Do we need to use an accountant? The sales growth and survival benefits to family SMEs

Barbera, Francesco; Hasso, Tim

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Abstract

This paper explores the relationship between the usage of an external accountant and family firm sales growth and survival. Using a longitudinal panel of Australian family SMEs, we find that external accountants have a positive impact upon sales growth and survival. We also find that the degree to which the accountant is acquainted with the family and the firm's needs, which we term as embeddedness, moderates these positive outcomes. Furthermore, we find that appropriate strategic planning processes are necessary in order to maximize the sales growth benefit; however, these processes are not necessary in order to gain the survival benefit.

Keywords: family firm, advisor, accountant, sales growth, survival

Introduction

External advisors are often seen to play an essential role in the growth and sustainability of small and medium sized enterprises (SMEs) (Gibb, 2000; Robson & Bennett, 2000). The rationale behind this is that by using an external advisor, SMEs may mitigate the deficiencies they face due to a lack of internal resources (Bennett & Robson, 2003). For family firms, this issue is of elevated importance they often exhibit certain characteristics that affect their need for an external advice, and the family aspect may increase the complexity of the advisor engagement.

In this study we focus exclusively on one type of advisor, external accountants, as they are the most commonly utilized advisor by SMEs (Berry, Sweeting, & Goto, 2006; Nicholson, Shepherd, & Woods, 2010; Strike, 2012). Further, while the notion that external accountants - have a positive impact upon firm performance is intuitively appealing, there exists little empirical evidence in this regard (Berry et al., 2006; Kent, 1994). The existing

body of work has been primarily descriptive in nature (see for example Nicholson et al. (2010)), and suffers from mixed results and poor research design (Dyer & Ross, 2007).

While the importance of external advisors for businesses has been steadily receiving more attention, to date, the research in this area does not distinguish between family and non-family firms (Strike, 2012). Addressing this gap and using the resource-based view (RBV), we identify two peculiarities that make it interesting to investigate the impact of external accountant usage in family firms. (1) The human capital available in family firms is often restricted by the choice to give family members preference in recruitment (Sirmon & Hitt, 2003). This may lead to a less diversified workforce as family employees may not hold all the necessary skills and knowledge needed within the firm (Schulze, Lubatkin, Dino, & Buchholtz, 2001). While these family members may hold better firm-specific knowledge, outside applicants may hold better general business knowledge and bring outside perspective and expertise. This increases the need for family firms to outsource accounting expertise in order to fill resource gaps. (2) The intersection between the family and the firm adds an additional layer of complexity for advisors, who have to consider the needs of the family as well as the firm. To overcome this, best practice prescribes familiarizing the advisor with familial issues. This practice is encompassed in the concept of 'embeddedness', the process by which social relations impact economic action, in client-advisor relationships (Granovetter, 1985; Uzzi, 1997; Worrall, 2007). By this line of reasoning, the level of embeddedness becomes a crucial issue in family firms, as the mutual collaboration, frequent consultations, and trust between the advisor and the family may impact the effectiveness of the advisory service (Granovetter, 1985; Uzzi, 1997). From an RBV perspective, an external resource can in a way become internalized by embedding that resource within the family firm, making it a potential source of competitive advantage.

Based on the discussion thus far, this paper aims to explore the relationship between the usage of external accountants and family firm performance. Specifically, we look at two aspects of performance: sales growth and survival. These two concepts are related, yet differ with respect to their underlying focus. By separating sales growth and survival, we acknowledge that, depending on the firm's stage in its life-cycle, the effect an accountant will have on a firm's ability to survive may be different from the effect on its ability to grow. Broadly, we aim to answer the question: *Do family firms receive performance benefits from the utilisation of an external accountant?* We also intend to answer how the degree of advisor embeddedness – as well as the level of strategic planning processes within the family firm – strengthen these potential performance benefits. By exploring such issues, we aim to provide a basis for how family firms can improve their sales growth and survivability, not just by utilising an external accountant per se, but by utilising an accountant to receive the highest potential benefit. We investigate this empirically by using a longitudinal panel consisting of more than two thousand private family SMEs in Australia. Overarching our study, we attempt to develop a robust research design that has often been lacking in prior studies exploring whether advisors have an impact on firm outcomes (Dyer & Ross, 2007).

The contribution of our paper is threefold. First, we provide a theoretical contribution to the literature by theorizing a conceptual framework using the RBV that helps to explain why external accountants may have an impact on family firm sales growth and their likelihood of survival. We also draw on the RBV to consider the potential moderating effect of the strategic planning (SP) process and advisor embeddedness. Second, we integrate the existing business advisor, family firm, and RBV literatures to identify how the family may impact their need for external accountants, as well as the importance of advisor embeddedness once the accountant has been retained. Third, we provide empirical evidence on the relationship between external accountant usage and family firm sales growth and

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survival. We also measure how these relationships are sensitive to the level of SP processes and the degree to which the external accountant is embedded within the family firm.

This paper is structured as follows. In the Hypothesis Development section, we explore the role of external advisors using the RBV as our theoretical basis. With a focus on accountants, we review the literature with respect to business advisors, and their expected impact on firm sales growth and survival. How this relationship may be impacted by the involvement of family is also of interest. By this approach we raise a number of hypotheses that are based on the integration of prior literature. In the Method section, we describe our data and present our research design that aims to test the stated hypotheses empirically. In particular, we focus on ensuring a robust research design that considers other drivers of sales growth and survival, and the issue of endogeneity. In the Results section, we present the descriptive statistics for our sample and the results of the hypotheses testing. Additionally, we provide further in-depth analyses to unravel the various nuances of the relationship between external advisor usage, SP processes, advisor embeddedness, and family firm sales growth and survival. Finally, we discuss our results by considering how they fit with the theoretical arguments of the paper and distil our findings for both researchers and practitioners in the area.

Hypotheses Development

According to the RBV, a firm can be viewed as a collection of physical and intangible resources (Barney, 1991), which can be leveraged to potentially generate a competitive advantage. Such resources include human capital, and in turn the skills and knowledge of employees, which are seen to be ingrained in the firm and can be used to drive firm performance (Gottschalk & Solli-Sæther, 2005; McIvor, 2009). If we use accountants as an example, they hold explicit knowledge regarding accounting standards and processes, as well

as the tacit knowledge to apply them in the business world (Everaert, Sarens, & Rommel, 2007). Such tacit knowledge can be a valuable resource as it takes a considerable amount of time to attain. Consequently, if a firm does not employ an internal accountant, the ability to outsource an external accountant enables the firm to overcome the problem of having limited resources (Døving & Gooderham, 2008; Gooderham, Tobiassen, Døving, & Nordhaug, 2004). This view fits well within the RBV framework, suggesting that the specialized advice provided by an accountant is a resource in and of itself (Chrisman & McMullan, 2000). Furthermore, researchers have identified that family firms in particular have distinct deficiencies relating to their human capital (Habbershon & Williams, 1999; Sirmon & Hitt, 2003). This deficiency arises from their tendency to recruit from within the family, restricting their pool of potential employees. This could have both positive and negative effects on the human capital of the firm (Hasso & Duncan, 2013; Sirmon & Hitt, 2003). For example, family members often have better firm-specific tacit knowledge; however, they may not possess all the general business skills and knowledge needed by the firm (Habbershon & Williams, 1999). Specifically, financial and managerial accounting skills are important business skills usually required by any firm, but these are usually only possessed by a few individuals (i.e. those with an established accounting background). The limitation of the pool of employees lowers the family's probability of maintaining these skills internally. Thus, the family firm is potentially more reliant on retaining these skills through an external accountant. This makes the issue of an external accountant of greater importance in family firms. Furthermore, the interaction between the family and the firm adds another layer of complexity for advisory engagements. As a result, external accountants are often expected to accommodate both family and business issues.

Outside of the family firm context, researchers have been investigating the usage of accountants and other business advisors for several decades (Kent, 1994; Ramsden & Bennett,

2005; Turner, 1982). While much of the research has been descriptive in nature and lacking in rigour, it has provided the area with the foundations needed to build upon (Dyer & Ross, 2007). Recently, this area of study has received more interest as government policies around the world have acknowledged that SMEs, and family firms in particular, have a limit on their skills and knowledge. Thus, external business advice has been highlighted by many as crucial to firm performance (Chrisman, Chua, Sharma, & Yoder, 2009; Chrisman & McMullan, 2004; Gibb, 2000; Lussier, 1995; Lussier & Halabi, 2010; Lussier & Pfeifer, 2002). From these earlier studies we have learned that the most common external resource for any business is their accountant, as roughly 75 to 95 per cent of all SMEs rely upon an external accountant for services and advice (Bennett & Smith, 2002; Berry et al., 2006; Chrisman et al., 2009; Jay & Schaper, 2003; Robson & Bennett, 2000). In fact, among the various types of advisors available to SMEs, accountants are more likely to hold the role of the *most* trusted advisor (Berry et al., 2006). Hence, the role of the profession that what was once seen merely as a bookkeeping service has evolved to become a quasi-consulting service, which provides advice on numerous facets of business operations, in addition to pure accounting advice (Carey, 2005). This has perhaps been perpetuated by professional accounting bodies that now market their members as consultants with general business expertise who can provide advisory services on a range of business and family-related issues (Nicholson et al., 2010). However, underlying this trend is the intuitive assumption that accountants have a positive impact upon firm growth and survival, two key objectives of government policy.

