THE IMPACT OF INTRA-GROUP PROCESSES ON FAMILY BUSINESS SUCCESS

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Abstract

Interpersonal ties and intra-group processes influence the ability of people to work together effectively as teams. In the context of the family business team, intra-group processes describe the interaction that takes place between the family members and the resultant psychological climate that exists in the family business. Given the increasing number of sibling teams among family businesses, as well as the challenges they face as team members, this study focuses on sibling teams in family businesses and the intra-group processes that influence their success. The primary objective of this study is to identify and empirically test the intra-group processes influencing the effectiveness of sibling partnerships. A structured questionnaire was distributed to 1323 sibling partner respondents. The respondents were identified by means of a convenience snowball sampling technique, and the data were collected from 371 usable questionnaires. The empirical findings of this study show that the *sibling relationship* and *fairness* are important determinants of sibling team effectiveness

 $\textbf{Key words:} \ \text{family business, sibling partnership, family team, team, intra-group processes}$

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1 Introduction and problem statement

Teams are central how work gets done in modern-day life (Kozlowski & Ilgen, 2006). Evidence (Guzzo & Dickson, 1996) exists to show that team-based forms of organising bring about higher levels of organisational effectiveness than traditional, bureaucratic forms. However, for any team to be effective, it is important that the necessary team design elements, namely context, teammember attributes and group structures, are such that they facilitate task-orientated behaviour. Important relationship behaviour must, however, also be present. It can thus be argued that team members must direct their energies towards not only getting the job done, but also to building constructive interpersonal ties and processes (Hellriegel, Jackson, Slocum, Staude, Amos, Klopper, Louw & Oosthuizen, 2004). Team processes are the

behaviours and activities that influence the effectiveness of teams (Hitt, Miller & Colella, 2006) and, as such, are the operations within a team that permit it to function smoothly and efficiently (Campion, Medsker & Higgs, 1993).

Increasingly, attention is being given to various types of family teams in the familybusiness literature, particularly copreneurships (Stewart-Gross & Gross, 2007; Rutherford, & Oswald, 2006) and sibling partnerships (Nelton, 1996; Ward, 2004). It has even been suggested that although succession has been the main issue of concern among family businesses for the past decade, team management in family businesses should be a major focus in the years to come (Sharma, 2004). Given that an increasing number of family businesses are being passed on during the succession process to teams of siblings, or are adopting sibling partnerships as ownership structures (Aronoff, Astrachan, Mendosa &

Ward, 1997; Ward, 2004), the importance of such family business teams (sibling teams) should be emphasised. Against this background, this study and the ensuing empirical investigation focus on sibling teams in family businesses and the conditions required to ensure their success.

For the purpose of this study, the concepts "sibling partnership" and "sibling team" are used interchangeably and synonymously, and refer to a family business where at least two brothers and/or sisters, with a familial bond, are actively involved in the management and/or decision-making of the business, and exercise considerable influence over its strategic direction. This delineation places the decision-making authority of the family business in the hands of two or more siblings.

2 Primary objectives

The primary objective of this study is to identify and empirically test the intra-group processes influencing the success of a sibling partnership. Based on these findings, recommendations will be made to assist sibling teams to manage their family businesses more effectively.

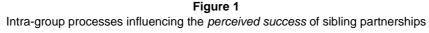
3 Intra-group processes and effective teams

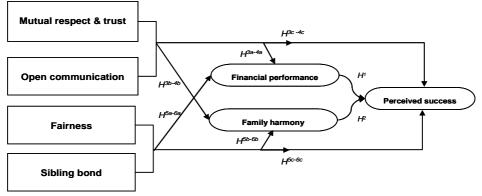
In virtually every type of organisational context, literally thousands of studies have

examined the factors that influence team effectiveness (Hitt et al., 2006; Kozlowski & Ilgen, 2006). However, the input-process-output (I-P-O) model is the most common framework used to explain the way in which team-design elements interact to enable effective team outcomes (Barrick, Stewart, Neubert & Mount, 1998; Campion et al., 1993; Groesbeck & Van Aken, 2001). The I-P-O model proposes that a variety of inputs combine to influence intra-group processes, which in turn affect team outputs.

Substantial research has already examined various *inputs* of the I-P-O model (e.g. Campion et al., 1993; Campion, Papper & Medsker, 1996; Howard, Foster & Shannon, 2005). In this study the focus will be on the process factors (intra-group processes) only, as well as the impact that these factors have on the success of sibling teams in family businesses.

Based on an integration of prior findings and theories on team effectiveness, and supported by empirical or anecdotal evidence reported in the family business literature, the potential influence of selected intra-group processes on the success of sibling partnerships, was identified. Only factors justified by sufficiency of theory in both the teamwork and family business literature are included in this study, and no claim is made of an exhaustive coverage of every possible process factor influencing the effectiveness of a sibling partnership.





