An investigation of the influence of entrepreneurial orientation on the perceived success of agribusinesses in South Africa

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The objective of this study was to investigate the influence of an entrepreneurial orientation on the perceived success of agribusinesses in South Africa. Business success, for the purpose of this study, was measured by means of two dependent variables, namely *Business development and improvement* and *Business growth*. Structured questionnaires were administered to managers in five of the largest and three smaller agribusinesses in South Africa. In total, 533 usable questionnaires were returned. Construct validity of the measuring instrument was assessed by means of a principal component exploratory factor analysis and by calculating Cronbach alpha coefficients. The results show that the managers in the participating agribusinesses perceived that the entrepreneurial orientation factors of *Proactiveness*, *Risk-taking* and *Autonomy* have a positive influence on their *business development and improvement*. A positive relationship was also found to exist between the entrepreneurial orientation factors of *Proactiveness*, *Autonomy* and *Innovativeness* and the dependent variable *Business growth* in the participating businesses. To enhance the entrepreneurial orientation in agribusiness, it is recommended that the word "entrepreneurship" should specifically be included in the vision statement of the business, setting goals and developing strategies for entrepreneurship. The focus of the business then becomes opportunity identification, discovery of new sources of value, and product and process innovation that could lead to greater success.

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Introduction

As a result of fast-changing technologies, ever-increasing changes in customer demand and the growing levels of intense global competition (Ireland & Webb, 2009: 1), today's business environment is marked by continuous change. Within this new competitive situation, Drejer (2006: 143) is of the opinion that the key competitive success factor will be the ability of a business to continuously develop new products, processes or services, providing consumers with increased functionality and performance. Consequently, businesses that are not continually innovative may be making the unintentional strategic decision to be out of business within a few years (Ramachandran, Devaranjan & Ray, 2006: 86).

In this regard, an entrepreneurial orientation represents the processes, practices and decision-making activities that lead to the development and delivery of new innovative products, services and processes (Chang, Lin, Chang & Chen, 2007: 999) and is consistently suggested in the literature as a key for success to higher performance (Yamada & Eshima, 2009: 1). Three dimensions of entrepreneurial orientation, namely *Innovativeness*, *Proactiveness* and *Risk-taking* have been identified and used consistently in the literature (Rauch, Wiklund, Lumpkin & Frese, 2009:763) based on the earlier research of Miller (1983). For the purpose of this study, two additional dimensions of entrepreneurial orientation, namely *Autonomy* and *Competitive aggressiveness* have been included, as viewed by Lumpkin and Dess (1996) to be critical to the entrepreneurial orientation concept.

Agribusinesses play an important role in the development of a country's agricultural sector as suppliers of farming requisites, marketers of agricultural commodities and providing services such as storage and transport (Ortmann & King, 2007: 62). The many challenges that agribusinesses in South Africa face, include policy reforms, increasing global competition, a changing social environment and complex consumer demand (Doyer, D'Haese, Kirsten & Van Rooyen, 2007: 495). These challenges demand that decision-makers effectively manage uncertainty and their business' resources to position their business in ways that will allow it to adapt to these changes and challenges. An entrepreneurial orientation may provide a tool for agribusiness development, revenue growth, enhanced profitability and pioneering the development of new products, services and processes that could lead to a sustained competitive advantage (Baran & Velickaité, 2008: 22).

Problem statement and objective

Empirical studies support the proposition that there is a positive relationship between entrepreneurial orientation and business performance, meaning in practice that businesses that adopt a more entrepreneurial orientation perform better

(Madsen, 2007: 188). However, several studies show that this effect is context-specific (Covin & Slevin, 1989; Wiklund & Shepherd, 2005) and may also vary according to national culture (Knight, 1997; Rauch, Wiklund, Frese & Lumpkin, 2004).

Although the body of knowledge concerning the relationship between a business' entrepreneurial orientation and its performance is growing, it is still an under-explored topic (Covin, Green & Slevin, 2006: 58) with most research being conducted within the United States of America (Frank, Kessler & Fink, 2010: 175). Within the South African context, limited research of this nature has been conducted and specifically none among agribusinesses. Against this background, the objective of this research is to investigate the relationship between the entrepreneurial orientation of agribusinesses in South Africa and their perceived success.

Operationalisation of variables

Entrepreneurial orientation has its roots in the strategy-making process literature and represents the policies and practices that provide the basis for entrepreneurial decisions and actions (Rauch *et al.*, 2009: 763). Based on Miller's (1983: 770) conceptualisation that an entrepreneurial business is one that engages in product market innovation, undertakes somewhat risky ventures and is first to come up with proactive innovations, three dimensions of entrepreneurial orientation were identified, namely *Innovativeness*, *Risk taking* and *Proactiveness.* Covin and Slevin (1989: 76) further refined Miller's definition by stating that the entrepreneurial orientation of a business is demonstrated by the extent to which the top managers are inclined to take business-related risks (risk-taking dimension), to favour change and innovation in order to obtain a competitive advantage for their business (innovative dimension), and to compete aggressively with other businesses (proactive dimension). While a number of authors have adopted similar definitions, for example Zahra, Jennings and Kuratko (1999: 50), and Morris, Kuratko and Covin (2008: 54), many others have made subtle changes that altered the meaning of the construct (George & Marino, 2011:992). For example, Dess and Lumpkin (2005:147) define entrepreneurial orientation as the strategy-making practices that businesses use to identify and launch corporate ventures. This definition is clearly limited to decisions related to the launch of new ventures. Therefore, a business may have a high entrepreneurial orientation based on the Covin and Slevin (1989) definition, but not necessarily on the Dess and Lumpkin (2005) definition.

