1**	**3**

Table 4. Data Structure

	IDENTIFYING TRIGGER EVENTS			*OL ALIGNMENT WITH CROSSAN ET AL.'S (1999) 4I FRAMEWORK.*				*TRANSGENERATIONAL ENTREPRENEURIAL LEARNING OUTCOMES.*	
#	**Trigger Events**	**Evid-ence**[4]	**Textual pieces**[5]	**Intuiting**	**Interpre-ting**	**Integrating**	**Institutionaliz-ing**	**Learning outcome**	**Perform-ance**[6]
1	Jack Brown's purchase of €762,000 of steel for toll bridge construction	AbC	29	G1 sees opportune-ity.	G1 and G2 seek new venture creation.	FOG supports engagement in entrepren-eurial behaviour.	Developing a highly entrepreneurial environment.	High Risk Innovation Strategy	EP, SP
2	Stonebrook enters the first state partnership agreement	AbC	22	G1 foresees long-term payback.	G1 and G2 pursue long-term strategy.	FOG invests in long-standing projects with slow rewards.	Adopting long-term strategies and partnerships.	Long-Term Capital Investment	FP, SP
3	Scott Brown joins the company with an internationally qualified MBA	AbC	18	G2 anticipates a new business focus.	G2 develops more structured environ-ment.	FOG fosters this profession-alised approach.	Non-family CEO and PLC executives appointed.	Professionalization	EP

[4] "A," evidence from 6+ interviewees; 'a,' evidence from 4+ interviewees; 'B,' evidence from 4+ observations; 'b,' evidence from 2+ observations; 'C,' evidence from 4+ archival types; 'c,' evidence from 2+ archival types.
[5] The number of textual pieces extracted from the raw data. Total number of textual pieces= 123.
[6] Performance indicators: EP (Entrepreneurial Performance); SP (Social Performance); EP (Economic Performance).

4	Family business conflict among Smith family	ABc	30	G2 fore-shadows possible future family conflict.	G2 and family understand the need for govern-ance.	FOG adopts family meetings, office and council.	Protocols for family-business relations are the norm.	Family Corporate Governance	SP
5	Aggressive international acquisition strategy	ABC	24	G1 perceives the family's influence.	G1 and G2 utilises the family influence in negotiate-ions.	FOG leverages the family reputation and legacy.	Family is key element of partnership decisions.	Leveraging Family Reputation	EP, SP