Surveying the prior literature, we find a multitude of research that examines the relationship between the usage of advisors and performance, however only two studies have a focus on accountants in particular. Kent (1994) finds that the use of an external accountant has a positive impact upon business performance in the pharmacy industry in Brisbane, Australia. Similarly, Berry et al. (2006) find that there is a positive association between the

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usage of external accountants as advisors and sales growth when examining firms in Manchester, United Kingdom. However, both studies deal with small sample sizes (82 firms and 140 firms respectively) and use a single city for their sample frame. As a result, it is hard to generalize these findings to all firms. Furthermore, we could not find any empirical study investigating the role that the family might play in the relationship between accountant use and firm performance. A notable study by Nicholson et al. (2010), provides useful descriptive analysis of advisory services and the various family-related issues, but does not offer any additional empirical evidence.

Even if we take a broader view and consider advisors in general, the existing evidence is unconvincing. Indeed, Dyer and Ross (2007) note that while there are a multitude of studies examining the relationship of business advisors and some measure of firm performance, the evidence in support of any effect is mixed. While the studies of Kent (1994), Berry et al. (2006), Larsson et al. (2003), Chrisman and McMullan (2004), and Lussier and Halabi (2010) suggest a positive effect, there are also a number of studies that find no significant relationships (Robson & Bennett, 2000; Westhead & Storey, 1996). Additionally, there are issues regarding simultaneous causality bias, meaning that high performing firms often use advisors, and that they may not be the source of high performance per se, but rather the result thereof (Dyer & Ross, 2007). As such, it is hard to draw upon prior empirical evidence to formulate convincing hypotheses.

With that said, based on descriptive research, we can make some inferences with respect to the potential benefits of using an accountant. For example, it has been shown that accountants provide advice on a range of issues (Berry et al., 2006). These include business practices, which serve to lower costs and also increase sales (Carey, 2005). As such, accountants can be seen as a one-stop shop for family SMEs due to their limited ability to hire a multitude of different advisors. By retaining the services of the external accountant, the

family firm may possibly fill a key resource gap. Additionally, once the accountant has been retained for the purposes of the accounting function, the family firm may then leverage the general business skills and knowledge the held by the accountant. Indeed, Gooderham et al. (2004) find that when SMEs are faced with serious competition, firms often use their accountant's advice to try to attain a competitive advantage. Furthermore, Carey (2005) finds that accountants also provide advice on marketing and sales decisions, which potentially increase sales growth. As such, we hypothesize that there is an overall positive relationship between external accountant usage and family firm sales growth.

H1: There is a positive relationship between external accountant usage and family firm sales growth.

However, while there are existing studies investigating the usage of external accountants and firm sales growth (Berry et al., 2006; Kent, 1994), we find none that attempt to examine external accountants' impact upon firm survival. This is surprising, as sales growth alone will not necessarily capture the survival aspect of performance. Survival is a necessary condition for future sales growth, however the inverse cannot be said. Survival is distinct from sales growth, as firms will have a stronger focus on survival in the early stages of their life-cycle (Klepper, 1996). Firms in the survival stage focus on generating sufficient sales while minimising costs, in order to break-even and establish a foundation for profit. Furthermore, firm survival is one of the key aspects as to why both government policy and professional bodies are promoting the usage of external accountants (Carey, 2005; Mole, 2000). While several studies that have documented a positive effect of general business advice on firm survival (Chrisman & McMullan, 2004; Lussier & Halabi, 2010; Watson, 2007), none of these have focused on the role of accountants. Further, family firms, as a context, have largely been ignored. For family firms in particular, firm survival is a critical issue as Ward (2011) finds that only 30 percent of family firms survive to the second

generation. The notion that accountants would have a positive impact upon family firm survival is intuitively appealing. If we consider the functions of external accountants, such as cost savings advice, these have the potential to ensure firm survival (Carey, 2005). We thus hypothesize that there is a positive relationship between external accountant usage and family firm survival.

H2: There is a positive relationship between external accountant usage and family firm survival.

While the usage of an external accountant may mitigate the problem of limited internal resources within the family firm, these acquired resources may still be underutilized if SP processes are not in place. According to the RBV, in order for resources to have an impact on performance, the firm needs to have the necessary SP processes in place to leverage those resources and achieve competitive advantages (Eddleston, Kellermanns, & Sarathy, 2008; Habbershon & Williams, 1999; Hamel & Prahalad, 2005). This includes the assessment of available resources and planning on the deployment of these resources (Ketokivi & Castañer, 2004). Therefore, the level of strategic planning may impact the degree to which external accountants have a positive effect on family firm sales growth and survival. If the family firm is actively engaged in strategic planning, we expect that they will be better able to leverage the resources possessed by an external accountant. SP processes may therefore improve the resource allocation decisions of family firms by contributing to their ability to identify and pursue opportunities (Chrisman, Chua, & Sharma, 2005). Penrose (1959) proposed a similar argument by saying that it is not the resources themselves but rather the services that they produce that generate value for firms. Without SP processes, family firms may fail to fully capitalize on the usage of external accountants, leading to lost opportunities and wasted resources. Consequently, we hypothesize that family firms using SP processes will receive *greater* sales growth and survival benefits.

H3a: SP processes strengthen the relationship between external accountant usage and family firm sales growth.

H3b: SP processes strengthen the relationship between external accountant usage and family firm survival.

In addition to having appropriate SP processes, the degree to which the accountant is acquainted with the needs family and the firm is also expected to be of significant importance. In other words, the external resource (in this case the accountant) needs to become 'embedded' within the firm in order to maximize the full potential of the resource (Worrall, 2007). Broadly speaking, embeddedness refers to the social structure of relationships (Granovetter, 1985). For example, the concept of embeddedness highlights that firms in network relationships can have either strong or weak ties with each other. The level of embeddedness, or the strength of the tie, can consequently impact economic outcomes resulting from the business relationship (Uzzi, 1997). This relates to the RBV and the notion of outsourcing expertise as a means to fill an internal resource gap, in the sense that external resources can be a source of competitive advantage only if those resources are embedded in the firm. In a practical sense, the embeddedness of an external accountant would relate to the nature of their relationship with the family. The goal is to develop and nurture the relationship to a level where there exists trust between the parties (Dyer & Ross, 2007). It is through this process that the external resource can become internalized, or embedded, within the firm. Once embedded, the accountant can offer tailored advice, which implies that the accountant becomes a valuable resource and a potential source of competitive advantage. An embedded accountant is also expected to have an increased understanding and appreciation of the complexities of the family firm, and thus better able to accommodate the needs of both the firm and the family. In other words, an identical non-embedded accountant may only be able to offer generic advice that can be acquired by any firm. Thus, we expect that the level

of embeddedness of the external accountant will also strengthen the relationship between the usage of external accountants and firm sales growth and survival.

H4a: Advisor embeddedness strengthens the relationship between external accountant usage and sales growth.

H4b: Advisor embeddedness strengthens the relationship between external accountant usage and survival.

Considering these four hypotheses in conjunction, we present Figure 1 as a graphical representation of the conceptual model developed in this section. In essence, we suggest that the use of external accountants may have a positive impact upon family firm sales growth and survival. However, these relationships may depend on the degree of SP processes in the firm as well as the degree of advisor embeddedness. The next section of this paper operationalizes the concepts presented in Figure 1 and describes the data used to empirically test the model.