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In Figure 1 (the hypothesised model) the various intra-group processes identified as influencing the success of a Sibling Partnership are depicted, namely mutual respect and trust, open communication, fairness, and the sibling bond. Effectiveness or success in this study is measured using three variables: the dependent variable perceived success, and two intervening variables, namely perceived financial performance and family harmony. As such, the model proposes that both the financial performance of the business and the family harmony that exists within the family business positively influence perceived success.

3.1 Dependent and intervening variables

The dependent variable used in this study is the perceived success of a sibling partnership, which is defined as the degree to which the siblings find their ongoing involvement in the sibling partnership to be satisfying. According to Astrachan (2006:v), no single measure of performance adequately articulates family and business needs and utilities, and no measure is likely to capture the complexities of the family business in particular. The satisfaction of family members involved in a family business is, however, commonly associated with success in family business research (Handler, 1991; Sharma, 2004; Venter, 2003). Similarly, team-member satisfaction, as a measure of team effectiveness, has also been used in several studies assessing team effectiveness in organisations (e.g. Campion et al., 1996; Campion et al., 1993:825; Doolen, Hacker & Van Aken, 2006:140; Howard et al., 2005). Kreitner and Kinicki (1995) propose that in addition to the team members' satisfaction with the team experience, the team members' willingness to continue contributing to the team effort is also a measure of team effectiveness.

Business performance (financial and growth) is commonly regarded as a measure of success, and has been used by several authors to distinguish between successful and unsuccessful successions (Flören, 2002; Venter, 2003), successors (Goldberg, 1996), family businesses (Sharma, 2004; Ward, 2004), and even teams in general (Ivancevich,

Konopaske & Matteson, 2005; Northouse, 2004). Venter (2003) has found a positive relationship between the financial security of the owner-manager and the business, and the satisfaction with the succession process, as well as between the financial security of the owner-manager and the business, and the continued profitability of the business after the succession. Similarly, Adendorff's (2004) research has revealed a positive relationship between profitability and the ability to satisfy stakeholders' interests.

Both anecdotal (Flören, 2002; Sharma, 2004; Ward, 2004) and empirical (Malone, 1989; Santiago, 2000; Venter, 2003) evidence that harmonious relationships between family members are important for successful successions and successful family businesses. Malone's (1989) study has revealed a positive correlation between perceived family harmony and continuity planning. Similarly, Venter (2003) has reported a significant positive relationship between family harmony and the satisfaction of stakeholders with the succession process. Venter (2003) has also reported that family harmony is strongly related to the agreement by family members to continue the business as a family concern.

Intuitively, it is highly unlikely that family members involved in a family business characterised by disharmonious family relationships and poor financial performance will find their involvement to be satisfying, let alone want to continue being involved. In addition to direct effects, the hypothesised model (Figure 1) implies that *financial performance* and *family harmony* act as intervening variables between the various intra-group processes (independent variables) and the dependent variable *perceived success*.

For the purpose of this study, *financial* performance refers to positive trends of growth in number of employees and profit, as well as increasing revenue experienced by the sibling partnership. Family harmony, on the other hand, is defined as mutual relationships among family members, which are characterised by closeness, caring and support, appreciation of each other, and concern for each other's welfare. Against this background the following hypotheses have been formulated:

- H¹: There is a positive relationship between the perceived *financial performance* of the sibling partnership and the *perceived success* of the sibling partnership.
- H²: There is a positive relationship between the level of *family harmony* existing in the sibling partnership and the *perceived success* of the sibling partnership.

3.2 Independent variables

"Intra-group processes" refer to the interactions that take place among team members, and include aspects such as communication patterns, personal disclosure of information. decision-making. managing conflict, supportiveness, mutual respect, social cohesion, team flexibility, and workload sharing (Barrick et al., 1998; Doolen et al., 2006; Gladstein, 1984; Hyatt & Ruddy, 1997). According to Doolen et al. (2006), "team processes" refer to both the level of collaboration between team members and the type of activities used by teams to achieve their objectives.

The process component of the I-P-O model has been the focus of many team-related studies (Howard et al., 2005). Campion et al. (1993), as well as Hyatt and Ruddy (1997) have all found a significant positive correlation between interpersonal processes and team effectiveness. Similarly, both Doolen et al. (2006) and Gladstein (1984) have found support for a positive relationship between team processes and team-member satisfaction. The conclusion of these studies is that teams tend to perform better when they have well-developed processes in place (Howard et al., 2005).

