STEWARDSHIP BEHAVIOUR AS GOVERNANCE IN FAMILY BUSINESSES

JUSTIN B. CRAIG
ASSOCIATE PROFESSOR OF ENTREPRENEURSHIP AND FAMILY BUSINESS
CO-DIRECTOR AUSTRALIAN CENTRE FOR FAMILY BUSINESS
SCHOOL OF BUSINESS
BOND UNIVERSITY
TEL: +61 7 55951161
FAX: +61 7 55951160
JCRAIG@STAFF.BOND.EDU.AU

CLAY DIBRELL
ASSOCIATE PROFESSOR OF ENTREPRENEURSHIP AND STRATEGY
COLLEGE OF BUSINESS
OREGON STATE UNIVERSITY
TEL: +541 737-4110
FAX: +541 737-5388
DIBRELLC@BUS.OREGONSTATE.EDU

DONALD O. NEUBAUM
ASSISTANT PROFESSOR OF ENTREPRENEURSHIP AND STRATEGY
COLLEGE OF BUSINESS
OREGON STATE UNIVERSITY
TEL: +541 737-6036
FAX: +541 737-5388
DON.NEUBAUM@BUS.OREGONSTATE.EDU

Abstract

To demonstrate the potential of stewardship behavior in the governance of family businesses, we introduce a statistically valid and reliable measure that captures the degree to which family leaders act to engender stewardship governance in their family’s firm. Demonstrating nomological validity of our measure through significantly positive relationships with innovativeness and firm performance further links our scale to entrepreneurial behaviors. We discuss the contribution of our research for practitioners and scholars.
STEWARDSHIP BEHAVIOUR AS GOVERNANCE IN FAMILY BUSINESSES

Introduction

Family businesses dominate all economies. Interest in the challenges facing family business leaders and their advisors has increased in recent times. That many family business leaders are intrinsically motivated by higher level needs to act for the collective good of their firms motivates this research. We suggest these decision makers will design their organizations in order to elicit stewardship behaviors. The collective behavior that is a signature of stewardship, we argue, gives rise to stewardship being an effective governance form. More specifically, family business leaders will benefit when they demonstrate commitment to making a significant contribution to an organization’s mission, longevity, and stakeholders, more so than their economic self-interest (Davis et al., 1997; Davis et al., 2000).

How family businesses are governed influences how they perform. Though agency theory is the dominant governance paradigm (Arthurs & Busenitz, 2003; Wasserman, 2006), some scholars (e.g., Ghoshal, 2005) believe the narrow emphasis on the economic rationality of agents, which underpins agency theoretical arguments, ignores equally important non-economic motivations. According to agency theory, the interests of shareholder/ principals and agents diverge as each wishes to maximize their own personal utility and wealth. Theorists from psychology and sociology, however, challenge the purely economic motivations of agents and argue individuals possess a wide variety of motivations and desires, and their personal utility can be maximized through non-economic means (Hirsh, Michaels, & Friedman, 1987). Contemporary thinking positions stewardship theory as a complementary view of organizational
governance where the interests of principals and agents can be aligned. While interest in stewardship theory has increased considerably in recent years, no researchers have attempted to create and validate a reliable stewardship measure.

To address this gap, in this paper, we introduce a psychometric scale developed from the seminal work on stewardship theory (e.g., Davis, Schoorman, & Donaldson, 1997; Donaldson & Davis, 1989, 1991). Stewardship theory was designed “for researchers to examine situations in which executives as stewards are motivated to act in the best interests of their principals” (Davis et al., 1997, p. 24). According to these scholars, stewards gain higher utility from pro-organizational and collectivistic behaviors than economic, individualistic and self-serving behaviors. When faced with a self-serving decision versus a more cooperative, pro-organizational behavior, stewards will pursue the latter because of the higher utility they assign to such behaviors. Thus, not only are the interests of principals protected, but also the stewards own utility is maximized, which makes such decisions wholly rational. Unfortunately, the personal, intrinsic motivations of stewardship are not easily quantified.

The paper proceeds as follows. The next section presents an overview of previous literature. Then, we discuss how family business leaders can benefit by designing their firms to elicit stewardship behaviors. The methods used to develop our scale, as well as the results of the tests of our measure, are then presented. The final section discusses the implications and limitations of our research.