[Insert Figure 1 here]

Method

Data source: The Business Longitudinal Survey

We use the Australian Bureau of Statistics' (ABS) '*Business Longitudinal Survey*' (BLS) to empirically test our hypotheses. The BLS was designed to provide information on privately held Australian small and medium-sized enterprises (SMEs), i.e. less than 200 employees, and is the longitudinal component of several waves of the cross-sectional '*Business Growth and Performance Survey*'. As such, the structure of the data includes not only a cross-sectional component, but also a longitudinal aspect for the years 1994-95 to

1997-98 inclusive[1]. Furthermore, the participants of the BLS that are chosen by the ABS are required by law to participate. This improves the reliability and representativeness of the sample. The coverage of the survey is extremely broad; it includes information on new and existing businesses, industrial relations and business operational information, business practices and intentions, and business performance and competitiveness. The BLSs national breadth allows us to empirically test our hypotheses in a robust manner, as well as overcome the generalization problems associated with samples of limited geographic or industry scope (Cassar & Gibson, 2008; Hawke, 2000). While the sample period is not as recent as we may wish, the age of the data is outweighed by their quality and representative nature, making it a one-of-a-kind data source (Cassar & Gibson, 2008). Moreover, the BLS has proven to be relevant today, as demonstrated by recent publications in top-tier journals (Barbera & Moores, 2011; Eberhard & Craig, 2013; Watson, 2007).

The longitudinal structure of the BLS is extremely useful in the context of this study since it allows the researcher to observe family firm survivability, by accounting for those family firms that have failed during the four year time period. Also, the longitudinal component of the BLS allows us to lag the performance variables, as a time delay between firm outcomes relating to the use of advisors is expected (Havnes & Senneseth, 2001). This addresses simultaneous causality bias, which has plagued prior research deign in this area (Dyer & Ross, 2007).

Variables

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[1] The BLS samples were drawn from the ABS Business Register, with 8745 business units being selected for inclusion in the 1994–95 survey. For the 1995–96 survey, 4948 of the original selections for the 1994–95 survey were selected, and this was supplemented by 572 new business units added to the ABS Business Register during 1995–96. The sample for the 1996–97 survey included 4541 businesses which were previously sampled, and an additional sample of 529 new businesses from the 1995–96 interrogation of the Business Register, and 551 new businesses from the 1996–97 interrogation of the Business Register.

Given the purpose of our analysis, some recoding of the BLS data was required in order to obtain the variables required to estimate models 1 to 8 (discussed in the next section). Table 1 provides an overview of our proxies and operationalization of the variables of interest, which are further described in the next sections.

[Insert Table 1 here]

Additionally, some narrowing of the BLS data was required. For example, only those family firms that reported positive values for sales and total assets were included. Further narrowing of the sample was necessary since the variable measuring the use of an external accountant was only incorporated into the BLS in the 1995-96 wave of the survey. Finally, as this study is only concerned with the use of advisors and performance outcomes in family firms, non-family firms were excluded. This treatment has reduced our sample to 2004 firms in total.

The BLS helps us to overcome the issue of identifying family firms, as firms in the BLS are asked: *Do you consider the business to be a family business.* Consequently, if the firm answers 'yes' to then we consider it to be a family firm.[2]

Dependent Variables (Sales Growth and Survival)

Our two dependent variables of interest in this study are family firm sales growth and survival. Both of these concepts are related, yet differ with respect to their underlying focus. Survival measures the ability to continue operating in any given industry; however, survival alone does not distinguish how well the family firm is competing. To make such a distinction, one must measure sales growth. Firms are often focused on their survival in the early stages

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[2] We acknowledge that a multi-dimensional, objective measure would be preferred, however, our measure has been established in the extant literature (Barbera & Moores, 2011; Eberhard & Craig, 2013). As the BLS does not offer any alternatives, and there is still no universally accepted definition of a family firm, our measure is effective for the purposes of this paper.

of their life-cycle, whereas priorities pertinent to sales growth become more important as the firm progresses to the next stage of its life-cycle (Klepper, 1996).

The BLS allows us to observe family firm survivability as it specifically identifies those family firms that have not continued their participation in the survey because the business has ceased its operations. This classification is unique from family firms that did not continue participation in the survey for other reasons i.e. unavailable or unwilling to respond, or firms that were sold to third parties. Thus, as with other studies utilising the BLS (see for example Watson (2007)), a firm's failure is captured in this study as a dummy variable equating to 1 if the firm ceased operations in either 1 or 2 years following the year an external accountant was utilised.

We also utilise sales growth as a measure of performance (see for example Berry et al., 2006; Wren & Storey, 2002). Several researchers have suggested that sales growth is the most important performance measure in SMEs, since sales growth is a more accurate and easily accessible performance indicator than other accounting measures (Wiklund, 1999). Sales growth is measured as $(Sales_t - Sales_{t-1})/Sales_{t-1}$, where 'Sales' indicates the nominal dollar value of total annual sales generated for the financial year, t.

Intuitively one would expect there to be a positive relationship between sales growth and survivability, as growth in sales is especially important for family SMEs since their economies of scale typically are too small for them to continue without increasing their scale of operations (Zimmerman, 2002); thus a lack of sales growth may also lead to failure.

Independent Variables

SP processes

As we have hypothesized in this paper, the use of an external accountant may have varying outcomes depending on the family firms' usage of SP processes. We measure the existence and extent of SP processes using a multiple variable scale. The following yes or no questions included in the BLS enable us to construct such a measure:

Does the business use any of the following business practices?

1) A documented formal strategic plan?
2) A formal business plan?
3) Budget forecasting?
4) Regular income/expenditure reports?
5) Comparison of performance with other businesses?

Considering response 1, the production of a formal statement of business objectives - such as plans and mission statements - is normally regarded as an essential feature of strategic planning (Campbell & Yeung, 1991; Hannon & Atherton, 1998). Such a statement could then be used to construct detailed objectives which shape and guide the operations of the firm; however, crucial to the strategic planning process are other planning practices, which implies that a written strategic plan alone is a necessary but insufficient condition of strategic planning (Beaver & Ross, 2000; Hannon & Atherton, 1998).

For example, Hall (1995) outlines that a strategic planning process would include a variety of information gathering and action-based activities, which, to cite Hall (1995), may include: the setting of corporate objectives and targets (as in response 1), forecasting performance in key areas (as in response 3), comparing predictions with targets (as in response 4 and 5), developing action and business plans (as in response 2), and monitoring progress (as in response 4 and 5). Along the same line of reasoning, Miller (1987) identifies how firms that engage in strategic planning have standard means for providing quantitative operational information for strategic analysis. Such information would be disseminated via budget forecasting and financial reports (as in response 3 and 4). Despite some overlap, and the fact that the BLS data has yet to be specifically used to construct a strategic planning

process measure, an index (between 0 and 1) was created via equal weighting of responses to the above-mentioned yes or no questions. An SP score of 1 indicates that the family firm has engaged in all the business practice activities listed above, and a score of 0 indicates that none of the activities have taken place. With that said, those family firms which scored less than or equal to 0.5 were placed in the 'low SP' subgroup, and those family firms scoring greater than 0.5 were placed in the 'high SP' subgroup. This particular measure of the SP has yet to be applied to a family business study. However, our constructed index is consistent with the above-mentioned concepts of strategic planning and formalization, and other studies have constructed formalization proxies in a similar fashion (see for example Patricia, Theodore, & Dale, 1992).

Advisor embeddedness

To operationalize the concept of embeddedness we follow the work of Uzzi (1996) who suggests that concentrated exchanges can reflect the level of an embedded relationship. Thus, to capture the effects of the use of an external accountant as well as advisor embeddedness on both the survivability and sales growth of the family firms in the BLS sample, the following question was utilised:

How frequently (during the year) did this business seek business information or advice from external accountant?

1) Never
2) 1-3 times
3) More than 3 times.

As a starting point, and to simply operationalize the *use* of an external accountant, a dummy variable was created equating to 1 if the family firm chose option 2, or 3, and 0 if the family firm chose option 1. Further, of those family firms that use an external accountant, a proxy measure of a relatively low embedded advisor was created via a dummy variable equating to 1 if the family firm chose option 2, and 0 otherwise. Subsequently, a relatively

high embedded advisor was measured by a dummy variable equating to 1 if the family firm chose option 3, and 0 otherwise.

Although such a measure has yet to be utilised in a family business study, the technique is consistent with Bennett & Robson (2005) who identify frequency of use as a proxy for the level of trust and commitment in the client advisor relationship in SMEs in general. In this study, we consider trust and commitment to be part of the higher-order construct of embeddedness of the advisor, and thus identify the frequency of use as our proxy for embeddedness. Further, previous studies have specifically shown that the frequency of use of business advisors, including external accountants, is highly related to firm performance in general (Berry et al., 2006).

Control Variables

As with any cross-sectional study, numerous covariates may exist between the independent and dependent variables of interest. As a result, this study controls for the effects of varying profitability (measured as Net Profit Margin), efficiency (measured as Asset Utilisation), industry (eleven industries were classified by ANZSIC codes), size (measured by Total Assets), R&D intensity (measured by R&D spending as a proportion of total expenses), capital structure (measured by the Debt Ratio), as well as age between our sampled family firms. In doing so, we isolate these effects from the actual relationships between the use of an external accountant and performance.