Furthermore, authors have defined the domain of entrepreneurial orientation as containing fewer or more dimensions (George & Marino, 2011: 992). Two other dimensions were added by Lumpkin and Dess (1996: 139-140), namely *Competitive aggressiveness* and *Autonomy*. These authors argue that entrepreneurial orientation includes a propensity to act autonomously and a tendency to be aggressive towards competitors. Wang (2008:637), on the other hand, adopted four dimensions, namely proactiveness, competitive aggressiveness, risk-taking and innovativeness.
Another contentious issue has been the two principle ways in which the entrepreneurial orientation construct has been conceptualised as a uni-dimensional construct or a multidimensional construct. Earlier studies viewed entrepreneurial orientation to be a uni-dimensional construct (Miller 1983; Covin & Slevin, 1989), meaning that the exhibition of only one or two of the dimensions would be insufficient to label the business as entrepreneurial (Covin & Lumpkin, 2011: 862). Later research (Lumpkin & Dess, 1996; Wiklund & Shepherd, 2005; Casillas & Moreno, 2010) suggested that entrepreneurial orientation be considered a multi-dimensional construct that exists as a set of independent dimensions. According to George and Marino (2011: 1000), this implies that entrepreneurial orientation is created by its dimensions, rather than the dimensions being manifestations of entrepreneurial orientation.

Although the entrepreneurial orientation construct has been widely debated (Covin & Lumpkin, 2011: 855), there is unfortunately no consensus on matters such as an appropriate definition of the construct, its domain or its dimensionality (Covin & Lumpkin, 2011: 856; George & Marino, 2011: 992). *For the purpose of this study*, it is our belief that entrepreneurial orientation refers to a business' strategic orientation, one which captures the specific entrepreneurial aspects of decision-making styles, methods and practices. We further view the entrepreneurial orientation construct as consisting of five independent dimensions, namely autonomy, innovativeness, risk-taking, proactiveness and competitive aggressiveness.

Many conceptual arguments from previous research, especially those that view entrepreneurial orientation as a one-dimensional construct, have found a positive relationship between the single variable entrepreneurial orientation and business performance (Dess, Lumpkin & Covin, 1997; Wiklund & Shepherd, 2005). In contrast, Frank *et al*. (2010) found a positive relationship between entrepreneurial orientation and business performance only in cases in which a dynamic environment exists and found a negative relationship in cases where a stable environment exists.

Those who view entrepreneurial orientation as a multidimensional construct have found that not all the dimensions influence business performance the same way. Casillas and Morena (2010) found significant positive relationships between the dimensions proactiveness and innovativeness with business growth. However, no relationships were found between risk-taking and competitive aggressiveness with business growth, respectively. Autonomy and growth were also not significantly related. Although not significantly, Lumpkin, Brigham and Moss (2010) found positive relationships between long-term business performance and all five dimensions of entrepreneurial orientation, with risk-taking and competitive aggressiveness the least positive.

Therefore, there are many different findings in the literature concerning the influence of entrepreneurial orientation on business performance; not only in general, but in particular situations (Miller, 2011:878).

In Figure 1 (the hypothesised model), the dimensions of entrepreneurial orientation hypothesised as influencing the dependent variable, *Perceived success* of the organisation, are depicted, namely *Autonomy*, *Innovativeness*, *Risk-taking*, *Proactiveness* and *Competitive aggressiveness*. The model proposes that the dimensions of entrepreneurial orientation investigated in this study positively influence the *Perceived success* of the organisation.

The dimensions of an entrepreneurial orientation investigated in this study (see Figure 1) are justified by a sufficiency of theory in corporate entrepreneurship literature, and claims are not made that the model has an exhaustive coverage of every possible factor influencing the *Perceived success* of the organisation.

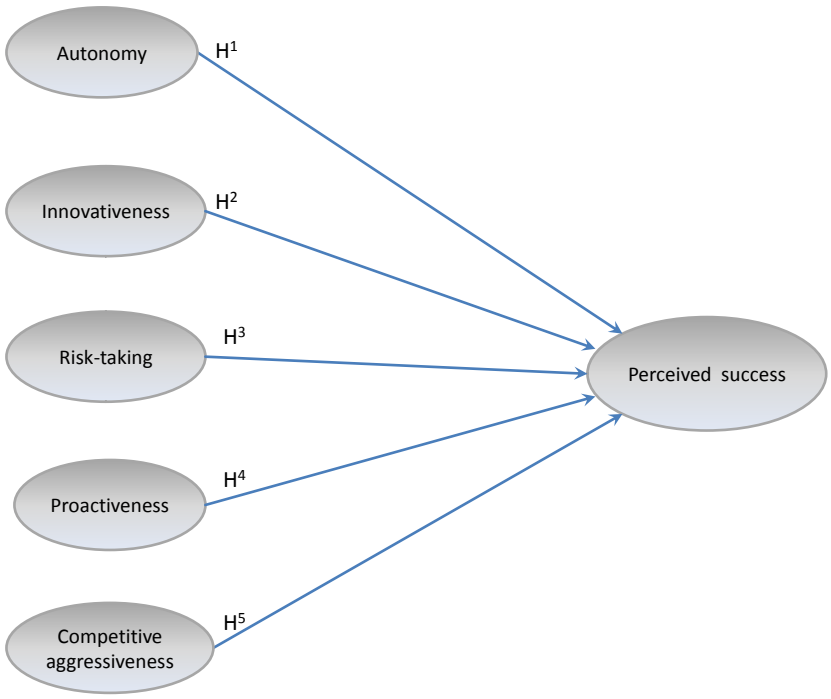

Figure 1: The hypothesised model

Dependent variables

There is general agreement in the literature that performance is a multidimensional concept (Lumpkin & Dess, 1996: 137; Madsen, 2007: 195; Rauch *et al*., 2009: 765) and that multiple performance measures must be used rather than a single dimension. Unfortunately, there is no consensus on the appropriate measures of performance (Wiklund, 1999: 39) and the literature supports a high variety of performance measures (Madsen, 2007: 195). Performance may therefore depend upon the indicators used to assess performance. A common distinction is often made between financial and non-financial performance measures (Rauch *et al*., 2009: 765).