According to Barrick et al. (1998), research suggests that there is substantial overlap among the various measures of process. For example, in Gladstein's study (1984), the measuring open communication, items supportiveness, conflict, weighting individual inputs and discussion of strategy, loaded onto one construct, which she named "intra-group process". Similarly, Olukayode and Ehigie (2005), as well as Barrick et al. (1998), have found positive associations among measures of team interaction processes, implying that a composite score of all the measures can be used as a single measure of a

team's interaction processes. Barrick et al. (1998) in fact believe that many of a team's processes are reflected in the construct of social cohesion, and they regard social cohesion as an indicator of positive interpersonal dynamics within the team. "Social cohesion" has been defined as the result of all forces acting on members to remain in the group (Kozlowski & Ilgen, 2006), and thus reflects synergistic interactions between team members, including positive communication, conflict resolution and effective workload sharing (Barrick et al., 1998).

For the purpose of this study, four process variables have been included in the hypothesised model (Figure 1). These specific intra-group processes that influence the one-to-one and inter-group collaboration dynamics between the sibling partners are *mutual respect* and trust; open communication; fairness; and the sibling bond. In line with the reasoning of Barrick et al. (1998), it is assumed that all other process variables not individually included in the hypothesised model, are accounted for in the factor named sibling bond (cohesion).

3.2.1 Mutual respect and trust

In effective teams a climate of mutual trust exists among all team members (Hellriegel et al., 2004; Ivancevich et al., 2005). Studies (e.g. Hyatt & Ruddy, 1997; Cowie, 2007) have found a significant positive correlation between trust among team members and measures of team effectiveness. Trust based on respect, amongst other factors, appears to be essential for building a collaborative climate (Northouse, 2004). Not only do team members show respect for and accept individual differences, they also feel respected and well regarded by other team members (Hellriegel et al., 2004; Keen, 2003). From his study, Stempler (1988) concludes that respect, understanding, and complimentary behaviour between the next-generation family members and the organisational leader are critical to effective successions. Handler (1991)concludes that communication, trust and respect for each other's ability and position are critical to managing relationships between family members within the firm. Similarly,

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trust in the successor's ability and intention to manage the family business effectively in the future is an important determinant of effective successions (Sharma, 1997). Santiago (2000) also finds that family members who respect one another and who exert efforts to understand each other are likely to cooperate with one another and support each other's decisions. Against this background, the following hypotheses have been formulated:

- H^{3a}: There is a positive relationship between *mutual respect and trust* among the siblings and the perceived *financial performance* of the sibling partnership.
- performance of the sibling partnership.

 H^{3b}: There is a positive relationship between mutual respect and trust among the siblings and the level of family harmony.
- H^{3c}: There is a positive relationship between *mutual respect and trust* among the siblings and the *perceived success* of the sibling partnership.

3.2.2 Open communication

Clear and open communication is crucial for effective teamwork (Hitt et al., 2006; Ivancevich et al., 2005; Keen, 2003) and enhances team members' satisfaction with their membership of the team (Hitt et al., 2006). A number of studies (e.g. Barrick et al.,1998; Doolen et al., 2006; Hyatt & Ruddy, 1997; Olukayode & Ehigie, 2005) among teams in organisational contexts have found positive correlations between team communication and measures of effectiveness. Cowie (2007), for example, reports a significant positive relationship between open communication management team members and perceived success, the ability to operate efficiently, and their willingness to cooperate with and support each other.

Effective and open communication is also important for promoting effective teamwork between siblings, and increases their chances of a successful team outcome (Aronoff et al., 1997; Brigham, 2004; Ward, 2004). The willingness to share sensitive and personal information is especially important for the success of a sibling partnership (Aronoff et al., 1997; Ward, 2004). Effective communication, characterised by honesty, openness and consistency, forms the basis of resolving

conflicts and promoting harmony in the family as well as in the family business (Brigham, 2004; Gersick, Davis, McCollom Hampton & Lansberg, 1997). Based on the anecdotal and empirical evidence presented above, the following relationships are hypothesised:

- H^{4a}: There is a positive relationship between *open communication* among the siblings and the perceived *financial performance* of the sibling partnership.
- H^{4b}: There is a positive relationship between *open communication* among the siblings and the level of *family harmony*.
- H^{4c}: There is a positive relationship between *open communication* among the siblings and the *perceived success* of the sibling partnership.

3.2.3 Fairness

Various studies (e.g. Barrick et al., 1998; Campion et al., 1993; Campion et al., 1996; Olukayode & Ehigie, 2005) have found a significantly positive correlation between workload sharing and measures of team effectiveness. For example, Naumann and Bennett (2000) find that leaders who promote procedural justice and apply rules consistently, are able to minimise relationship conflict between team members. Cowie (2007) also reports a significant positive relationship between fairness in workload among management team members and perceived success. Kim and Mauborgne (1998) find that managers who believe their company's processes to be fair, display a higher level of trust in, and commitment to, their organisation. In their research on business issues that are a source of tension among members of family businesses, Danes, Zuiker, Kean Arbuthnot (1999) have identified unfair workloads in family businesses as generating the highest level of tensions among family relationships. Sibling partnerships are most successful when siblings minimise differences and keep things as equal as possible (fairness) between them (Ward, 2004), especially in terms of compensation and workloads (Aronoff et al., 1997; Lansberg, 1999). It was thus decided to subject the following hypotheses to further empirical testing:

H^{5a}: There is a positive relationship between *fairness* among the siblings and the

perceived *financial performance* of the sibling partnership.