Previous Literature
Agency theory suggests agents for owners will exploit their access to superior information for personal gain. The information asymmetry and contradictory incentives between the parties facilitates the need to introduce governance initiatives to ensure clarity, accountability and transparency for stakeholders (Ang, Cole, & Lin, 2000; Berle & Means, 1932; Demsetz, 1988; Eisenhardt, 1989; Fama & Jensen, 1983; Jensen & Meckling, 1976). Put another way, agency theory tries to account for the inability of owners to control their agents effectively (Fox & Hamilton, 1994). Agency theory, therefore, has driven the development of systems of external control with two complementary over-arching purposes: to control agents and reduce agency costs (Dicke & Ott, 2002; Wasserman, 2006).

Controlling agents, however, is not a concern when the interests of the principal and the agent are aligned (Tosi et al., 2003). When there is goal congruence between the principal and the agent, the principal’s wealth will be maximised (Berle & Means, 1932). In agency theory, there is an assumption that both owners and their agents are individualistic, opportunistic, self-maximizing wealth seekers, with divergent goals and interests (Davis et al., 1997). Specifically, though principals and agents both seek to maximize their own welfare, principals achieve this through the wealth created by their capital investment while agents maximize their personal value vis-à-vis their position and involvement in the principal’s firm, and the economic benefits gained from this involvement (Tosi et al., 2003).

The limitations of the application of agency theoretical arguments have lead to the development of alternate explanations, one of which is stewardship theory. Stewardship theory defines relationships based upon behavioral premises not addressed by the agent-
principal interest divergence canvassed in agency theory (Donaldson & Davis, 1989, 1991). According to stewardship theory, the steward’s objectives are aligned with those of the organization (e.g., sales growth, innovation or profitability) and the utility gained through pro-organizational behavior is higher than those gained through individualistic, self-serving behavior. As such, a steward is able to maximize multiple, often conflicting, stakeholders’ interests through firm performance because, by so doing, the steward’s utility functions are maximized (Davis et al., 1997).

The most comprehensive description and explanation of stewardship theory is offered by Davis et al. (1997), a paper strongly influencing the development of our scale. Davis et al. (1997) believe corporate governance results from both psychological (“the model of man”) and situational (“the model of the organization”) contexts. Thus, the resulting governance structure of an organization has roots not only the psychological factors and motivations of the agent, but also from the organizational and cultural conditions which exist within the organization. These two contexts are inextricably intertwined, as the organizational and cultural context which exists within the firm is patterned after the executive’s psychological model of man. Thus, stewardship governance stems from the personal motivations of the agent, as well as the cultural conditions his/her leadership engenders within the organization.

**Designing Family Businesses to Elicit Stewardship Behaviors**

Davis, Schoorman, Mayer, and Tan (2000) confirm that leaders who identify with the organization and embrace its objectives are committed to make it succeed, even at personal sacrifice. By developing a strong, values-driven corporate culture through
stewardship-rooted governance initiatives, leaders are able to assemble a loyal set of talented supporters, family and non-family, who will preserve the firm’s tacit knowledge and reputation and contribute to difficult to match capabilities (Miller & Le Breton-Miller, 2006; Teece, Pisano, & Schuen, 1997; Zahra et al., 2008). Stewardship governance, and the associated accountable behavior, therefore, is likely to occur when core values converge and an internal sense of responsibility is created (Dicke & Ott, 2002). As a consequence, control-based methods can be reduced because of the likelihood that the majority will perform to expectations voluntarily.

Drawing conclusions from previous research that has attempted to position stewardship in governance terms is difficult for two reasons. First, the proxy measures created from demographic and financial data are intended to reflect individual manager behavior. Second, stewardship theory, as introduced by Davis et al. (1997), is a complex hybrid of firm and individual-level (situational and psychological) contexts. To address this, we suggest an opportunity exists to develop a stewardship governance measure of organizations by soliciting firm leaders’ individual responses to concepts introduced in seminal works. The nexus of our argument is that family business leaders who express feelings and satisfaction with the firm and its policies, which are consistent with stewardship theoretical constructs, will promote internal organizational processes that lead to empowering environments in the firms they lead. As a consequence, principals and agents will be mutually accountable, their goals and motivations will be aligned, and these stewardship-rooted behaviors will act as an effective and beneficial form of governance. Next, we present a discussion of the methods use to develop and test our measure of stewardship governance.
METHOD AND MEASURES