Financial measures, according to Van der Post (1997: 75), provide a solid foundation from which to draw inferences regarding the success and effectiveness of an organisation, because all efforts and systems are eventually aimed at ensuring sustainable financial returns. The most popular financial measures have included sales growth (Covin & Slevin, 1991; Covin, Green & Slevin, 2006; Frank *et al*., 2010; Madsen, 2007; Richard, Wu & Chadwick, 2009; Wiklund & Shepherd, 2005), growth in profits (Wiklund & Shepherd, 2005), growth in cash flow (Frank *et al*., 2010; Wiklund & Shepherd, 2005), return on assets (Covin & Slevin, 1991; Richard *et al*., 2009) and growth in market share (Madsen, 2007).

Non-financial measures have included growth in employment (Gürbüz & Aykol, 2009; Madsen, 2007; Wiklund & Shepherd, 2005), new product/service/process (Lee & Sukoco, 2007; Wiklund & Shepherd, 2003) and customer satisfaction (Wiklund & Shepherd, 2003), among others.

Having an entrepreneurial orientation implies, among others, that a commitment to innovation must be at the heart of the strategic management process (Kuratko & Audretsch, 2009: 3). In this regard, Collis and Montgomery (2005: 33) argue that a consistent flow of expenditure needs to be directed to innovation in order to ensure acceptable long-term levels of strategic intellectual stock that can ensure a sustainable competitive advantage to a successful firm. Terminating innovation efforts during bad times (Christensen, Johnson & Rigby, 2002: 22) may have the consequences that promising initiatives are cut off and probably worst of all is that it creates a scepticism about and resistance to any future innovation initiatives (Wolpert, 2002: 78).

A measure of business success is often related to the effectiveness and efficiency that a business' employees are

able to employ in producing the business' outputs (Dess, Ireland, Zahra, Floyd, Janney & Lane, 2003: 370). In this regard, Kuratko and Audretsch (2009: 9) state that innovations can significantly increase the efficiency or effectiveness of businesses. Effectiveness is seen as "doing things right" in order to create value for the business, while efficiency relates to "doing the right things" in order to ensure the maximum output while expending the minimum input (Jacobs, Chase & Aquilino, 2009: 6).

Finally, successful businesses create people-centred businesses in which human capital is viewed as the most important asset (Kreitner & Kinicki). The intrinsic and extrinsic rewards flowing from a culture of corporate entrepreneurship strongly drive both organisational commitment and job satisfaction among employees (Bulut & Alpkan, 2006: 67). Furthermore, committed and satisfied employees may also have a positive effect on the entrepreneurial orientation of the business, since Hayton (2005: 22) is of the opinion that employees are regarded as a determining factor, even imperative, in developing an entrepreneurial orientation.

For the purpose of this study, the dependent variable *Perceived success* will be measured by using the following items: whether employees are viewed as the most valuable asset of the business; whether employees are highly committed to the business; whether the morale (job satisfaction) of employees has improved over the past few years; whether the image (stature) of the business, relative to competitors, has grown over the past few years; whether the effectiveness (doing the right things) of the business has improved over the past few years; whether, during difficult economic periods, investments in research and development/innovative projects continue with no significant financial cuts; whether the efficiency (doing things right) of the business has improved over the past few years; whether the business has experienced growth in profits over the past few years; whether the business has experienced growth in turnover over the past few years; whether the business has experienced growth in market share over the past few years; and whether the competitive position of the business has improved over the past few years.

Independent variables

Among the different conceptualisations of entrepreneurial orientation, three dimensions of entrepreneurial orientation – *Innovativeness*, *Risk-taking* and *Proactiveness* – have been suggested, adopted and extensively used in other studies (Covin & Slevin, 1989; Wiklund & Shepherd, 2005; Morris *et al*., 2008; Gürbüz & Aykol, 2009; Richard *et al*., 2009; Frank *et al*., 2010). Two other dimensions, namely *Autonomy* and *Competitive aggressiveness*, have also been considered important in measuring entrepreneurial orientation (Lumpkin & Dess, 1996; Dess & Lumpkin, 2005; Covin *et al*., 2006). For the purpose of this study, these five dimensions will be considered as independent variables influencing the dependent variable, *Perceived success* of the agribusinesses and will be discussed in this section.

Autonomy

Autonomy refers to the independent actions of an individual or a team in bringing forth an idea or a vision and carrying it through to completion (Lumpkin & Dess, 1996: 140; Lee & Sukoco, 2007: 551).

To encourage autonomy, business uses both "top-down" and "bottom-up" approaches. The top-down approach includes aspects such as management support for programmes, giving incentives that foster a climate of entrepreneurship and welcoming autonomous decision-making (Dess & Lumpkin, 2005: 149). In this regard, Dess *et al*. (2003: 355) are of the opinion that such business design features may be as important to entrepreneurial success as the other dimensions of an entrepreneurial orientation. To encourage autonomy from the bottom up will require special incentives and structural arrangements designed to develop and build support for entrepreneurial initiatives (Lumpkin, Cogliser & Schneider, 2009: 49).