H^{5b}: There is a positive relationship between *fairness* among the siblings and the level of *family harmony*.

H^{5c}: There is a positive relationship between *fairness* among the siblings and the *perceived success* of the sibling partnership.

3.2.4 Sibling bond

According to Ilgen, Hollenbeck, Johnson and Jundt (2005), "bonding" is a matter of the affective feelings that team members hold towards each other and the team. Bonding goes beyond trust, and reflects a strong sense of rapport and a desire to stay together, even extending beyond the current task context. Meta-analytic evidence suggests that bonding is necessary for high levels of team performance (Beal, Cohen, Burke & McLendon, 2003; Ilgen et al., 2005).

Interpersonal cohesion in a team occurs when team members are attracted to each other, enjoy being with each other, get along, and interact well with each other (Hitt et al., 2006; Keen, 2003). Team cohesion is positively related to team performance and viability, and members of cohesive teams are more likely to be satisfied with their teams than are members on non-cohesive teams (Hellriegel, Slocum & Woodman, 2001; Hitt et al., 2006). Several recent meta-analyses indicate that cohesive teams generally tend to be more productive, and that cohesion is a determinant of job performance (Ahronson & Cameron, 2007; Beal et al., 2003; Kerr & Tindale, 2004). According to Barrick et al. (1998), however, research shows that cohesion is related to team-member satisfaction but not to performance. Similarly, Gladstein (1984) finds that group rating of supportiveness is positively associated with group rating of satisfaction, but not with actual sales revenue. Smith, Smith, Olian, Sims, O'Bannon and Scully (1994), however, report a positive correlation between a cohesion like measure of top management teams in small high-technology firms and firm financial performance.

In families, "cohesion" refers to the degree of connectedness and emotional bonding that family members experience within the family. Highly cohesive families tend to stick together during times of distress, and are capable of recognising and maintaining clear boundaries between family subsystems, as well as between the family and the business (Lansberg & Astrachan, 1994). According to Santiago (2000), the more cohesive the family, the greater the desire to share the responsibility of perpetuating the family business.

Aronoff et al. (1997), assert that family harmony depends on the quality of the relationships between family members. In addition, a large volume of anecdotal evidence suggests that a high-quality relationship between the sibling partners is vital for a successful sibling partnership (Gersick et al., 1997; Lansberg, 1999; Ward, 2004). Given the contradictory evidence presented above, the following hypothesised relationships are subjected to further testing:

- H^{6a}: There is a positive relationship between a *sibling bond* among the siblings and the perceived *financial performance* of the sibling partnership.
- H^{6b}: There is a positive relationship between a *sibling bond* among the siblings and the level of *family harmony*.
- H^{6c}: There is a positive relationship between a *sibling bond* among the siblings and the *perceived success* of the sibling partnership.

4 Methodology

4.1 Scale development

The factors under investigation were operationalised using reliable and valid items sourced from measuring instruments validated in previous empirical studies (See Table 1). Where necessary the items were rephrased to make them more suitable for the present study. In addition, based on secondary sources, several items were self-generated. The measuring instrument was then used to empirically test the relationships hypothesised in Figure 1.

Table 1
Sources of previously validated items used in the measuring instrument

Factors	Reference
Perceived success	Sorenson, 2000; Wageman, Hackman & Lehman, 2005; Sharma, 1997; Venter, 2003.
Financial performance	Cowie, 2007; Adendorff, 2004.
Family harmony	Sharma, 1997; Venter, 2003; Adendorff, 2004; Lansberg & Astrachan, 1994; Sorenson, 2000.
Mutual respect and trust	Cowie, 2007; Venter, 2003; Adendorff, 2004; Filbeck & Smith, 1997.
Open communication	Lansberg & Astrachan, 1994; Sharma, 1997; Venter, 2003; Campion et al., 1993; Filbeck & Smith, 1997.
Fairness	Cowie, 2007; Wageman et al., 2005; Campion et al., 1993.
Sibling bond	Venter, 2003; Lansberg & Astrachan, 1994; Sharma, 1997; Barsade et al., 2000; Filbeck & Smith, 1997.

4.2 Sampling and data collection

A convenience snowball sampling technique was employed for this study. Two databases of family businesses were identified, and served as an initial sampling frame from which potential sampling units were identified. In addition, an advanced Google search of South African websites resulted in many names of businesses involving siblings. In total, 1 323 potential respondents were identified. This sampling technique and methodology is consistent with that of other family-business researchers who have been constrained by the lack of a national database on family firms (Sonfield & Lussier, 2004; Van Der Merwe & Ellis, 2007; Venter, 2003).