Stewardship

Item Generation and Expert Panel

Drawing upon accepted scale development practices (e.g., Churchill, 1979; DeVellis, 1991), we first generated 38 items based on the psychological and situational contexts of stewardship (i.e., intrinsic motivation, identification with the organisation, use of power, involvement orientation, collectivist versus individualistic culture, and power distance) from Davis et al. (1997). Specifically, from the Motivation discussion in Davis et al. (1997), we created items from statements such as: ‘In contrast, in stewardship theory, the focus is on intrinsic rewards that are not easily quantified. These rewards include opportunity for growth, achievement, affiliation, and self-actualization.’ (p. 28); from the Identification discussion, questions were developed from statements like: ‘…belief in and acceptance of the goals of the organisation…is more closely related to the notion of identification, and is an important component of the psychological profile of a steward.’ (p. 30); from the Use of Power discussion, ‘Personal power is the basis of influence in a principal-steward relationship’ (p. 31); from the Management Philosophy discussion, an example of a statement from which questions were developed is: ‘A control-orientated management philosophy is more likely to produce choices of agency theory relationships, whereas an involvement-orientated management philosophy is more likely to produce stewardship theory relationships’ (p. 34); the Culture discussion lead to items being developed from statements such as: ‘…collectivist cultures are more conducive to the emergence of stewardship relationships…individualistic cultures would...’
appear to facilitate agency relationships’ (p. 35); and under the Power Distance sub-section, the items were distilled from statements such as: ‘High power distance cultures are conducive to the development of agency relationships, because they support and legitimize the inherent inequality between principal and agent. This idea is especially true in the context of work, because the development of hierarchies, of layers of supervision (as control mechanisms), and of inequalities in rewards and status may lead the agents to ‘ideologically reject the boss’s authority completely, while in practice they will comply’ (Hofstede, 1991: 36)’, and ‘Low power distance cultures are more conducive to the development of stewardship relationships, because their members place greater value on the essential equality of the principal and the manager’ (p. 36). Whenever possible, we referred back to the original source material to construct our items (e.g., Hofstede, 1991, Porter et al., 1974).

We then recruited a panel of three entrepreneurship/family business scholars. The expert panel was provided a definition of stewardship theory and an outline of the six dimensions differentiating stewardship assumptions. For each of the 38 items, we originally generated, a 5-point Likert scale anchored from 1 (not at all) to 5 (to an extreme extent) was developed. Each item was preceded by statements asking, ‘To what extent do you see yourself as…’ or ‘To what extent does your business…’ Five of the questions were reverse coded. The panel was asked to interpret each of the 38 items and assign them to one of the six dimensions. In cases were the panel did not reach an agreement, or felt the items were redundant, we removed those items from further consideration. This process resulted in 27 items across the six dimensions of the psychological and situational contexts. Making up the three dimensions of the
psychological context were: intrinsic motivation (7 questions), identification with the organisation (4 questions), use of power (3 questions); while the three dimensions of the situational context consisted of: involvement orientation (6 questions), collectivist culture (6 questions) and power distance (1 question) (see Table 1).

---

**Exploratory Factor Analysis**

A questionnaire was sent electronically via an email to respondents in top management positions in U.S. family businesses ($n = 400$). After two follow up emails, 68 responses were received representing a response rate of 17%, which is considered slightly greater than normal response rate for top management team research (Hambrick et al., 1993). Respondents were senior representatives of family firms of various sizes from a wide range of industries. We asked our respondents to classify themselves as either a family business or a non-family business in our questionnaire. We drew upon the literature which suggests that CEOs, Managing Director or Chairman’s perception of the business being a family business is crucial to the business being considered a family business (Binder Hamlyn, 1994; Carsrud 1994; Cooper, Upton, & Seaman 2005; Dibrell & Craig, 2006; Ram & Holliday, 1993; Westhead & Cowling, 1998). Using principal component analysis with a varimax rotation, three factors emerged. As reported in Table 2, all items for the three factors, which we named *motivation*, *identification*, and *culture*, had factor loadings greater than .70, which were greater than the .50 loadings recommended by Hair et al. (1995). All factors had eigen values greater than 1 with the variance accounted for being relatively equally distributed among the dimensions. Likewise, the coefficient alphas for *motivation* (5 items; $\alpha = .87$), *identification* (3 items;
\[ \alpha = .80 \), and culture (3 items; \( \alpha = .71 \) were all above the .70 threshold suggested by Nunnally (1978). The remaining items were dropped due to high cross-loadings or un-interpretable factor structures.