Furthermore, many businesses have engaged in actions such as flattening hierarchies and delegating authority to operating units. While these moves are intended to foster autonomy, the process of business autonomy requires much more than a change in design. Businesses must actually grant autonomy and individuals must be encouraged to exercise it (Mumford, Scott, Gaddis & Stange, 2002: 724).

Although Lumpkin and Dess proposed the inclusion of *Autonomy* as a dimension of entrepreneurial orientation in 1996, very few studies have investigated autonomy as an element of entrepreneurial orientation (Lumpkin *et al*., 2009:48). Consequently, the relationship between *Autonomy* and *Business success* has not been debated. Autonomy, however, constitutes one of the bases for innovative and entrepreneurial behaviour (Casillas & Morena, 2010: 270) and businesses that rely on an entrepreneurial orientation to create new value and grow must encourage entrepreneurial behaviour by allowing employees to act and think more independently (Gürbüz & Aykol, 2009:324). *Autonomy* is therefore essential to the process of leveraging a business' existing strengths, identifying opportunities and encouraging the development of new ventures and/or improved business practices (Lassen, Gertsen & Riis, 2006: 361). Prior research (Rauch *et al*., 2009; Brock, 2003) also supports the view that autonomy encourages innovation, promotes the launching of new ventures and increases the competitiveness and effectiveness of businesses. Therefore, considering the above arguments, we propose the following hypothesis:

H^1: There is a positive relationship between *Autonomy* in the workplace and the *Perceived success* of the participating agribusinesses.

Innovativeness

The importance of innovation to entrepreneurship was first emphasised by Lumpkin and Dess (1996: 141), who proposed that innovation is the single dimension that has to be employed by all entrepreneurial businesses. It can therefore be argued that, even in the presence of the other dimensions, if innovation is not employed there is no

business level entrepreneurship (Gürbüz & Aykol, 2009: 323). *Innovativeness* reflects a business' tendency to engage in and support new ideas, novelty, experimentation and creative processes that may result in new products, services or processes (McFadzean, O'Loughlin & Shaw, 2005: 353). Product/service innovation presents any change in the product or service range that a business takes to market and has proved to be potentially significant sources of strategic advantage (Cooper, 1998: 499). Product/service innovation is the most clearly understood form of innovation and consists of disruptive (or radical) innovation and incremental innovation (Schilling, 2005: 38).

Many definitions have been proposed for radical innovation and incremental innovation, but most of the definitions hinge on the degree to which an innovation represents a departure from existing practices (Schilling, 2005: 43). Process innovation is any change in the way a product/service is created or delivered (Johnson, 2001: 139) and these innovations are usually invisible to the user except for changes in the cost or quality of the product. By making a product better or cheaper, disrupted upstream or downstream linkages may not be necessary (Anderson & Tushman, 2004: 38). Similar to product innovation, process innovation can either be disruptive or incremental. Most process innovations are incremental improvements that result in incremental improvements in key performance parameters, for example cost reduction, quality enhancement and time reduction. Disruptive process innovations are radical shifts to new process routes for the business and perhaps, for the industry as well (Bessant, 2003: 5).

The relationship between *Innovativeness* and firm performance presents the greatest degree of consensus (Casillas & Moreno, 2010:269) with most studies finding a positive relationship. For example, Rauch *et al*. (2009); Morena and Casillas (2008); Subramanian and Nilakanta (1996) and Kleinschmidt and Cooper (1991) all found a positive relationship between *Innovativeness* and *Business performance and growth*. As a result, there is a growing recognition that innovation has become the only sustainable source of growth, competitive advantage and new wealth (Drejer, 2006:143). According to Wiklund and Shepherd (2003:1309), innovative businesses can generate extraordinary performance and have been described as the engines of economic growth. We are therefore confident that a positive relationship between innovativeness and perceived success exists and propose the following hypothesis:

H^2: There is a positive relationship between the *Innovativeness* and the *Perceived success* of the participating agribusinesses.

Risk-taking

The term risk is defined by Dewett (2004: 258) as the extent to which there is uncertainty about whether potentially significant and/or disappointing outcomes of a decision will be realised. In this regard, Mullins and Forlani (2005: 51) characterise risk as either the potential to act too quickly on an unsubstantiated opportunity (sinking the boat) or the potential to wait too long before acting (missing the boat).

Risk is inherent in the operations of any business and almost every decision taken by managers involves risk (Von Stamm, 2008: 387). Often, corporate entrepreneurial businesses that have an entrepreneurial orientation are typified by risk-taking behaviour, such as incurring heavy debt or making large resource commitments, in the interest of obtaining high returns by exploiting opportunities in the marketplace (Bhardwaj, Agrawal & Momyaya, 2007: 134). However, this risk does not refer to extreme or uncontrollable risk, but rather to moderate and calculated risk (Morris *et al*., 2008: 62). Corporate entrepreneurs are therefore not high risk-takers (Lambing & Kuehl, 2007: 19). Instead, they try to define the risk they have to take, minimise it as much as possible and manage it (Timmons & Spinelli, 2009: 52). These enterprises should rather be viewed as risk-aware and opportunity-focused (McBeth & Rimac, 2004: 18).