Analysis

We use both subgroup and interaction model analysis in our hypotheses testing to examine the effects of external accountant usage. By the subgroup analysis approach, the sample is split into subgroups on the basis of the degree of SP processes within the family

firm (see for example Rothman, 2012; Sharma, Durand, & Gur-Arie, 1981; Wang & Ware, 2012). Regression analysis is then used to investigate the significance of the relationship between the dependent variable and regressors for each subgroup. We begin by specifying the models that test hypotheses relating to family firm survival (H2, H3b, H4b) and follow with specification of models that test hypotheses relating to family firm sales growth (H1, H3a, H4a). To test the direct relationship between survival and the usage of external accountants across subgroups, we estimate the following binary probit regression:

(1) $Exit_{i,t+1,t+2} = \beta_{1j} + \beta_{2j}Ext\ Acct_{i,t} + \beta_{3j}\theta_{i,t} + e_{i,t}.$

Where *Exit* is a dummy variable equating to 1 if family firm *i* failed in either the one or two years following time period *t*, and 0 if the family firm survived for the duration of the sample period. *Ext Acct* is a dummy variable equating to 1 if family firm *i* utilised an external accountant in time *t*, and 0 otherwise. θ is a vector of control variables for family firm *i* in time period *t*. [3] Since the dependent variable equates to 0 if the family firm survives, H2 will be supported if β_2 is negative and statistically significant. Further, the specified subgroups, denoted by *j*, are based on the degree of SP processes within the family firm. In this study we consider two subgroups of all family firms, that is *j* = low SP; high SP.

By estimating the β_2 coefficient in each subgroup, we can determine the magnitude and statistical significance of the β_2 coefficient separately for these two groups. With that said, to test if SP processes moderate the relationship between external accountant usage and family firm survival, as proposed in H3b, we simultaneously estimate (1) for both low and high SP firms using our strategic planning processes dummy, SP, as an interaction term. More specifically, we specify the fully interacted model as:

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[3] The control variables include net profit margin, asset utilisation ratio, debt to asset ratio, size (log of total assets), age, R&D intensity, and eleven industry dummy variables.

(2) $Exit_{i,t+1,t+2} = \gamma_1 + \gamma_2 SP_{i.t} + \gamma_3 Ext\ Acct_{i,t} + \gamma_4 SP * Ext\ Acct_{i,t} + \gamma_{5j}\theta_{i,t} +$

$\gamma6SP*\theta i,t+ei,t$.

Where γ_2 and γ_4 are intercept and slope strategic planning interaction terms respectively[4]. By the approach specified in (2), we can determine whether, and to what extent, strategic planning moderates the relationship between the use of an external accountant and the family firm's survival by observing the significance, direction and magnitude of γ_4 respectively.

Given that family firm survival is a dichotomous variable, a binary probit regression is the most appropriate technique to estimate models (1) and (2). In addition, when interpreting the estimated coefficients in a binary probit regression set-up, the estimated coefficients can be interpreted as probabilities of failing because they are constrained to fall between 0 and 1.

Also in a binary probit regression framework, to assess the relationship between survival and the embeddedness of the advisor, the External Accountant variable in models (1) and (2) is further decomposed to include high and low embeddedness, denoted as HighEmb and LowEmb, as per the following equations:

(3) $Exit_{i,t+1,t+2} = \delta_{1j} + \delta_{2j}HighEmb_{i,t} + \delta_{3j}LowEmb_{i,t} + \delta_{4j}\theta_{i,t} + e_{i,t}.$

and

(4)

$Exit_{i,t+1,t+2} =$

$\varepsilon_1 + \varepsilon_2 SP_{i.t} + \varepsilon_3 HighEmb_{i,t} + \varepsilon_4 SP * HighEmb_{i,t} + \varepsilon_5 LowEmb_{i,t} + \varepsilon_6 SP *$

$LowEmb_{i,t} + \varepsilon_{7j}\theta_{i,t} + \varepsilon_8 SP * \theta_{i,t} + e_{i,t}$

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[4] It is also important to note that the fully interacted model specified in (2) includes the separate estimation of all the control variables listed in model (1). As a result, γ_6 is a vector of estimated covariate coefficients specifically for family firms, which we have classified as having high level of SP.

Where the difference between models (1) and (2) with models (3) and (4) is the distinction between high and low external accountant embeddedness. Specifically, *High (Low) Emb* are dummy variables equating to 1 if firm *i* frequently (infrequently) utilised an external accountant in time period *t*, and 0 otherwise. If no external accountant is used, both *HighEmb* and *LowEmb* dummies will equate to 0, and models (3) and (4) collapse to models (1) and (4) respectively.

As per model (3), H4b is tested by estimating the δ_2 and δ_3 coefficients in each subgroup, which determines the moderating effect of embeddedness separately for high and low SP firms. We have taken this approach since we can also compare the varying significance of δ_2 and δ_3 across our defined subsamples of family firms, denoted by subscript *j*. However, such a comparison does not statistically test whether the use of an external accountant, decomposed into degree of embeddedness, is moderated by strategic planning. To do this, we estimate model (4) and observe the estimated coefficients ε_4 and ε_6 which capture the difference in the probability of failure for high SP firms, relative to low SP firms, which embed their accountant to a greater or a lesser degree.

Moving on to H1, H3a, and H4a, to test the direct relationship between sales growth and the usage of an external accountant, we estimate the following ordinary least squares regression:

(5) $\quad SalesGrowth_{i,t+1} = \beta_{1j} + \beta_{2j} Ext\ Acct_{i,t} + \beta_{3j}\theta_{i,t} + e_{i,t}.$

Where *SalesGrowth* measures the growth in sales of firm *i* in time period *t*+1[5]. As in Model (1), *Ext Acct* is a dichotomous dummy variable and *θ* is a vector of control variables.[6]

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[5] Next year's sales growth was selected as a dependent variable for two main reasons. First, performance outcomes resulting from the advice of an external accountant are expected to materialise *after* such advice is received, thus a one-year lag between sales growth and the use of an external accountant is reasonable to assume (Havnes & Senneseth, 2001). Second, there are inherent endogeneity problems when using sales growth in time period *t*, since both the use of an external accountant and sales growth may be simultaneously determined by an

Since growth in sales is a continuous variable, we can estimate (5) in a multiple regression set-up. If H1 is supported, we would expect β_2 to be positive and statistically significant. Subgroup analysis is also performed across our defined subsamples of family firms depending on the level of SP processes, denoted by subscript j, but again we officially test for the moderating effects proposed in H3a by estimating (5) across j simultaneously, as per:

$$(6) \quad SalesGrowth_{i,t+1} = \gamma_1 + \gamma_2 SP_{i.t} + \gamma_3 Ext\ Acct_{i,t} + \gamma_4 SP * Ext\ Acct_{i,t} + \gamma_{5j}\theta_{i,t} + \gamma_6 SP * \theta_{i,t} + e_{i,t}$$

If we find γ_4 to be significant, we can suggest that SP processes moderate the relationship between sales growth and the use of an external accountant. The degree to which this is true is determined by the magnitude of γ_4, which measures the sales growth difference from the low SP case, captured by γ_3.

As with model (3), to assess the relationship between sales growth and the advisor embeddedness, we decompose the External Accountant variable in model (5) by degree of embeddedness, as per the following equation:

$$(7) \quad SalesGrowth_{i,t+1} = \delta_{1j} + \delta_{2j}HighEmb_{i,t} + \delta_{3j}LowEmb_{i,t} + \delta_{4j}\theta_{i,t} + e_{i,t}.$$

Where the difference between model (5) and (7) is the distinction between high and low advisor embeddedness; thus for H4a to be supported, we expect the δ_2 and δ_3 coefficients to be significant. As with our previous specifications, we also test if the effects in (7) are moderated by SP, as per the following fully interacted model:

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unobserved omitted variable, which would deem the estimates of Model (3) and (4) biased. By lagging the dependent variable we avoid any such issues.

[6] The control variables include this year sales growth, debt to asset ratio, size (log of total assets), age, R&D intensity, and eleven industry dummy variables.

$$(8) \quad SalesGrowth_{i,t+1} = \ \varepsilon_1 + \varepsilon_2 SP_{i.t} + \varepsilon_3 HighEmb_{i,t} + \varepsilon_4 SP * HighEmb_{i,t} +$$

$$\varepsilon_5 LowEmb_{i,t} + \varepsilon_6 SP * LowEmb_{i,t} + \ \varepsilon_{7j}\theta_{i,t} + \ \varepsilon_8 SP * \theta_{i,t} + e_{i,t}$$

Where ε_4 and ε_6, respectively, capture the differences, between the low and high SP groups, which embed their accountant at a high or low level.