---

**Validation Sample**

Consistent with the purpose of the study and to further validate the stewardship scale, we proceeded to gather additional data from executives through a mail questionnaire, following Salant and Dillman’s (1994) recommended approach. Other scholars (e.g., Powell, 1996) have suggested that many of the extant studies have stronger industry effects than imagined. We wished to control for these effects in our exploratory analysis for our validation study and chose to focus on only one industry, the food processing industry. A list of 4,341 firms participating in the U.S. food processing industry was acquired from Dun and Bradstreet. The food processing industry was chosen for the sample context because of the large number of firms and the wide variance in the size, scale and types of firms participating within the industry. Firms involved in food processing are often suggested to have a long-term approach as their product is for human consumption. Out of the 4,341 potential respondent firms, 461 were removed for reasons such as incorrect addresses or firm policies against responding to mail surveys. After conducting two waves of mailing surveys, a total of 360 responses were collected for a response rate of 9.3%. To test for non-response bias, we tested for differences between early and late respondents (Kanuk & Berenson, 1975) and did not find any statistical differences in the number of employees or firm age.
Since our goal was to develop a firm level measure of stewardship in family firms, an additional 115 firms were eliminated from the sample as these firms indicated that they were non-family firms, resulting in a sample of 245 family businesses. Likewise, we only included responses from CEOs (n = 154) or owners (n = 38). The remaining respondents were removed from the analysis. We sampled CEOs and owners because these individuals are likely to be most aware of stewardship-related issues. While the issues facing principals (our owner respondents) and agents (our CEO respondents) may vary, we believe the inclusion from both sets of respondents is appropriate. Since our primary purpose was to rely on the respondents to create a psychometrically valid and reliable stewardship scale (i.e., convergent, discriminant and nomological validations), as opposed to testing hypothesized relationships, the inclusion of both types of responses does not negatively impact our results. This belief was supported as responses provided by the owners and CEOs did not significantly differ. The size of the responding firms ranged from under five employees (n = 31) to greater than 500 employees (n = 7) with the average firm in the sample having between 10 and 49 employees (n = 95). The firms’ ages ranged from 3 years (n = 5), to the higher ages groups of 15 to 29 years (n = 55) and greater than 30 years (n = 107). Descriptive statistics and corresponding coefficient alphas are presented in Table 3.

As common method variance is a concern in the use of mail surveys, the method suggested by Harman (1967) was used. A factor analysis of all the items employed in the study was conducted. If only one factor emerged, then this would suggest the potential for common method bias. The factor analysis produced three factors, with the first factor accounting for 37% of the 67% explained variance (Podsakoff & Organ, 1986). This
finding suggests common method bias is not a significant problem and should not influence the results.

There is potential for confounding biases to emerge in the data when using single respondents. In order to test for the prevalence of these biases, we attempted to check the responses of our participants against an archival data source. To alleviate these concerns, we drew upon recommendations by Feltham, Feltham, and Barnett (2005) by testing single respondent answers to items to a broader population. If the results infer that the single respondents from our sample are significantly different than the answers to the same questions in the national survey, then there would be a higher probability of single respondent biases in our sample. We tested three items that were collected during data collection but unrelated to this study and compared these responses to the same responses from a national archival data source. Specifically, we asked respondents to classify “to what extent your family has influence on your business”; “your family members share similar values”; and “we agree with the family business goals, plans and policies”. We then tested these three items against the same three items which were collected in the publicly available 2002 Massachusetts Mutual Data (n = 1,104) survey of US family businesses. Using independent sample t-tests, there were no significant differences between the responses from our sample and the 2002 Massachusetts Mutual survey responses. This finding suggests that the single respondents in our sample are answering within the norms of the broader U.S. family business population and that the biases associated with single respondents are mitigated.

__Insert Table 3 about here__

**Confirmatory Factor Analysis**
The reported coefficient alphas range for the three factors of motivation, identification, and culture were $\alpha = 0.86, 0.81,$ and $0.64,$ respectively, which are above the $0.60$ range for exploratory research (Nunnally, 1978). Furthermore, the composite reliability scores for the three different factors were $0.86, 0.82,$ and $0.65,$ respectively, as reported in Table 4 (Baumgartner & Homburg, 1996, Fornell & Larcker, 1981).

A confirmatory factor analysis was conducted on results from the exploratory analysis pilot test factor structure to test for the invariance of the factor structures across samples. One item, ‘someone who is involved-oriented,’ was removed as it was deemed to capture an individual respondent’s propensity for stewardship rather than the desired stewardship governance constructs of stewardship motivation, stewardship identification, and stewardship culture. Employing a two-phase confirmatory factor analysis approach (Anderson & Gerbing, 1988), the reflective measures of the latent factors were first tested. The results from the analysis, as found in Table 4, showed each indicator had a standardized and significant factor loading ranging from $0.43$ to $0.90$ on their respective latent constructs.