Another aspect of risk-taking is the assumption, which is often made, that innovativeness and risk-taking are directly correlated, that is, doing more innovative things means taking higher risks. According to Morris *et al*. (2008: 62), this relationship is far more complex. Risk is also high when business ignores new product/service opportunities and engages in little or no innovation. In this regard, Burns (2008: 291) notes that while not innovating presents a minimal risk in the short term, it does create a high risk in the long term. In essence, businesses that do not innovate are faced with a higher risk of not perceiving market and technology shifts that are capitalised on by competitors. The opposite is also true. Businesses that attempt to come up with breakthrough innovations that create new markets and redefine industries also face high risk (Morris *et al*., 2008: 63).

To be successful in future, businesses will need to exploit an entrepreneurial orientation with the ability to rapidly sense, act and mobilise under highly risky conditions (McGrath & MacMillan, 2000: xiv), given factors such as globalisation, deregulation, technological and social change as well as information technology that are forcing businesses to cope with rapid and unexpected change, which has long been central to the theory of entrepreneurship (Shane, Locke & Collins, 2003: 264).

The relationship between risk-taking and the success of a firm is not so clear (Rauch *et al*., 2009) and Wiklund and Shepherd, (2005: 75) argue that there is research that suggests that while tried-and-true strategies may lead to high performance, risky strategies may lead to performance variation since some projects fail while others succeed. Against this background, the following hypothesis is subjected to further testing:

H^3: There is a positive relationship between the *Risk-taking* propensity and the *Perceived success* of the participating agribusinesses.

Proactiveness

According to Madsen (2007: 187), *Proactiveness* refers to a posture of anticipating and acting on future wants and needs in the marketplace, thereby creating a first-mover advantage *vis-à-vis* competitors. As first movers, businesses can control access to markets by dominating distribution channels, charge high prices and "skim" the market ahead of competitors (Wiklund & Shepherd, 2005: 75), secure access to rare resources, gain new knowledge of key factors and issues, carve out market share and be in a position that is easy to defend and costly for rivals to overtake (David, 2007: 200). First movers are, however, not always successful. The introduction of novel products or breakthrough technologies is not always accepted by the market. Therefore, careful analysis of the environment and extensive feasibility research are needed for a proactive strategy to lead to a competitive advantage (Dess & Lumpkin, 2005: 151).

Lumpkin and Dess (1996: 146), however, argue that although the idea of acting in anticipation of future demand is an important component of entrepreneurship, the idea of being first to the market is somewhat narrowly construed. A business can be novel, forward thinking and fast without always being first. Subsequently, Lumpkin and Dess (1996: 146) suggest that *Proactiveness* refers to processes aimed at anticipating and acting on future needs by seeking new opportunities that may or may not be related to the present line of operations and the introduction of new products and brands ahead of competition. Some of the activities that are therefore associated with proactiveness include new opportunity identification and evaluation, identification and monitoring of market trends and new venture team formation (Kropp, Lindsay & Shoham, 2008: 104). A proactive business is therefore a leader rather than a follower, since it has the will and the foresight to seize new opportunities, even if it is not always the first to do so (Gürbüz & Aykol, 2009: 323).

Apart from *Innovativeness*, Rauch *et al*. (2009) found that *Proactiveness* is the other integrating dimension of entrepreneurial orientation that offers a more intense positive relationship with business performance. Casillas and Moreno (2010) also found that proactive businesses reveal greater performance and growth. Therefore, we are in favour of defending a positive relationship between a business' proactiveness and its success:

H^4: There is a positive relationship between the *Proactiveness* and the *Perceived success* of the participating agribusinesses.

Competitive aggressiveness

Competitive aggressiveness refers to a business' propensity to directly and intensely challenge its competitors (Lumpkin & Dess, 1996: 148) in an attempt improve position in the market place (Chang *et al*., 2007: 1000). It is important to note that within the context of entrepreneurial orientation, *Competitive aggressiveness* is a reaction to competitive trends and demands that already exist in the marketplace (Lumpkin & Dess, 2001:434). It therefore translates to a response to threats from competitors.

Businesses that are competitively aggressive are characterised by responsiveness, which may take the form of head-to-head confrontation, for example when a business enters a market that another competitor has identified (Lee & Sukoco, 2007: 550). Responsiveness may also take the form of a business being reactive, for example when a business lowers prices in response to a competitive challenge. Furthermore, *Competitive aggressiveness* also reflects a willingness to be unconventional rather than relying on traditional methods of competing. This includes, among others, adopting unconventional tactics to challenge industry leaders, analysing and targeting a competitor's weakness and focussing on high value-added products (Lumpkin & Dess, 2001: 434).

Although closely related, Lumpkin and Dess (1996: 147) feel that there is an important distinction between *Competitive aggressiveness* and *Proactiveness* that needs to be clarified. *Proactiveness* refers to how a business relates to market opportunities by seizing initiative and acting opportunistically in order to shape the environment, that is, to influence trends and perhaps even create demand. In contrast, *Competitive aggressiveness* refers to how businesses relate to competitors, that is, how businesses respond to trends and demand that already exist in the marketplace.

Competitive aggressiveness has generally been investigated less frequently (Lumpkin & Dess, 2001:431), we believe for two reasons. Firstly, similar to *Autonomy*, *Competitive aggressiveness* has not been part of the "original" dimensions of entrepreneurial orientation and secondly, prior theory and research have often treated *Proactiveness* and *Competitive aggressiveness* as if they were interchangeable (Lumpkin & Dess, 2001:431). Competitive aggressive behaviour is, however, less related to a strategy oriented to growth, since Casillas and Moreno (2010:284) argue that it is a reactive behaviour to competitors or behaviour in defence of a market position. Consistent with their view, they found no relationship between competitive aggressiveness and growth.