Results

Descriptive statistics

The descriptive statistics for the various subgroups can be seen in Table 2. Out of 2004 family firms, 662, or 33 percent, were considered to have a high level of SP processes, and 1342, or 67 percent, had low levels of SP processes in place. This is not surprising, as we would expect most family SMEs to be relatively informal in terms of their SP processes.

[Insert Table 2 here]

Comparing the two subgroups of family firms, Table 2 illustrates that family firms that have a high level of SP processes tend to be larger, both in terms of average total assets and number of employees, and slightly older than their counterparts.

Table 2 also shows that an overwhelming majority of family SMEs utilise an external accountant. Specifically, of all family SMEs, nearly 89 percent have utilised an external accountant. This figure is significantly greater for family firms that have a high level of SP processes, of which nearly 95 percent utilised an external accountant. In contrast, 86 percent of family firms that have a low level of SP processes in place utilised an external accountant. Of those firms that utilised an external accountant, high SP firms had much more frequent access than informal firms. In fact, among high SP firms that used an external accountant, 70 percent did so with high frequency, compared to 53 percent for low SP firms which used an external accountant.

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Regarding our measure of survivability, the SP variable itself does not seem to significantly impact the risk of failure, since we observe failure rates of around 10 percent, holding relatively constant across all subgroups. However, low SP family firms do tend to fail slightly more so than high SP family firms. Looking to other measures of performance, high SP family firms on average have higher annual sales growth rates, and paradoxically lower asset utilisation and net profit margin; however, Table 2 does not indicate how SP processes, in conjunction with the embeddedness of an external accountant, would influence the firm's survivability and sales growth. These relationships are tested and discussed in the next section.

Further to our discussion, how the variables listed in Table 2 are interrelated is also of interest. As a result, Table 3 presents the Pearson's correlations among our variables used in this study.

[Insert Table 3 here]

Focusing our discussion on variables that are significantly correlated, we can see that our dependent variables are significantly correlated with the use of an external accountant in the direction consistent with our hypotheses. Table 3 shows that the use of an external accountant, in its primary or decomposed form, is correlated with other independent control variables. Further, although the magnitudes of the correlations themselves are not large, we also find significant correlations among our control variables. For this reason, we are aware of the potential problem of multicollinearity in our specified regression models, and in the next section report the variance inflation factors (VIF) associated with each variable to further test if multicollinearity is biasing our estimates.

Hypotheses testing

We begin our hypotheses testing by reporting the results for the hypotheses relating to family firm survival (H2, H3b, H4b) and follow by reporting the results for the hypotheses relating to family firm sales growth (H1, H3a, H4a). As seen in Table 2, high SP firms on average utilise external accountants more so than low SP firms do. Whether this enhances their survivability can be seen in Table 4, where the estimates of Models (1) and (3) are reported.

[Insert Table 4 here]

The negative and significant coefficient related to the use of an external accountant in the first column of Table 4 reveals that, in terms of survivability, the utilisation of an external accountant will decrease the likelihood of failure for all family firms. Moving to the second column, where this use is decomposed into high and low embeddedness, we find that only a highly embedded external accountant provides a significant reduction in the risk of failure; though it is worth noting that the direction of the coefficient estimated for low embeddedness is still negative. This result confirms H2 in that there is a positive relationship between external accountant usage and firm survival.

Interestingly, when the sample is split into firms which engage in high and low levels of SP processes, only the family firms with low levels of SP processes receive the benefit of the reduced likelihood of failure provided by the use of an external accountant - see column 5. Again, this benefit only pertains to accountants who are highly embedded - see column 6. On the other hand, both the main effect as well as the high and low embeddedness of an external accountant does not significantly drive the high SP firm's risk of failure - see columns 3 and 4[7]. The potential reasons for this interesting result are discussed in the next section; however,

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[7] These results remain after correcting for an abnormal error distribution by bootstrapping our standard errors shown in the appendix, Table A1 in the appendix. Also seen in Table A1 are the associated variance inflation factors, which show that multicollinearity is not a significant problem, as none of the VIF value are beyond the commonly used threshold of 5 (Stevens, 2001).

at this point it is suffice to say that strategic planning processes are important to the relationship between external accountant usage and firm survival; however, to officially test H3b, we estimate the full interaction estimates for models (2) and (4), which are presented in Table 5.

[Insert Table 5]

Considering model (2), The 'Ext Acct' coefficient in column 1 of Table 5 confirms that low SP firms receive the survival benefits associated with the use of an external accountant. However, although the magnitude of the coefficients are consistent with our sub-sample estimates, we cannot claim that SP moderates the relationship between external accountant usage and firm survival as the coefficient associated with 'Ext Acct * SP in column 1 is non-significant. In other words, we reject H3b and conclude that firms that engage in high and low SP receive the same benefit, in terms of reduced risk of failure, when utilising an external accountant.

Also seen in column 2 of Table 5 are the estimates associated with model (4). Here we find similar results in that firms that engage in low SP which utilise a highly embedded external accountant receive significant survival benefits, supporting H4b. For example, when the use of an external accountant is significant in the determination of firm survival, the degree of embeddedness is also important to the relationship. More specifically, only highly embedded accountants will yield the benefits in terms of survivability. With that said, as with model (2), we cannot claim that SP processes moderate this relationship.

Other interesting results depicted in Table 4 and 5 are the negative and significant coefficients related to net profit margin across all samples regardless of level of SP or degree of embeddedness. This is an intuitive result, as the firms that are better at managing their expenses have a lower likelihood of failure. It appears that SP processes also matter in terms

of the relationship between firm age, size, and firm survival, as older firms that engage in a high level of SP processes are less likely to fail; however, this is not so for older firms that engage in a low level of SP processes. In terms of size, measured as the log of total assets, we find that only firms that engage in a low level of SP processes significantly reduce their risk of failure when they grow larger.

Moving on to the potential relationship between the use of an external accountant and sales growth, Table 6 depicts the estimated coefficients of Models 5 and 7.

[Insert Table 6 here]

The results shown in Table 6 portray a very different role of SP processes, the embeddedness of an external accountant, and sales growth relative to Table 4. Here we find that only highly embedded external accountants will improve sales growth for all family firms - see column 2. This to some extent substantiates H1, however, only firms that engage in high level of SP processes will receive such benefits - see columns 3 and 4. Although the high and low embeddedness coefficients seen in column 4 are both significant, the magnitude of the coefficient relating to high embeddedness is greater than the estimated coefficient related to low embeddedness. Further, we also find some support for H4a when observing all family firms, seen in column 2. Again, the role of SP processes is seemingly important, as we can see that family firms that engage in low level of SP processes do not receive any sales growth benefits from utilising an external accountant regardless of embeddedness of use - see columns 5 and 6[8]. This reinforces the importance of the role that SP processes play in the relationship between sales growth and the use of an external accountant, however to test H3a, we estimate models (6) and (8) and present these in Table 7.

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[8] These results remain after correcting for an abnormal error distribution by bootstrapping our standard errors shown in the appendix, Table A2 in the appendix. Also seen in Table A2 are the associated variance inflation factors, which show that multicollinearity is not a significant problem, as none of the VIF value are beyond the commonly used threshold of 5 (Stevens, 2001).

[Insert Table 7 here]

Contrary to our findings in Table 5, regarding the association between the use of an external accountant and the firm's sales growth, SP processes do significantly moderate the relationship in a positive direction, as seen by the positive and significant 'Ext Acct * SP' coefficient in column 1 of Table 7. Looking to column 2, we can see that this moderating effect is for family firms that engage in high levels of SP processes that highly embed their accountant. These findings substantiate H3a.

Looking to some of the control variables included in Tables 6 and 7, it seems that research and development intensity is highly significant for firms that engage in low level of SP processes. That is, all things being equal, as these firms increase expenditure on research and development, sales growth increases. Further evidence of the importance of SP processes is seen when looking to the age coefficient in Table 6. Specifically, as firms that engage in low levels of SP processes age, sales growth diminishes.

The polarized results depicted in Tables 4 and 5 with Tables 6 and 7 may be capturing the differences along the spectrum of outcomes for family SMEs dependent on their degree of SP processes. That is, an external accountant will primarily be useful in improving sales growth for firms that engage in high levels of SP processes. Whereas, for firms that engage in low levels of SP processes, an accountant will be useful in enhancing survivability; thus the use of an external accountant may serve very different purposes across the SP construct. These implications and a general discussion are provided in the next section.

Discussion and Conclusion

In this paper we explored the relationship between external accountant usage and family firm sales growth and survival. We find that the use of an external accountant has the

potential to improve the sales growth and survival of family firms. This is in line with the RBV, which suggests that a firm may potentially fill an internal resource gap by using an external advisor. However, in this paper we show that simply hiring an external accountant in and of itself does not necessarily fill the internal resource gap, as we find that SP processes enhances the sales growth benefit. Further, we find that a highly embedded advisor is a necessary condition for both sales growth and survival benefits.