Next, a series of sequential chi-square models were tested including a constrained three factor model and the unconstrained three factor model. For the constrained three factor model, the respective covariance relationships among the three latent factors were set to $1.$ For the unconstrained three factor model, the latent factors were allowed to covary. The unconstrained three factor model ($\chi^2 = 97.22; d.f. = 44; p = 0.0$) demonstrated the best overall model fit and was significantly better than the constrained...
factor model ($\chi^2 = 379.41; \text{d.f.} = 41; p = 0.0$) based on the examination of chi-square differences ($\Delta \chi^2 = 282.19; \text{d.f.} = 3; p < 0.05$).

To test for convergent and discriminant validities, we drew from the approach recommended by Bagozzi et al. (1991). A review of the items loading on the three factors is suggestive of convergent validity, as all items loaded at .43 or greater and had statistically significant $t$-values ($p < .05$). To test for discriminant validity, the average variance extracted (AVE) was calculated for each construct. The AVE indicates the amount of variance which can be explained through the different factors and should be 0.50 or greater (Fornell & Larcker, 1981). The AVE results for the three different factors are reported in table 4. Likewise, if the AVE is greater than the square of intercorrelations among the different constructs, then the constructs illustrate discriminant validity. None of the squared intercorrelations were greater than the reported AVEs, indicating the three different factors demonstrated discriminant validity. Thus, based on these results, the three constructs demonstrated convergent and discriminant validities.

**Establishing Nomological Validity**

To establish nomological validity, we drew inspiration from Corbetta and Salvato (2004) who confirm that organisational outcomes such as innovativeness and financial performance increase as stewardship behaviours flourish.

**Innovativeness**

Innovativeness is a staple dimension used in distinguishing a firm’s entrepreneurial orientation (e.g., Covin & Slevin, 1989; Lumpkin & Dess, 1996; Miller & Friesen, 1982). Innovativeness is typically defined as product innovation or process innovation. Product innovation refers to the changes made to the existing products of the
organization or the new and breakthrough products that the organization produces while process innovation refers to the changes made in the processes or technologies used by the organization to deliver its products or services (Garcia & Calantone, 2002).

Innovativeness has further been defined as “the willingness to place strong emphasis on research and development, new products, new services, improved product lines, and general technological improvement in the industry” (Slevin & Covin, 1990: 43).

Innovations vary in complexity and can range from minor changes to existing products, processes or services to breakthrough products, processes or services that introduce first-time features or exceptional performance. Put simply, innovativeness can be described as the process by which new products or new methods of production are introduced (Baumol & Blinder, 2000). Product and process innovations allow firms to compete aggressively, renew operations, create new revenue streams and improve shareholders' value (Hitt et al., 1994).

**Linking Stewardship to Innovativeness and Firm Performance**

To link the developed stewardship constructs to innovativeness and firm performance in our family firm context, we first correlated the three stewardship factors with firm innovation (i.e., a four-item scale measuring the emphasis a firm places on product and process innovations) (Dibrell & Craig, 2006) and firm financial performance (i.e., a two-item scale capturing total sales growth and return on total assets relative to other industry competitors) (Matsuno et al., 2002; Zahra et al., 2000). For firm innovation, *stewardship motivation* ($r = 0.15; p < 0.05$; two-tailed test), *stewardship identification* ($r = 0.11; p < 0.10$; two-tailed test), and *stewardship culture* ($r = 0.36; p <
0.01; two-tailed test) demonstrated positive associations. Comparably, the three factors, namely *stewardship motivation* \((r = 0.28; p < 0.01; \text{two-tailed test})\), *stewardship identification* \((r = 0.14; p < 0.05; \text{two-tailed test})\), and *stewardship culture* \((r = 0.37; p < 0.01; \text{two-tailed test})\), were positively correlated with firm financial performance.

Given these results, we proceeded to conduct a series of linear regression equations where the respective stewardship factors were regressed on firm innovation and firm financial performance. For innovation, *stewardship culture* demonstrated the greatest strength \((b = 0.36; p < 0.001; \text{two-tailed test}; R^2 = 0.129)\), followed by *stewardship identification* \((b = 0.18; p < 0.05; \text{two-tailed test}; R^2 = 0.032)\) and *stewardship motivation* \((b = 0.17; p < 0.05; \text{two-tailed test}; R^2 = 0.027)\). The results were stronger for firm financial performance with *stewardship motivation* \((b = 0.28; p < 0.001; \text{two-tailed test}; R^2 = 0.079)\), *stewardship identification* \((b = 0.16; p < 0.05; \text{two-tailed test}; R^2 = 0.026)\) and *stewardship culture* being the highest \((b = 0.38; p < 0.001; \text{two-tailed test}; R^2 = 0.140)\) variance. The three factors of stewardship therefore demonstrated nomological validity. Given these results, the final set of items to capture stewardship is presented above in Table 4.