In the present study, the survey technique was employed and a self-administered structured questionnaire comprising two sections was distributed to potential respondents. In Section 1, respondents were requested to indicate their extent of agreement with regard to 41 statements concerning intragroup processes among the sibling team members, using a seven-point Likert-type scale. Demographic information pertaining to both the respondents and the family businesses was requested in Section 2.

The data collected from 371 usable questionnaires were subjected to various statistical analyses. An exploratory factor analysis was undertaken, and Cronbach-alpha coefficients were calculated to assess the discriminant validity and reliability of the measuring instrument respectively. The relationships proposed in Figure 1 were

assessed by means of structural equation modelling (SEM).

4.3 Sample description

The vast majority of respondents were male (80.6 per cent), white (95.4 per cent), and actively employed (93.3 per cent) in the sibling partnership. An average age of 40 years was reported, with the majority (72.5 per cent) being younger than 45 years old. Most respondents (36.7 per cent) were an oldest child, with 33.2 per cent being a middle child, and 30.2 per cent a youngest child. Although 29 per cent of sibling teams consisted of both males and females, the majority (64.2 per cent) of teams consisted of males only. The average team consisted of 2.48 siblings, with an average age difference of 5.66 years between siblings involved in the business. On average the siblings had been in business together for 11.44 years, with the majority (56.8 per cent) having been in business together for less than 10 years. Of the sibling owned/managed businesses partici-pating in the study, 26.7 per cent operated in the agricultural industry, 19.4 per cent in the retail, 15.1 per cent in the manufacturing and 11.3 per cent in the finance/business services industries. The majority (73 per cent) of businesses employed 50 persons or less, and 24 per cent indicated employment of fewer than 10 employees. Of the participating businesses, 24 per cent indicated having been operating for 10 years or less, whereas quite a large percentage (21 per cent) had been operating for more than 50 years. The oldest business, one that had been passed down from one family generation to another, was reported as being 265 years old.

4.4 Discriminant validity and reliability results

To assess the discriminant validity among the variables, all items were subjected to an exploratory factor analysis. The software programme SPSS 16 for Windows was used for this purpose. Based on the relational nature of the variables, principal axis factoring with an oblique (oblimin with Kaiser normalization) rotation was specified as the extraction and rotation method for both models. In identifying the constructs to extract, the percentage of variance explained and the individual factor loadings were considered.

The exploratory factor analysis was unable to confirm all the latent variables as originally intended in the hypothesised model (Figure 1). original latent variable The financial performance split into two variables, which were subsequently named financial performance and growth performance. The original dependent variable perceived success and the intervening variable family harmony combined to form a new dependent variable. This variable was renamed satisfaction with work and family relationships. Most of the items measuring mutual respect and trust, open communication, and sibling bond loaded together onto one construct, which was renamed sibling relationship. As expected, three of the items measuring fairness loaded onto a separate construct. Three items did, however, not load onto any of the factors as was expected, and were consequently excluded from further analysis.

According to Hair, Black, Babin, Anderson and Tatham (2006), factor loadings of 0.30 and 0.40 can be considered significant for sample sizes of between 200 and 350 respectively. Factor loadings of ≥ 0.4 were reported for all but one factor, namely FAIR6. Despite FAIR6 having a factor loading of less than the required 0.4, namely 0.36, this item was retained because of its close proximity to 0.4 and because of Hair et al.'s (2006:128) rule of thumb stating that for sample sizes of 350 or greater, factor loadings of 0.30 are considered Consequently, evidence significant. construct and discriminant validity for the measuring instrument is provided. Cronbachalpha coefficients of greater than 0.70 (Nunnally & Bernstein, 1994) were returned for all constructs, providing evidence of reliable measuring scales. Table 2 summarises the operational definitions of the factors as well as the details concerning the validity and reliability of the measuring instrument.

Table 2
Measurement instrument analyses

Operationalisation of factors		Factor loadings	Cronbach-alpha
Sibling relationship refers to a relationship between the sibling partners characterised by open communication, encouragement, mutual respect and trust, mutual support and understanding, and an ability to manage conflict.	15	Max: 0.944 Min: 0.600	0.962
Fairness refers to the working arrangement between the siblings being fair in terms of workload and compensation.	3	Max: 0.768 Min: 0.364	0.745
Financial performance refers to the business being financially profitable and secure.	3	Max: 0.910 Min: 0.650	0.877
Growth performance refers to the business showing growth in the number of employees, profits and revenues.	3	Max: 0.933 Min: 0.538	0.781
Satisfaction with work and family relationships refers to harmonious relationships existing among family members (i.e. relationships characterised by closeness, caring and support, appreciation of each other, and concern for each other's welfare) as well the siblings finding their working relationship in the Sibling Partnership as satisfying.	10	Max: 0.904 Min: 0.766	0.961

^{*} See Appendix A for a detailed description of multiple item scales measuring factors.