With respect to the role of SP processes in family firms, our results show that they strengthen the positive effect that external accountants have on sales growth. However, we find that the issue of SP processes is more complex than we hypothesize. For example, our results show that when it comes to survival, all firms benefit from external accountant usage no matter the level of SP processes in place. Although not adhering to our proposed hypotheses, the unexpected result can perhaps be explained by the contrasting needs of family firms based on the stages of their life-cycle (Klepper, 1996). In this study we find that family firms that are characterised by low levels of SP processes are younger, smaller, more leveraged, and have a higher risk of failure. These firms may require advice on matters pertinent to the survival of the firm. Whereas the role of the external accountant may be very different when advising family firms that are characterized by a high level of SP processes. We find that these firms tend to be older, larger, less leveraged, and have a lower risk of failure. Such family firms may thus require advice relating to improving their existing sales growth. This effect of SP processes provides many opportunities for future research. While the role of strategic planning in explaining financial performance has been extensively researched in the past (Schwenk & Shrader, 1993), we provide a further contribution by demonstrating how it may moderate the relationship between external advice and financial performance in family firms.

With respect to the role of advisor embeddedness in family firms, our results show that only family firms with highly embedded external accountants receive sales growth and survival benefits. From a theoretical perspective, this is important, as prior work that has utilized the RBV to explain the benefits of using external advisors has not considered the concept of embeddedness. Interestingly, our results show that embeddedness is a necessary condition to receive the benefit of an external accountant. In other words, embeddedness captures the process of internalizing the external accountant within the firm. Specifically, external accountants alone do not constitute a valuable resource, however, once embedded, they become a valuable resource and a source of competitive advantage.

In this paper we have provided three principal theoretical contributions. First, we have introduced the concept of advisor embeddedness as a potential moderating variable in the relationship between advisors and firm performance. The concept of embeddedness has strong theoretical foundations and has previously been used in the context of the RBV. Furthermore, embeddedness encompasses many of the issues that prior advisor literature has evoked with respect to the importance of the relationship between the client and the advisor. Our second contribution is the identification of specific family firm issues that may impact their need for advisors – and in particular accountants. This was done using an RBV theoretical lens. Furthermore, we have also identified how the issue of family may impact the need and importance of advisor embeddedness. Third, in this study we focused on accountants specifically, but we believe that our conceptual model can be used to explain the effects of other types of advisors including lawyers, family therapists, and family business consultants. We hope that future research uses our conceptual model to test its validity for other types of family firm advice. These three principal theoretical contributions should provide a foundation for future empirical research into the impact of external accountants and other advisors upon performance, and also into the moderating role of advisor embeddedness.

In summary, based on our results, we can conclude that external accountant usage is positively related to performance. However, this is conditional upon the firm having appropriate strategic planning processes in place, and highly embedding the accountant within the firm. Under these circumstances, we find that the usage of an external accountant is associated with an 8.1% increase in sales growth. We also find that firms that have a low level of strategic planning processes in place may benefit from using an external accountant. However, this benefit is limited to their survival rates and is again conditional upon the accountant being highly embedded within the firm. Under these circumstances, using an external accountant is associated with a 29% decrease in the probability of failure.

Our study however, has several limitations that need to be addressed in future research. First, we explore the relationship in an Australian context; this is a highly developed western economy and as such the results may not translate to developing nations. Future researchers could explore this relationship in emerging markets; this would not only be of interest to researchers, but also for government policy-makers in these markets. Second, the data that we use is based on an older Australian government survey. We would like to see future replications of this study that utilize more recent data. Furthermore, the fact that we utilized a government survey, which was not specifically developed to test our hypotheses, is another limitation. As a result, we are forced to use proxies to operationalize our theoretical constructs of interest. For example, the embeddedness of the accountant was operationalized by low and high usage of accountant advice. This naturally limits our ability to find non-linear effects in the relationship. Future research would ideally investigate this relationship in more detail and operationalize the moderating constructs more accurately. Finally, we have attempted to address simultaneous causality bias by using lagged variables in our growth and survival models. However, as we only observe accountant usage at one point in time (i.e. we

do not observe when the accountant was first used), there may still be issues with simultaneous causality. We hope that future research may further attempt to address this issue.

Despite these limitations, our results have significant practical relevance. For example, our findings suggest that it would be beneficial for family firms to retain the services of an external accountant. Furthermore, we identify how the benefits of external accountants can be maximized. This is achieved by embedding the accountant within the firm by fostering a close client-advisor relationship. In practice, embeddedness is a process that encompasses mutual collaboration, frequent consultations, and the development of trust between the advisor and the family firm. We find that this will improve both the sales growth and survivability. We find additional benefits of increasing the level of SP processes within the family firm. These include the use of strategic plans, business plans, budget forecasting, regular financial reports, and the comparison of performance with other businesses. Such activities may effectively provide a path for the firm to move beyond simply surviving and towards sales growth. This is a critical issue for family firms, as Ward (2011) finds that only 30 percent of family firms survive to the second generation. Based on our findings we believe that perhaps external accountants hold the key to increasing the survival rates of family firms.

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Figure 1

Theoretical model presented in the hypotheses development
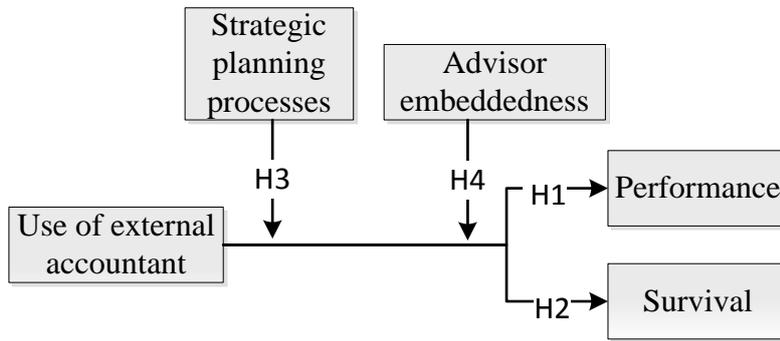
Table 1

Operationalization of BLS data

Concept	Variable	Operationalization
Use of an external Accountant	Ext Acct	Dummy variable equating to 1 of the firm utilised an external accountant, and 0 otherwise.
High embeddedness	HighEmb	Dummy variable equating to 1 if the firm utilised an accountant more than 3 times during the year, and 0 otherwise.
Low embeddedness	LowEmb	Dummy variable equating to 1 if the firm utilised an accountant 1 to 3 times during the year, and 0 otherwise.
Strategic planning (SP) processes	Subsample *j* - Low SP - High SP	An index (between 0 and 1) was created via equal weighting of responses to the following yes or no questions. *Does the business use any of the following business practices…* *- A documented formal strategic plan?* *- A formal business plan?* *- Budget forecasting?* *- Regular income/expenditure reports?* *- Comparison of performance with other businesses?* Those firms which scored less than or equal to 0.5 were place in the 'low SP' subgroup and those firms scoring greater than 0.5 were placed in the 'high SP' subgroup.
Survivability	Exit	Dummy variable equating to 1 if the firm failed in either 1 or 2 years following the use of an external accountant.
Growth	Sales growth	Continuous variable measured as $(Sales_{t+1} - Sales_t)/Sales_t$
Asset efficiency	Asset utilisation	Continuous variable measured as $Sales_t/Total\ Assets_t$
Expense management	Net profit margin	Continuous variable measured as $Net\ Profit_t/Sales_t$

Table 2
Descriptive statistics on various subgroups[a]

	n=2004	n=662	n=1342
	All Family Firms	High SP	Low SP
Use of an external Accountant			
Yes	88.87%	94.41%	86.14%
No	11.13%	5.59%	13.86%
Embeddedness			
High	59.07%	70.24%	53.03%
Low	40.93%	29.76%	46.97%
Survival to the end period			
Yes	89.42%	89.88%	89.20%
No	10.58%	10.12%	10.80%
Growth			
Average annual sales growth	5.50%	6.14%	5.18%
Firm Age			
Less than 2 years old	1.55%	1.51%	1.56%
2 years to less than 5 years old	13.92%	11.93%	14.90%
5 years to less than 10 years old	28.44%	27.79%	28.76%
10 years to less than 20 years old	29.49%	30.06%	29.21%
20 or more years old	26.60%	28.70%	25.56%
Firm Size			
Average total assets	$2,428,008.98	$4,363,874.62	$1,473,058.87
Average total employees[b]	20	31	15
Other Characteristics			
Average asset utilisation	3.30	3.20	3.35
Average net profit margin	5.91%	4.50%	6.61%
Average debt ratio	78.28%	76.35%	79.23%
Average R&D intensity[c]	0.40%	0.76%	0.23%
Industry			
Mining	0.40%	0.45%	0.37%
Manufacturing	41.32%	43.81%	40.09%
Construction	7.68%	4.83%	9.09%
Wholesale trade	16.17%	18.28%	15.13%
Retail trade	12.87%	13.90%	12.37%
Accommodation, cafes & restaurants	3.54%	2.57%	4.02%
Transport & storage	3.84%	2.87%	4.32%
Finance & insurance	2.00%	2.42%	1.79%
Property & business services	8.98%	7.70%	9.61%
Cultural & recreational services	0.95%	1.36%	0.75%
Personal & other services	2.25%	1.81%	2.46%