The following hypothesis is therefore subjected to further testing:

H^5: There is a positive relationship between the *Competitive aggressiveness* and the *Perceived success* of the participating agribusinesses.

Research methodology

Research approach

The research approach followed in this study was quantitative in nature, since quantitative research is used to answer questions about relationships among measured variables with the purpose of explaining, predicting and controlling phenomena (Leedy & Omrod, 2005: 94-95).

Primary data was collected by means of structured questionnaires and analysed by conducting an exploratory factor analysis and multiple linear regression. The research approach is deemed appropriate for gaining information to answer the overall research question and against which the hypotheses could be tested.

Research method

The research method will be discussed in the following sections, namely measuring instrument, research participants, research procedure and statistical analysis.

Measuring instrument

The dimensions of entrepreneurial orientation investigated in this study, namely *Autonomy*, *Innovativeness*, *Risk-taking*, *Proactiveness* and *Competitive aggressiveness* were identified in the literature (Morris *et al*., 2008: 54; Covin & Slevin, 1989: 76; Lumpkin & Dess, 1996: 139-140; Zahra *et al*., 1999: 50). Items measuring the dimensions were compiled based on the following measuring instruments, namely *The corporate entrepreneurship climate instrument* (Morris *et al*., 2008), *Entrepreneurial climate* (Oosthuizen, 2006), *Measuring intrapreneurship* (Hill, 2003), *Corporate entrepreneurship assessment instrument* (Hornsby, Kuratko & Zahra, 2002), *Intrapreneurship items* (Antoncic & Hisrich, 2001), *Entrepreneurial orientation items* (Lumpkin & Dess, 2001), *The organisation structure and strategic posture scale* (Covin & Slevin, 1989) and *Entrescale* (Knight, 1997).

Respondents were requested to indicate their extent of agreement with each statement posed by means of a five-point Likert scale (where 1 indicates they strongly disagree and 5 that they strongly agree with the statement).

A section of the measuring instrument included the gathering of biographical information for possible future correlations with the opinions expressed in the survey. Respondents were requested to indicate their age group, gender, race, managerial level, highest academic qualification and division they worked in according to predefined categories.

Research participants

The study population for this study consisted of two populations. The first study population consisted of agribusinesses in South Africa and the second, managers within those agribusinesses. The first study population was selected by means of a non-probability sampling technique, namely judgement sampling, where the sample was selected based on the judgement of the researcher (Zikmund & Babin, 2007: 412). Five of the largest agribusinesses (in terms of group turnover and group assets) and three of the smaller agribusinesses were included in the study.

The second study population consisted of all the managers (senior, middle and junior levels) within these agribusinesses. No sampling technique was therefore required. With the assistance of the Human Resource Managers in each of the agribusinesses, management levels were identified by means of the particular job grading system used by that specific agribusiness. A list of all the managers was provided by the Human Resource Manager for each of the participating agribusinesses.

Research procedure

The questionnaires were mailed or personally delivered to a designated person (in most instances the Human Resource Manager) in a specific agribusiness, who acted as a contact person and also assisted with the distribution and subsequent collection of the questionnaires. Respondents were requested to anonymously and voluntarily complete the questionnaire and return the completed forms to the designated person. In total, 1 792 questionnaires were distributed from which 533 usable questionnaires were returned – representing a response rate of 29,74%.

Statistical analysis

The data was firstly subjected to an exploratory factor analysis to assess the construct validity of the measuring instrument. This was followed by calculating the Cronbach alpha coefficients to assess the reliability of the measuring instrument. Finally, the relationships between the independent and dependent variables were examined by means of multiple linear regression analysis. The above analyses were done making use of Statistica (Statsoft, 2010) and PASW Statistics (PASW, 2010).

Results and discussion

Demographic information

Most of the participating managers in this study were between the ages 30 to 39 years old (32,5%), followed by the second highest group (31,2%) with ages between 50 to 59 years old and the third highest group (25,5%) with ages between 40 and 49 years old. Together, these three groups account for 89% of the total respondents. Males constituted approximately 84% of the respondents. A total of 53% of respondents represented lower-level management, with middle and higher management levels represented by 34% and 11% respectively.

Construct validity of measuring instrument

The dangers of using scales not validated for a specific country context have been highlighted in the international business literature (Antoncic & Hisrich, 2001; Knight, 1997: 215; Scheepers, Bloom & Hough, 2008: 2). For example, Kemelgor (2002) concluded that entrepreneurial orientation is characterised by cultural differences. Even though the domain of entrepreneurial orientation has received a substantial amount of theoretical and empirical attention (Rauch *et al*., 2009: 762), the vast majority of publications has been from American authors (Frank *et al*., 2010: 175).

In order to conduct the exploratory factor analysis, the data was divided into two models. The first model related to the dependant variable, whereas the second model related to the independent variables. In identifying the factors to extract

for each model, the percentage of variance explained and the individual factor loadings were considered.

With regard to the first model concerning the dependent variable, an Oblimin oblique rotation was performed on the principal components of the exploratory factor analysis, since there was theoretical justification to believe that the factors measuring *perceived success* would correlate with each other (Field, 2009: 643). Two tests, namely Bartlett's test of sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy were considered important in determining the appropriateness of the data for factor analysis (Gürbüz & Aykol, 2009: 327). The data measuring the perceived success yielded a sampling adequacy of 0,863 and the Bartlett's test of sphericity yielded a *p*-value of smaller than 0,0001, indicating that patterns of correlations are compact and that factor analysis should yield reliable factors (Field, 2009: 647).