**DISCUSSION AND IMPLICATIONS**

Though contemporary family business scholars have increasingly identified the appeal of stewardship theory, empirical researchers have been constrained by a lack of direct measures of stewardship and have been forced to rely on proxies for stewardship. Using these measures has limited the generalizability and acceptance of stewardship theory as a way of explaining individual and firm behaviour. In this paper, we drew from
established theory to introduce a multi-factor measure of stewardship in family firms and provided confirmation of the validity of the scale by establishing statistically significant links to innovativeness and firm performance.

In developing a valid measure, we believe we have addressed a gap in the extant literature, enabling future researchers to more confidently and directly test the effects of stewardship on organisational outcomes. We have demonstrated that, since entrepreneurial firms are characterized by their commitment to innovation, which further stimulates firm growth (Covin & Slevin, 1991; Miller 1983; Zammuto & O’Connor, 1992), family leaders who design their organisational environments with stewardship-rooted dimensions of motivation, identification and culture are likely to see benefit through innovation and improved financial performance. Below we discuss how our results contribute to our understanding of family business.

First, from a methodological viewpoint, we see several applications for the use of the stewardship scale validated in this paper. Specifically, as called for by Ghoshal (2005) and Ghoshal and Moran (1996), the scale can be used to address the controversies related to stewardship theory’s bona-fides. Future scholars can use our measure in a wide variety of settings to empirically verify the efficacy of models which have invoked stewardship-based relationships. As well, the inclusive nature of the scale draws on psychological and situational aspects of firm functioning and can be used to understand the paradoxes of governance and control-collaboration tensions existing in firms (Sundaramurthy & Lewis, 2003). For example, would the proposed benefits of a stewardship setting be uniform across all environmental (e.g., high vs. low dynamism or high versus low strategic uncertainty) or organisational (e.g. high vs. low risk-taking, or
high vs. low competitive aggressiveness) contexts? Does stewardship moderate the relationship between firm strategy and performance? Finally, though the stewardship scale may be particularly relevant for the study of entrepreneurial and family firms, the scale can potentially help understand relationships in the context of different ownership forms. For example, the scale can be used to understand different relationships within different types of family firms (e.g., founder-led, multi-generational, active vs. passive family involvement, private vs. publicly-held family firms).

Other avenues within the family business literature also exist. For example, researchers have discussed the value creating benefits of stewardship approaches within family businesses. Specifically, it has been suggested that stewarded firms should promote and facilitate open channels of communication, decentralization and informal decision making, loosely coupled decision linkages, flexible job descriptions, and processes and procedures associated with various internal organisation activities (Corbetta & Salvato, 2004, Eddleston & Kellermanns, 2007). Using this stewardship scale in concert with other accepted measures that measure these phenomena will add to our continued understanding of family firms.

Further, we suggest that the stewardship scale could be used to quantify differences between family and non-family firms. Though there is increasing discussion about apparent differences between family and non-family firms, the extent and nature of the differences between the two types of firms is inconclusive (Bird et al., 2002; Sharma 2004; Zahra & Sharma, 2004). Salvato and Melin’s (2003) equifinality discussion suggests that many firms, regardless of ownership structures and related factors, are good at performing the same dynamic process (e.g., knowledge creation, serial
entrepreneurship, product innovation). A comparative research project using the stewardship scale would demonstrate whether leaders of family firms are better equipped than their non-family contemporaries to promote a stewardship environment.

LIMITATIONS

Operationalizing theoretical discussions is not without challenges, and we would be remiss if we did not acknowledge the limitations of this research. First, though this study drew from cross-sectional industrial data for the pilot test and then from a more focused industry specific sample (validation study), the generalizability of the construct could be a limitation of the stewardship scale. First, the scale is not generalisable to non-family firms as non-family firms were not included in the testing procedures which refine the scale. Second, many of the respondents employed less than 50 employees. Hence, the generalizability of the scale may be constrained to small- to medium-sized firms. Further, there may have been owners who self-classified themselves as CEOs, resulting in potentially low-agency issues (Anderson & Reeb, 2003). It was our intent to capture a wide variety of respondents from varied governance settings (i.e., CEO vs. Owner) within family firms. The breadth of our respondents could in fact be considered a strength of our measure.