[a]*All variables measured in time period t, except for performance variables, which are measured in time period t+1. All continuous variables are winsorized at the 1st and 99th percentile*

[b]*Total employees measured in number full time equivalent employees (i.e 1 part-time employee = 0.46 full time employee)*

[c]*R&D intensity measured as R&D expenditure as a proportion of total sales*

Table 3: Pearson's correlations between variables

	Sales growth$_{t+1}$	Exit in 1 or 2 years	External Accountant	HighEmb	LowEmb	Sales growth$_t$	Net profit margin	Asset utilisation	Debt ratio	Log of total assets	Age	R&D intensity
Sales growth$_{t+1}$	1.000											
	-											
Exit in 1 or 2 years	-0.059***	1.000										
	(-3.660)	-										
External Accountant	0.037**	-0.095***	1.000									
	(2.281)	(-5.895)	-									
HighEmb	0.011	-0.060***	0.441***	1.000								
	(0.710)	(-3.697)	(30.400)	-								
LowEmb	0.017	-0.013	0.334***	-0.698***	1.000							
	(1.072)	(-0.804)	(21.897)	(-60.298)	-							
Sales growth$_t$	-0.020	0.018	0.047***	0.021	0.015	1.000						
	(-1.205)	(1.138)	(2.902)	(1.322)	(0.923)	-						
Net profit margin	0.008	-0.015	-0.073***	-0.074***	0.019	0.116***	1.000					
	(0.523)	(-0.950)	(-4.536)	(-4.580)	(1.190)	(7.217)	-					
Asset utilisation	-0.021	0.014	-0.024	-0.047***	0.031*	0.028*	-0.045***	1.000				
	(-1.294)	(0.882)	(-1.487)	(-2.928)	(1.888)	(1.705)	(-2.764)	-				
Debt ratio	0.023	-0.009	0.001	-0.012	0.013	-0.013	-0.159***	0.262***	1.000			
	(1.448)	(-0.580)	(0.037)	(-0.763)	(0.831)	(-0.819)	(-9.974)	(16.784)	-			
Log of total assets	-0.037**	-0.034**	0.062***	0.220***	-0.182***	-0.011	-0.023	-0.402***	-0.130***	1.000		
	(-2.268)	(-2.114)	(3.819)	(13.966)	(-11.462)	(-0.699)	(-1.419)	(-27.136)	(-8.133)	-		
Age	-0.042***	-0.068***	0.013	0.075***	-0.068***	-0.104***	0.014	-0.139***	-0.038**	0.279***	1.000	
	(-2.600)	(-4.210)	(0.806)	(4.618)	(-4.204)	(-6.469)	(0.882)	(-8.688)	(-2.346)	(17.935)	-	
R&D intensity	0.020	-0.025	0.051***	0.030*	0.009	0.010	-0.065***	-0.040**	0.003	0.047***	-0.029*	1.000
	(1.243)	(-1.527)	(3.147)	(1.862)	(0.552)	(0.639)	(-4.051)	(-2.495)	(0.194)	(2.919)	(-1.816)	-

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. T-statistics are reported in parentheses.*

Table 4: Survivability and the use of an external accountant

Dependent variable = Exit in 1 or 2 years

	All Family Firms		High SP subgroup		Low SP subgroup	
	Model (1)	Model (3)	Model (1)	Model (3)	Model (1)	Model (3)
Constant	0.267	0.162	-0.357	-0.359	0.358	0.230
	(0.373)	(0.375)	(0.814)	(0.814)	(0.450)	(0.456)
External Acct	-0.217*	-	-0.038	-	-0.224*	-
	(0.114)	-	(0.298)	-	(0.125)	-
HighEmb	-	-0.272**	-	-0.039	-	-0.298**
	-	(0.122)	-	(0.303)	-	(0.140)
LowEmb	-	-0.170	-	-0.036	-	-0.177
	-	(0.120)	-	(0.314)	-	(0.132)
Net profit margin	-0.903***	-0.907***	-1.824**	-1.823**	-0.646*	-0.657*
	(0.331)	(0.331)	(0.836)	(0.831)	(0.360)	(0.360)
Asset utilisation	-0.011	-0.010	0.006	0.006	-0.015	-0.013
	(0.011)	(0.011)	(0.023)	(0.023)	(0.012)	(0.012)
Debt ratio	-0.064**	-0.006	0.004	0.099	-0.094***	-0.030
	(0.039)	(0.038)	(0.139)	(0.139)	(0.044)	(0.043)
Log of Total assets	-0.064**	-0.055**	0.004	0.004	-0.094***	-0.082**
	(0.027)	(0.027)	(0.051)	(0.052)	(0.034)	(0.035)
Age	-0.085**	-0.084**	-0.196***	-0.196***	-0.043	-0.042
	(0.038)	(0.039)	(0.069)	(0.069)	(0.047)	(0.047)
R&D intensity	-0.697	-0.685	-0.422	-0.422	-6.007	-6.068
	(1.429)	(1.427)	(1.169)	(1.169)	(5.582)	(5.684)
N	2004	2004	662	662	1342	1342
McFadden R^2	0.037	0.038	0.072	0.068	0.046	0.048

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. Robust standard errors are reported in parentheses. Industry variables were included as controls, but not reported in for the sake of brevity.*

Table 5: Full interaction Probit estimates

Dependent variable = Exit in 1 or 2 years

	Model (2)	Model (4)
Constant	0.058	-0.080
	(0.717)	(0.710)
SP	-0.219	-0.086
	(1.078)	(1.074)
Ext Acct	-0.220*	-
	(0.125)	-
Ext Acct * SP	0.183	-
	(0.323)	-
HighEmb	-	-0.294**
	-	(0.141)
HighEmb* SP	-	0.255
	-	(0.334)
LowEmb	-	-0.172
	-	(0.132)
LowEmb* SP	-	0.139
	-	(0.340)
Net profit margin	-0.651*	-0.662*
	(0.360)	(0.360)
Net profit margin * SP	-1.204	-1.190
	(0.910)	(0.906)
Asset utilisation	-0.014	-0.013
	(0.012)	(0.012)
Asset utilisation * SP	0.021	0.020
	(0.026)	(0.026)
Debt ratio	-0.032	-0.031
	(0.044)	(0.043)
Debt ratio * SP	0.122	0.120
	(0.061)	(0.147)
Log of total assets	-0.093***	-0.082**
	(0.034)	(0.035)
Log of total assets * SP	0.095	0.084
	(0.061)	(0.062)
Age	-0.043	-0.042
	(0.047)	(0.047)
Age * SP	-0.149*	-0.150*
	(0.083)	(0.083)
R&D intensity	-6.018	-6.080
	(5.592)	(5.695)
R&D intensity * SP	5.591	5.653
	(5.713)	(5.814)
N	2004	2004
McFadden R^2	0.054	0.055

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. Robust standard errors are reported in parentheses. Industry variables and interactions were included as controls, but not reported for the sake of brevity.*

Table 6: Growth and the use of an external accountant

Dependent variable = Sales growth$_{t+1}$

	All Family Firms		High SP subgroup		Low SP subgroup	
	Model (5)	Model (7)	Model (5)	Model (7)	Model (5)	Model (7)
Constant	0.059	0.069	0.113	0.123	0.07	0.072
	(0.076)	(0.078)	(0.164)	(0.165)	(0.093)	(0.097)
External Acct	0.034	-	0.094***	-	0.019	-
	(0.023)	-	(0.034)	-	(0.027)	-
HighEmb	-	0.04*	-	0.101***	-	0.02
	-	(0.024)	-	(0.036)	-	(0.03)
LowEmb	-	0.029	-	0.079**	-	0.018
	-	(0.024)	-	(0.036)	-	(0.028)
Sales growth$_t$	-0.011	-0.011	-0.025	-0.024	-0.007	-0.008
	(0.019)	(0.019)	(0.031)	(0.03)	(0.024)	(0.024)
Debt ratio	0.006	0.006	-0.038	-0.037	0.012	0.012
	(0.017)	(0.017)	(0.024)	(0.024)	(0.018)	(0.018)
Log of Total assets	0.006	-0.001	-0.038	-0.012	0.012	0.001
	(0.005)	(0.006)	(0.012)	(0.012)	(0.006)	(0.007)
Age	-0.013	-0.013	0	0	-0.019*	-0.019*
	(0.008)	(0.008)	(0.016)	(0.015)	(0.01)	(0.01)
R&D intensity	0.075	0.071	-0.196	-0.208	0.777***	0.778***
	(0.246)	(0.247)	(0.304)	(0.307)	(0.297)	(0.298)
N	1910	1910	633	633	1277	1277
R^2	0.01	0.01	0.027	0.028	0.012	0.012
Adjusted R^2	0.002	0.002	0.003	0.003	0.000	-0.001