4.5 Reformulated hypotheses

As a result of the exploratory factor analysis, it was deemed necessary to modify the original

hypotheses, which are summarised in Table 3 below:

Table 3 Reformulated hypotheses

H ¹ :	There is a positive relationship between the perceived <i>financial performance</i> of the sibling partnership and the <i>satisfaction with work and family relationships</i> .
H ² :	There is a positive relationship between the level of <i>growth performance</i> of the sibling partnership and the <i>satisfaction with work and family relationships</i> .
H ³ :	There is a positive relationship between the level of <i>growth performance</i> of the sibling partnership and the perceived <i>financial performance</i> of the sibling partnership.
H ^{4a-4c} :	There is a positive relationship between the <i>sibling relationship</i> and the perceived <i>financial</i> performance (H^{4a}), the level of <i>growth performance</i> (H^{4b}), and the <i>satisfaction with work and family</i> relationships (H^{4c}).
H ^{5a-5c} :	There is a positive relationship between the level of perceived <i>fairness</i> among the siblings and the perceived <i>financial performance</i> (H ^{5a}), the level of <i>growth performance</i> (H ^{5b}), and the <i>satisfaction with work and family relationships</i> (H ^{5c}).

As previously mentioned, the factor analysis resulted in the original latent variable *financial* performance splitting into two variables, namely *financial* performance and growth performance. Ample empirical evidence exists to suggest that the growth performance of a business has a positive impact on its financial performance (Brigham & Daves, 2007:7; Ittner & Larcker, 1998:32). An analysis of 88 different studies has shown that growth is consistently related to higher levels of financial performance (Capon, Farley & Hoenig, 1990:1148). As a result an additional hypothesis was formulated (see H^3 above) to test this relationship.

4.6 Structural equation modelling results

SEM was the main statistical procedure used to test the significance of the relationships hypothesised between the various independent and dependent variables. The software programme LISREL 8.8 (Jöreskog & Sörbom, 2006) was used for this purpose.

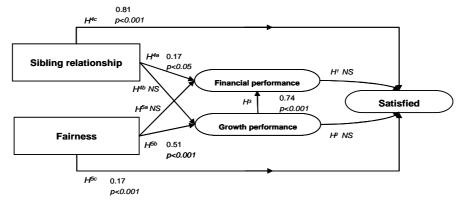
To assess the extent to which the proposed model represents an acceptable approximation of the data, various fit indices were considered. The ratio of χ^2 to degrees of freedom is 1.75.

Values lower than 2 are indicators of a good fit (Hair, Anderson, Tatham & Black, 1998). The RMSEA (0.0478) falls within the close fit range of <0.05 (Hu & Bentler, 1999), while the upper limit of the 90 per cent confidence interval for RMSEA (0.0541) is less than 0.08 (Boshoff, 2005; Roberts, Stephen & Ilardi, 2003). These indices all provide evidence of a model with a close fit.

The empirical findings of this study (see Figure 2) show that neither the financial performance (hypothesis H^{l}) nor the growth performance (hypothesis H^2) of the business have an influence on the satisfaction with work and family relationships. This finding suggests that the performance of the business has no impact on whether the siblings experience their work and family relationships as satisfying. No support is thus found for these hypotheses. The growth performance of the business is, however, positively related (path coefficient = 0.74, p<0.001) to the financial performance of the business. Support is thus found for hypothesis H^3 . The more the business experiences growth, the more likely is the perception among the sibling team that the business will perform financially.

Figure 2

Empirical findings of intra-group process factors influencing the level of satisfaction with work and family relationships in sibling partnerships



^{*} Satisfied = Satisfaction with work and family relationships

As can be seen in Figure 2, a positive relationship (path coefficient = 0.17, p<0.05) exists between the sibling relationship and financial performance (hypothesis H^{4a}) of the business. In addition, the empirical results provide evidence of strong support for a positive relationship (path coefficient = 0.81, p<0.001) between sibling relationship and satisfaction with work and family relationships (hypothesis H^{4c}). Support is thus found for hypotheses H^{4a} and H^{4c} . In other words, the better the relationship between the siblings, the more likely the business will be to perform financially, and the more likely it is that the siblings will be satisfied with their work and family relationships. The findings of this study are in line with a large volume of anecdotal evidence suggesting that a high-quality relationship between sibling partners is vital for a successful sibling partnership (Hellriegel et al., 2001; Hitt et al., 2006; Lansberg, 1999; Ward, 2004). Empirical evidence also supports the findings of the present study. Both Gladstein (1984) and Barrick et al. (1998) found positive relationships between cohesive and supportive teams, and levels of teammember satisfaction. Similarly, both Gladstein (1984:511) and Campion et al. (1996:443) found that support among team members is positively correlated with measures of team effectiveness. Furthermore Smith et al. (1994) reported a positive correlation between a cohesive top management team and

financial performance.