Second, we acknowledge the criticisms associated with a single country sample bias in our sample. A third associated limitation relates to the difficulty of developing a scale to tap individual and firm level behaviours. In effect, we maintain family business leaders with strong stewardship-centered beliefs will strive to foster strong, values-driven cultures through stewardship-rooted initiatives. This conjecture enables us to overcome
the potential confusion stemming from the individual- and firm-level approach introduced in Davis et al.’s original discussion.

Fourth, the use of self reported data and the well documented effects of single respondent biases (e.g., Donaldson & Grant-Vallone, 2002) may have affected the construction of our scale and the nomological findings. We did take efforts to mitigate the concerns regarding self reported data by comparing our sample with a much larger and cross-industry sample. Our results indicated that the responses to our items by single respondents were comparable to those in the national larger population. Another limitation is the use of a single industry and the generalisability of our findings to a broader industry audience. Though the Massachusetts Mutual Data was collected cross-industries, we caution against the application of our findings from a single industry (i.e., the food processing industry) to other industries which do not share similar attributes to our studied industry.

Finally, our empirical findings of a three dimensional construct did not match completely with Davis et al.’s (1997) six dimensions conceptualization. Some factors disappeared while others collapsed into a single dimension (i.e., collectivistic culture and use of power). Though the developed measure did demonstrate nomological validity via links to innovation and firm performance, we acknowledge a different set of items may map more directly on the conceptual dimensions, a factor which may encourage future scholars to consider testing an alternative set of items.

CONCLUSION
By empirically linking stewardship behaviours to innovativeness and firm performance, we have demonstrated that stewardship behaviours act as an effective governance mechanism for family businesses. Further, we provide an important first step in linking theory building with theory testing and conclude the stewardship scale is positioned to play an important role in establishing alignment between stakeholder groups within the family business and the vision and values of the leadership. The scale, we hope, will also increase rigor and relevancy to future discussions. Future scholars are encouraged to use this more direct measure of stewardship which, based on the results presented above, is both reliable and valid.
REFERENCES


Table 1

Expert panel items across the 6 dimensions of Stewardship

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intrinsic Motivation</strong></td>
<td>To what extent…..</td>
</tr>
<tr>
<td>Individual/Psychological</td>
<td></td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…do you see yourself as someone who is motivated by individual goals</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…do you see yourself as someone whose role it is to manage the family’s investments</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…do you see yourself as someone whose personal motives are aligned with the business</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…does your business satisfy your personal needs</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…does your business satisfy your opportunities for growth</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…does your business satisfy your need for achievement</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>…does your business make you feel self-actualized</td>
</tr>
<tr>
<td>Organisational Identification</td>
<td>…do you see yourself as an integral part of the business</td>
</tr>
<tr>
<td>Organisational Identification</td>
<td>…do you see yourself as believing in the goals of the company</td>
</tr>
<tr>
<td>Organisational Identification</td>
<td>…do you see yourself as accepting the goals of the company</td>
</tr>
<tr>
<td>Personal Power</td>
<td>…do you see yourself as someone who uses personal power to influence others</td>
</tr>
<tr>
<td>Personal Power</td>
<td>…do you see yourself as someone who uses institutional power to influence others</td>
</tr>
<tr>
<td><strong>Organisational/Situational</strong></td>
<td>To what extent…..</td>
</tr>
<tr>
<td>Involvement Orientation</td>
<td>…do you see yourself as one who maximizes potential</td>
</tr>
<tr>
<td>Involvement Orientation</td>
<td>…do you see yourself as one who should minimize potential costs</td>
</tr>
<tr>
<td>Involvement Orientation</td>
<td>…do you see yourself as someone who is involvement-orientated</td>
</tr>
<tr>
<td>Involvement Orientation</td>
<td>…do you see yourself as someone who is control-orientated</td>
</tr>
<tr>
<td>Power Distance</td>
<td>…does your business monitor your performance</td>
</tr>
<tr>
<td>Power Distance</td>
<td>…does your business delegate your authority on its behalf</td>
</tr>
<tr>
<td>Power Distance</td>
<td>…does your business promote a hierarchical structure with many layers of supervision</td>
</tr>
<tr>
<td>Collectivism</td>
<td>…does your business pay higher than industry average wages</td>
</tr>
<tr>
<td>Collectivism</td>
<td>…does your business allow employees to reach their full potential</td>
</tr>
<tr>
<td>Collectivism</td>
<td>…does your business promote flexible work practices</td>
</tr>
<tr>
<td>Collectivism</td>
<td>…does your business encourage a collectivist rather than an individualistic culture</td>
</tr>
</tbody>
</table>
Table 2