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. Robust standard errors are reported in parentheses. Industry variables were included as controls, but not reported for the sake of brevity. Models (5) and (7) were subject to a slightly smaller sample size than models (1) and (3) due to the fact that 94 firms failed in time period t+1.*

Table 7: Full interaction OLS estimates

Dependent variable = Sales growth $_{t+1}$

	Model (6)	Model (8)
Constant	0.100	0.092
	(0.132)	(0.141)
SP	0.084	0.115
	(0.207)	(0.219)
Ext Acct	0.019	-
	(0.027)	-
Ext Acct * SP	0.076*	-
	(0.043)	-
HighEmb	-	0.020
	-	(0.030)
HighEmb * SP	-	0.081*
	-	(0.046)
LowEmb	-	0.018
	-	(0.028)
LowEmb * SP	-	0.062
	-	(0.046)
Sales growth$_t$	-0.008	-0.008
	(0.024)	(0.024)
Sales growth$_t$ * SP	-0.020	-0.019
	(0.039)	(0.039)
Debt ratio	0.013	0.012
	(0.018)	(0.018)
Debt ratio * SP	-0.054*	-0.054*
	(0.030)	(0.030)
Log of total assets	0.002	0.002
	(0.007)	(0.007)
Log of total assets * SP	-0.014	-0.014
	(0.014)	(0.014)
Age	-0.020*	-0.020*
	(0.010)	(0.010)
Age * SP	0.019	0.020
	(0.018)	(0.018)
R&D intensity	0.778***	0.779***
	(0.298)	(0.299)
R&D intensity * SP	-0.972**	-0.984**
	(0.425)	(0.428)
N	1910	1910
R^2	0.017	0.017
Adj R^2	0.000	-0.001

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. Robust standard errors are reported in parentheses. Industry variables and interactions were included as controls, but not reported in for the sake of brevity. Models (6) and (8) were subject to a slightly smaller sample size than models (2) and (4) due to the fact that 94 firms failed in time period t+1.*

Table A1: Probit estimations with bootstrapped standard errors and variance inflation factor (VIF)

Dependent variable = Exit in 1 or 2 years

	All Family Firms				High SP subgroup				Low SP subgroup			
	Model (1)	VIF	Model (3)	VIF	Model (1)	VIF	Model (3)	VIF	Model (1)	VIF	Model (3)	VIF
Constant	0.267	-	0.162		-0.357	-	-0.359	-	0.358	-	0.230	-
	(0.392)	-	(0.395)		(1.098)	-	(1.417)	-	(0.516)	-	(0.472)	-
External Acct	-0.217*	1.06	-	-	-0.038	1.02	-	-	-0.224*	1.07	-	-
	(0.120)	-	-	-	(0.335)	-	-	-	(0.133)	-	-	-
HighEmb	-	-	-0.272**	3.01	-	-	-0.039	4.45	-	-	-0.298**	2.65
	-	-	(0.124)	-	-	-	(0.782)	-	-	-	(0.147)	-
LowEmb	-	-	-0.170	2.77	-	-	-0.036	4.42	-	-	-0.177	2.39
	-	-	(0.130)	-	-	-	(0.796)	-	-	-	(0.141)	-
Net profit margin	-0.903***	1.12	-0.907***	1.12	-1.824**	1.15	-1.823**	1.15	-0.646*	1.12	-0.657*	1.13
	(0.333)	-	(0.344)	-	(0.905)	-	(0.930)	-	(0.366)	-	(0.392)	-
Asset utilisation	-0.011	1.28	-0.010	1.29	0.006	1.36	0.006	1.36	-0.015	1.29	-0.013	1.29
	(0.012)	-	(0.012)	-	(0.031)	-	(0.034)	-	(0.014)	-	(0.013)	-
Debt ratio	-0.064**	1.13	-0.006	1.13	0.004	1.21	0.099	1.21	-0.094***	1.13	-0.030	1.13
	(0.049)	-	(0.047)	-	(0.153)	-	(0.173)	-	(0.057)	-	(0.056)	-
Log of Total assets	-0.064**	1.57	-0.055*	1.71	0.004	1.56	0.004	1.60	-0.094***	1.6	-0.082**	1.75
	(0.027)	-	(0.028)	-	(0.054)	-	(0.057)	-	(0.034)	-	(0.036)	-
Age	-0.085**	1.18	-0.084**	1.18	-0.196***	1.23	-0.196***	1.23	-0.043	1.18	-0.042	1.18
	(0.040)	-	(0.038)	-	(0.077)	-	(0.074)	-	(0.048)	-	(0.049)	-
R&D intensity	-0.697	1.02	-0.685	1.02	-0.422	1.03	-0.422	1.03	-6.007	1.02	-6.067	1.02
	(6.687)		(5.866)		(40.774)		(46.811)		(22.641)		(17.569)	
N	2004		2004		662		662		1342		1342	
McFadden R^2	0.037		0.038		0.072		0.068		0.046		0.048	

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. Bootstrapped standard errors, using 1000 simulations, are reported in parentheses. Industry variables were included as controls, but not reported for the sake of brevity.*

Table A2: Ordinary least squares estimates with bootstrapped standard errors and variance inflation factor (VIF)

Dependent variable = Sales growth$_{t+1}$

	All Family Firms				High SP subgroup				Low SP subgroup			
	Model (5)	VIF	Model (7)	VIF	Model (5)	VIF	Model (7)	VIF	Model (5)	VIF	Model (7)	VIF
Constant	0.059	-	0.069	-	0.113	-	0.123	-	0.07	-	0.072	-
	(0.076)		(0.078)		(0.164)		(0.165)		(0.093)		(0.097)	
External Acct	0.034	1.04	-	-	0.094***	1.02	-	-	0.019	1.04	-	-
	(0.023)		-		(0.034)		-		(0.027)		-	
HighEmb	-	-	0.04*	3.01	-	-	0.101***	-	-	-	0.02	2.64
	-		(0.024)		-		(0.036)		-		(0.03)	
LowEmb	-	-	0.029	2.81	-	-	0.079**	4.46	-	-	0.018	2.42
	-		(0.024)		-		(0.036)		-		(0.028)	
Sales growth$_t$	-0.011	1.03	-0.011	1.03	-0.025	1.05	-0.024	1.05	-0.007	1.03	-0.008	1.03
	(0.019)		(0.019)		(0.031)		(0.03)		(0.024)		(0.024)	
Debt ratio	0.006	1.05	0.006	1.05	-0.038	1.09	-0.037	1.09	0.012	1.05	0.012	1.05
	(0.017)		(0.017)		(0.024)		(0.024)		(0.018)		(0.018)	
Log of Total assets	0.006	1.37	-0.001	1.48	-0.038	1.40	-0.012	1.44	0.012	1.37	0.001	1.49
	(0.005)		(0.006)		(0.012)		(0.012)		(0.006)		(0.007)	
Age	-0.013	1.19	-0.013	1.19	0	1.25	0	1.25	-0.019*	1.19	-0.019*	1.19
	(0.008)		(0.008)		(0.016)		(0.015)		(0.01)		(0.01)	
R&D intensity	0.075	1.02	0.071	1.02	-0.196	1.04	-0.208	1.04	0.777***	1.02	0.778***	1.02
	(0.246)		(0.247)		(0.304)		(0.307)		(0.297)		(0.298)	
N	1910		1910		633		633		1277		1277	
R^2	0.01		0.01		0.027		0.028		0.012		0.012	
Adjusted R^2	0.002		0.002		0.003		0.003		0		-0.001	

*Significant at the 10% level; **significant at the 5% level; ***significant at the 1% level. Bootstrapped standard errors, using 1000 simulations, are reported in parentheses. Industry variables were included as controls, but not reported for the sake of brevity. Models (5) and (7) were subject to a slightly smaller sample size than models (1) and (3) due to the fact that 94 firms failed in time period t+1.*