In the present study no significant relation was found between *sibling relationship* and *growth performance* (hypothesis H^{4b}). This finding implies that the relationship between the siblings has no influence on the growth performance of the business. Support was thus not found for hypothesis H^{4b} . The results of this study concur with those of Barrick et al. (1998:381), whose research indicates that cohesion is related to team-member satisfaction, but not to performance.

The current study has revealed significant positive relationships between fairness and the growth performance (path coefficient = 0.51, p<0.001) of the business (hypothesis H^{5b}). This finding suggests that the more the siblings consider the working arrangement between them as fair in terms of workload and compensation, the more likely the business is to grow. In addition, the empirical results show that a positive relationship (path coefficient = 0.17, p<0.001) between fairness and satisfaction with work and family relationships (hypothesis H^{5c}) also exists. In other words, the more the siblings consider the working arrangement between them as fair in terms of workload and compensation, the more likely it is that they will be satisfied with their work and family relationships. These findings are supported by a large volume of anecdotal evidence (Aronoff et al., 1997; Gersick et al., 1997; Lansberg, 1999; Ward, 2004) that posits the importance of fairness among siblings in family businesses. In addition, various studies (e.g. Barrick et al., 1998; Campion et al., 1993; Campion et al., 1996; Olukayode & Ehigie, 2005) of teams in organisational contexts have found a significantly positive correlation between workload-sharing and measures of team effectiveness. Similarly, Danes et al. (1999:246) have identified unfair workloads in family businesses as generating the highest level of tension among family relationships.

In the present study no significant relationship was found between *fairness* and *financial performance* (hypothesis H^{5a}). This finding implies that the existence or non-existence of fairness between the siblings has no influence on the financial performance of the business. Support was thus not found for hypothesis H^{5a} .

5

Conclusions and recommendations

The findings of this study suggest that whether or not the business experiences financial and growth performance has no impact on whether the siblings experience their work and family relationships as satisfying. In contrast, Lansberg (1999) and Ward (2004) assert that the health of the business influences the health of the family and *vice versa*. Adendorff (2004) also finds a positive relationship between family harmony and profitability, and concludes that profitability will increase when family harmony is enhanced. Given the finding of this study, it is suggested that these relationships be subjected to further testing in future studies.

A high-quality relationship characterised by open communication, managed conflict, encouragement, mutual respect and trust, as well as mutual support and understanding between the siblings, is vital in a sibling partnership. The relationship between the siblings not only influences the degree to which the siblings are satisfied with their working and family relationships, but also has a significant influence on the financial performance of their business. The importance of creating and preserving a positive relationship between the siblings can thus not be overemphasised for the success of a

sibling partnership.

It is important that the siblings should have affection and care for each other; at the least, they must like each other and should get along well both inside and outside the family business. Cooperation, closeness and intimacy should exist between the siblings, while healthy boundaries between them should be maintained; they should each have their own circle of friends and not interfere inappropriately in each other's lives. They should also have similar values, attitudes and priorities. In addition, siblings must overcome childhood rivalries and misunderstanding from the past; and preconceived stereotypes about each other that come from their childhood must be altered.

The results of this study confirm that perceptions of fairness have a significant influence on the growth performance of the business, as well as on the extent to which the siblings are satisfied with their work and family relationships. To ensure perceptions of fairness between them, siblings should ensure equitable workloads, opportunity to voice opinions, fairness in decision-making and managerial processes, and fairness in compensation.

Rewards and compensation are a particularly sensitive matter among families in business together, and play an important role in developing their perception of fairness. It is thus important that the persons involved in the family business (both family and non-family) be given recognition, and be rewarded appropriately for their accomplishments and contributions. An understandable and equitable reward system that encourages cooperative rather than competitive efforts should be implemented.

The findings of this study provide important practical insights into the conditions that should prevail to improve the chances of a successful working arrangement between brothers and/or sisters. Parents wishing to hand over the family business to more than one of their children, or siblings wanting to go into business together, would do well to ensure that fairness and a good relationship exists between them, or is at least possible, if they hope for a satisfactory outcome.

6 **Implications for future research**

Mutual trust and respect, as well as open communication, are often considered to be separate constructs in the field of family business research. In this study, the items measuring mutual trust and respect, and open communication loaded onto a single construct, together with the items measuring the sibling bond. This result concurs with that of Gladstein's study (1984) on teams in general, where she also reported that the items measuring open communication, supportiveness, conflict. weighting individual inputs and discussion of strategy, loaded onto one construct. Similarly, Barrick et al. (1998) report that many of a team's processes are reflected in the construct of social cohesion, and that social cohesion is an indicator of positive interpersonal dynamics within the team. Based on the finding of this study and in line with the studies of Gladstein (1984) and Barrick et al. (1998), family business researchers could consider using a single construct such as "social cohesion" or "family cohesion" to reflect the interpersonal processes between family members when undertaking family business research. In this study, the single construct, which described the interpersonal relationship between the sibling partners, was named sibling relationship.