To determine the number of factors to be extracted, Kaiser's criterion was used, namely to retain factors with eigen-values greater than one (Field, 2009: 647). All of the 11 items demonstrated sufficient discriminant validity by loading to a sufficient extent. Factor loadings greater than 0,35 were considered significant (Field, 2009: 637; Stevens, 1992: 382-384). The factor matrix of the 11 items is provided in Table 1.

Table 1: Oblimin rotated factor matrix: Dependent variable [(1)]

Item [(2)]	Factor 1: Business development and improvement	Factor 2: Business growth
Success 7	**0,801**	0,161
Success 9	**0,791**	0,008
Success 8	**0,714**	0,064
Success 10	**0,510**	**-0,361**
Success 5	**0,471**	-0,334
Success 11	**0,449**	-0,017
Success 6	**0,382**	**-0,352**
Success 2	-0,067	**-0,848**
Success 1	-0,151	**-0,846**
Success 3	0,213	**-0,610**
Success 4	**0,397**	**-0,418**
Cronbach Alpha	**0,812**	**0,731**

(1) Loadings greater than 0,35 were considered significant
(2) The items included in the factor analysis are provided in Appendix 1

Table 1 shows that the items expected to measure *Perceived success* split into two separate factors that were named *Business development and improvement* and *Business growth.* Three items loaded significantly onto both the factors (values greater than 0,35). Rather than deleting the items, it was decided to classify them under the factor that has the highest loading. The correlation matrix for the two dependent variables indicated a correlation of 0,569 between the variables (Ellis & Steyn, 2003: 53), confirming that an oblique rotation should have been used (Field, 2009: 643).

For this study, *Business development and improvement* refers to highly committed employees viewed as the most valuable asset of the business and the improvement of job satisfaction, image of the business, efficiency and effectiveness over the past few years with continued investments in research and development/innovative projects even during difficult economic periods. *Business growth* refers to growth in profits, turnover, market share and the competitive position of the business over the past few years.

To assess the discriminant validity of the 27 items measuring the entrepreneurial orientation of managers in agribusinesses, an exploratory factor analysis was conducted. Two tests, namely Bartlett's test of sphericity and the Kaiser-Meyer-Olkin measure of sampling adequacy were considered important in determining the appropriateness of the data for factor analysis (Gürbüz & Aykol, 2009: 327). The data measuring the entrepreneurial orientation yielded a sampling adequacy of 0,897 and the Bartlett's test of sphericity yielded a p-value of smaller than 0,001, indicating that patterns of correlations are compact and that factor analysis should yield reliable factors (Field, 2009: 647).

An Oblimin oblique rotation was performed on the principal components of the exploratory factor analysis. To determine the number of factors to be extracted, Kaiser's criterion was

used, namely to retain factors with eigen-values greater than one (Field, 2009: 647). A total of 24 items demonstrated sufficient discriminant validity by loading to a sufficient extent. The loadings of three items (Innovative9, Proactive1 and Competitive4) were not significant (below the value of 0,35) and were therefore deleted. The factor matrix of the remaining 24 items is provided in Table 2.

Applying the factor extraction criterion that the eigen-values must be greater than one (Davis, 2005: 446), five factors were extracted in the exploratory factor analysis explaining 53,15% of the variance before rotation. After rotation, these factors could be identified as the theoretical dimensions of *Proactiveness, Autonomy, Risk-taking, Innovativeness* and *Competitive aggressiveness.*

Factor one, labelled *Proactiveness,* consisted of eight items. Two items (Proactive3; Proactive4) that were used to measure the latent variable *Proactiveness* loaded onto factor one. Five items (Innovative7, Innovative2, Innovative4, Innovative8, Innovative6) relating to the latent variable *Innovativeness,* were also included in factor one. One item (Risk3), used to measure the latent variable *Risk-taking*, was also included in factor one. These items were regarded by respondents as being related to the factor *Proactiveness*. For the purpose of this study, *Proactiveness* refers to the continuous monitoring of market trends and future needs of customers, opportunities created by these trends and needs are pursued, existing products/services are continuously improving and new product/services are continually provided.

The second factor, labelled *Autonomy*, comprised four items. Four of the five items that were originally intended to measure the latent variable *Autonomy* (Autonomy4, Autonomy1, Autonomy2; Autonomy5) loaded onto the factor *Autonomy*, as expected. One item loaded significantly onto two factors (values greater than 0,35). The item Autonomy5 loaded onto both the factors *Autonomy* and *Risk-taking*. Rather than deleting the item, it was decided to classify it under the factor that has the highest interpretation value, namely *Autonomy*. *Autonomy* refers to employees being encouraged to manage their own work without continual supervision and being allowed flexibility to be creative and try different methods to do their jobs.