Results of Principal Components Analysis from Pilot Test

<table>
<thead>
<tr>
<th>Items</th>
<th>Factor 1 (Stewardship Motivation)</th>
<th>Factor 2 (Stewardship Identification)</th>
<th>Factor 3 (Stewardship Culture)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Make you feel self-actualized</td>
<td>0.88</td>
<td>0.23</td>
<td>0.12</td>
</tr>
<tr>
<td>Satisfy your need for achievement</td>
<td>0.84</td>
<td>0.29</td>
<td>0.27</td>
</tr>
<tr>
<td>Satisfy your personal needs</td>
<td>0.82</td>
<td>0.16</td>
<td>0.17</td>
</tr>
<tr>
<td>Satisfy your opportunities for growth</td>
<td>0.77</td>
<td>0.11</td>
<td>0.38</td>
</tr>
<tr>
<td>Contribute to your individual self-image</td>
<td>0.72</td>
<td>0.14</td>
<td>-0.10</td>
</tr>
<tr>
<td>An integral part of the business</td>
<td>0.07</td>
<td>0.78</td>
<td>0.08</td>
</tr>
<tr>
<td>Accepting the goals of the company</td>
<td>0.28</td>
<td>0.77</td>
<td>0.23</td>
</tr>
<tr>
<td>Believing in the goals of the company</td>
<td>0.23</td>
<td>0.73</td>
<td>0.30</td>
</tr>
<tr>
<td>Pay higher than industry average wages</td>
<td>0.07</td>
<td>0.10</td>
<td>0.80</td>
</tr>
<tr>
<td>Allow employees to reach their full potential</td>
<td>0.28</td>
<td>0.17</td>
<td>0.79</td>
</tr>
<tr>
<td>Inspire employees care and loyalty</td>
<td>0.10</td>
<td>0.25</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Eigen Values 3.59  2.57  2.26
Percent of Variance Explained 29.9  21.4  18.8
Table 3

Descriptive Statistics and Coefficient Alpha for the Three Stewardship Constructs in the Validation Sample

<table>
<thead>
<tr>
<th>Scale</th>
<th>Mean (S.D.)</th>
<th>Coefficient Alpha</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stewardship</td>
<td>3.73 (0.65)</td>
<td>0.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motivation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stewardship</td>
<td>4.58 (0.56)</td>
<td>0.81</td>
<td>0.23**</td>
<td></td>
</tr>
<tr>
<td>Identification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stewardship</td>
<td>4.07 (0.72)</td>
<td>0.64</td>
<td>0.29**</td>
<td>0.35**</td>
</tr>
<tr>
<td>Culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** $p < .01$ (two-tailed)
Table 4

Results of Confirmatory Factor Analysis using Validation Study

<table>
<thead>
<tr>
<th>Indicators</th>
<th>Completely Standardized Loadings for Stewardship Motivation (t-value)</th>
<th>Completely Standardized Loadings for Stewardship Identification (t-value)</th>
<th>Completely Standardized Loadings for Stewardship Culture (t-value)</th>
<th>Composite Reliability (AVE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satisfy your need for achievement</td>
<td>0.86 (13.69)</td>
<td></td>
<td></td>
<td>0.86 (.56)</td>
</tr>
<tr>
<td>Satisfy your personal needs</td>
<td>0.80 (12.30)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Satisfy your opportunities for</td>
<td>0.76 (11.42)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>growth</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribute to your self image</td>
<td>0.73 (10.81)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Make you feel self-actualized</td>
<td>0.57 (10.81)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Believing in the goals of the</td>
<td></td>
<td>0.90 (13.46)</td>
<td></td>
<td>0.82 (.61)</td>
</tr>
<tr>
<td>business</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>An integral part of the business</td>
<td></td>
<td>0.73 (10.42)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accepting the goals of the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>business</td>
<td>0.70 (9.87)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Allow employees to reach their</td>
<td></td>
<td></td>
<td>0.76 (8.43)</td>
<td>0.65 (.39)</td>
</tr>
<tr>
<td>full potential</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inspire employees care and loyalty</td>
<td></td>
<td></td>
<td>0.64 (7.36)</td>
<td></td>
</tr>
<tr>
<td>Pay higher than industry average</td>
<td></td>
<td></td>
<td>0.43 (5.05)</td>
<td></td>
</tr>
<tr>
<td>wages</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Model Fit Statistics: $\chi^2 = 97.22$ (d.f. = 41, $p < 0.001$); CFI = 0.95; Delta2 = 0.95; RNI = 0.95; RMSEA = 0.087; NNFI = 0.94; GFI = 0.91.