It was initially proposed in Figure 1 that three constructs act as measures of success. Two of these were intervening variables, namely family harmony and financial performance, and one was the dependent variable, namely perceived success. When assessing the discriminant validity by means of an exploratory factor analysis, the original six items measuring financial performance loaded onto two factors, which were renamed financial performance and growth performance. To consider growth and profitability as independent opposing measures of business performance is not uncommon in the literature (Cubbin & Leech, 1986; Geringer, Frayne & Olsen, 1998; Small Firm Survey, 2007-2008). The original measuring instrument contained six items to measure family harmony and five to measure perceived success; these items unexpectedly loaded

together onto one construct. Consequently, three new factors emerged for measuring aspects of success in this study, namely financial performance, growth performance and satisfaction with work and family relationships. The results of this study support Astrachan's (2006) view that no single measure of performance is likely to capture the complexities of the family business. The findings of this study do, however, offer family-business researchers three possible constructs for measuring the success of family businesses.

According to Poutziouris, Smyrnios and Klein (2006), research to date concerning teams in general is also relevant to business families. The findings of this study support this view in that the intra-group processes identified in the teamwork literature have been shown to have an impact on effectiveness in the context of the family business. This finding has important implications for family business research, given that team management among family businesses is considered to be a major focus in the years to come (Sharma, 2004).

7 Limitations and future research

In all empirical studies, their limitations must be identified and considered when making interpretations and conclusions. The use of non-probability snowball convenience sampling is a limitation that introduces a source of potential bias into this study. As such the findings reported cannot be generalised to the general family business population. Another limitation of this study is that the proposed hypothesised model focuses exclusively on a selected number of intragroup processes. Future studies could investigate various other relational and taskbased factors and incorporate them into a more comprehensive model that describes the factors influencing the successful functioning of sibling partnerships. In addition, future studies could focus on other family business teams.

Despite the limitations identified, this study has added to the empirical body of family business research. Potential opportunities for examining teams over time in the family business research setting have been identified. In addition, this study provides an important first step in gaining insights into the intragroup processes influencing the effective functioning of family business teams.

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Appendix A

Satisfaction with work and family relationships				
HARM6	Relationships among members in our family can be described as positive.			
PSUCC1	I am satisfied with the way that my sibling(s) and I work together.			
HARM2	The members of our family are in harmony with each other.			
HARM3	The members of our family are supportive of each other.			
HARM4	Our family members appreciate each other.			
PSUCC3	I enjoy working with my siblings in our family business.			
PSUCC5	I experience my involvement in this business together with my sibling(s) as rewarding.			
PSUCC4	I experience my involvement in this business together with my sibling(s) as fulfilling.			
PSUCC2	I am satisfied with the functioning of the working arrangement between my sibling(s) and I.			
HARM5	Our family members care about each other's welfare.			
	Financial performance			
FIN5	I regard our family business as being financially successful.			
FIN3	Our family business is profitable.			
FIN6	The financial well-being of our family business is secure.			
Growth performance				
FIN1	Our family business has experienced growth in turnover over the past two years.			
FIN4	Our family business has experienced growth in profits over the past two years.			
FIN2	Our family business has experienced growth in employee numbers over the past two years.			
Sibling relationship				
COM1	My sibling(s) and I communicate openly with each other.			
COM4	My sibling(s) and I share information with each other.			
COM2	My sibling(s) and I freely express our opinions about day-to-day decisions in the business with each other.			
СОМЗ	In our business my sibling(s) and I discuss all issues that may arise between us.			
COM5	My sibling(s) and I all have the ability to communicate effectively.			
SIB7	My sibling(s) and I are able to constructively manage conflict between us.			
SIB4	My sibling(s) and I encourage each other to give our best efforts.			
RETRUST3	My sibling(s) and I trust each other.			
RETRUST1	My sibling(s) and I respect each other.			
RETRUST2	Expressing different views and opinions are encouraged between my sibling(s) and I.			
SIB1	My sibling(s) and I have a mutually supportive relationship.			
SIB5	I have a good understanding of how my sibling(s) make(s) decisions.			
RETRUST4	My sibling(s) and I trust each other's ability to manage our family business.			
RETRUST5	I have confidence in the integrity of my sibling(s) working together with me in our family business.			
SIB6	I have a good understanding of the needs and preferences of my sibling(s).			
	Fairness			
FAIR4	In our family business each sibling is compensated fairly for the work that he or she does.			
FAIR6	In our family business rewards for siblings are based on merit.			
FAIR1	Given their compensation each sibling does his or her fair share of the work in our family business.			