Table 2: Oblimin rotated factor matrix: Independent variables [(1)]

Item[(2)]	Factor 1: Proactiveness	Factor 2: Autonomy	Factor 3: Risk-taking	Factor 4: Innovativeness	Factor 5: Competitive aggressiveness
Proactive4	**0,763**	-0,056	0,108	-0,023	0,020
Innovative7	**0,761**	-0,020	0,091	0,008	-0,026
Proactive3	**0,719**	-0,066	0,041	0,232	-0,022
Innovative2	**0,647**	0,030	0,083	0,146	0,020
Innovative4	**0,630**	0,008	0,037	0,170	0,079
Innovative8	**0,590**	0,143	0,016	0,003	-0,007
Risk3	**0,544**	0,063	-0,181	-0,066	0,121
Innovative6	**0,457**	0,080	0,220	0,085	0,006
Autonomy4	0,141	**0,768**	-0,064	-0,028	0,094
Autonomy1	-0,079	**0,762**	-0,067	0,083	0,008
Autonomy2	0,199	**0,700**	0,038	0,034	-0,060
Autonomy5	-0,159	**0,414**	**0,367**	0,113	0,049
Risk2	0,000	-0,283	**0,764**	0,154	0,065
Risk5	0,160	0,043	**0,634**	-0,011	0,108
Risk4	0,204	0,222	**0,523**	-0,217	0,009
Autonomy3	-0,044	0,306	**0,507**	-0,080	-0,060
Risk1	0,061	-0,035	**0,466**	0,043	0,073
Innovative3	-0,039	0,083	-0,103	**0,882**	0,007
Innovative1	0,277	-0,044	-0,049	**0,711**	-0,018
Innovative5	0,029	0,091	0,175	**0,581**	0,050
Competitive1	-0,223	-0,014	0,031	-0,005	**0,912**
Competitive3	0,315	0,086	0,001	-0,005	**0,504**
Competitive2	0,295	-0,017	0,094	0,121	**0,497**
Proactive2	0,311	0,030	0,053	0,005	**0,445**
Cronbach alpha	**0,855**	**0,676**	**0,647**	**0,678**	**0,672**

(1) Loadings greater than 0,35 were considered significant
(2) The items included in the factor analysis are provided in Appendix 1

The third factor, which comprised five items, was labelled *Risk-taking*. Four items (Risk2, Risk5, Risk4; Risk1), that were originally used to measure the latent variable, *Risk-taking*, loaded onto this factor as expected. One item (Autonomy3), measuring the latent variable *Autonomy*, also loaded onto the *Risk-taking* factor. In this study, *Risk-taking* refers to the business having a strong inclination towards high risk projects and when confronted with uncertainty, the business typically adopts a bold posture to maximise the probability of exploiting opportunities. Furthermore, the term 'risk-taker' is considered a positive attribute for employees and consequently employees are encouraged to take calculated risks concerning new ideas without going through elaborate justification and approval procedures.

Factor four consisted of three items and was labelled *Innovativeness*. All three items (Innovative3, Innovative1, Innovative5) that were originally intended to measure the latent variable, *Innovativeness*, loaded onto the factor as expected. For the purpose of this study, *Innovativeness* refers to the regular introduction of new products/services/processes, the increase in the number of service/product offerings during the past two years and the extent to which these new products/services/processes have been dramatic within the past few years.

Factor five, labelled *Competitive aggressiveness*, consisted of four items. Three items (Competitive1, Competitive3; Competitive2) that were used to measure the latent variable *Competitive aggressiveness* loaded onto factor five. One item (Proactive2), used to measure the latent variable *Proactiveness*, was also included, being regarded by respondents as also being related to *Competitive aggressiveness*. In this regard, *Competitive aggressiveness* refers to when an aggressive posture is assumed not only against competitors, but also any industry trends that may compromise survival or competitive position.

The wording of the statements (items) originally measuring the five latent variables is provided in Appendix 1. The exploratory factor analysis, together with the interpretability of the factors, provides some evidence of construct validity.

Reliability of measuring instrument

To assess the internal consistency of the items measuring the various factors under investigation, Cronbach alpha coefficients were calculated (Bryman & Bell, 2007: 164). Coefficient alpha measures internal consistency by computing the average of all split-half reliabilities for a multiple-item scale (Zikmund & Babin, 2007: 322). The coefficient varies between 0 for no reliability, and 1 for maximum reliability (Kent, 2007: 142) and values of below 0,7 can realistically be expected with psychological constructs (Field, 2009: 668). Since this study is an exploratory assessment of managerial perceptions in agribusinesses in South Africa, a value of 0,6 is acceptable, although 0,7 is preferred to indicate a higher level of reliability (Bagozzi, 1994: 18). The results in Table 1 and Table 2 suggest that the proposed instrument is reliable with no factors below the Cronbach alpha value of 0,6.

Modified hypotheses

As a result of the exploratory factor analysis, it was deemed necessary to reformulate the original hypotheses depicted in the hypothesised model (Figure 1). These relationships are summarised below:

H^{1a}: There is a positive relationship between *Autonomy* in the workplace and *Business development and improvement* of the participating organisations

H^{1b}: There is a positive relationship between *Autonomy* in the workplace and the *Business growth* of the participating organisations

H^{2a}: There is a positive relationship between *Innovativeness* in the organisation and *Business development and improvement*

H^{2b}: There is a positive relationship between *Innovativeness* in the organisation and the *Business growth* of the participating organisations

H^{3a}: There is a positive relationship between the *Risk-taking* propensity in the organisation and *Business development and improvement*

H^{3b}: There is a positive relationship between the *Risk-taking* propensity in the organisation and the *Business Growth* of the participating organisations

H^{4a}: There is a positive relationship between *Proactiveness* in the organisation and Business *development and improvement*

H^{4b}: There is a positive relationship between *Proactiveness* in the organisation and the Business *growth* of the participating organisations

H^{5a}: There is a positive relationship between *Competitive aggressiveness* in the organisation and *Business development and improvement*

H^{5b}: There is a positive relationship between *Competitive aggressiveness* in the organisation and the *Business growth* of the participating organisations

The modified hypothesised model is illustrated in Figure 2.

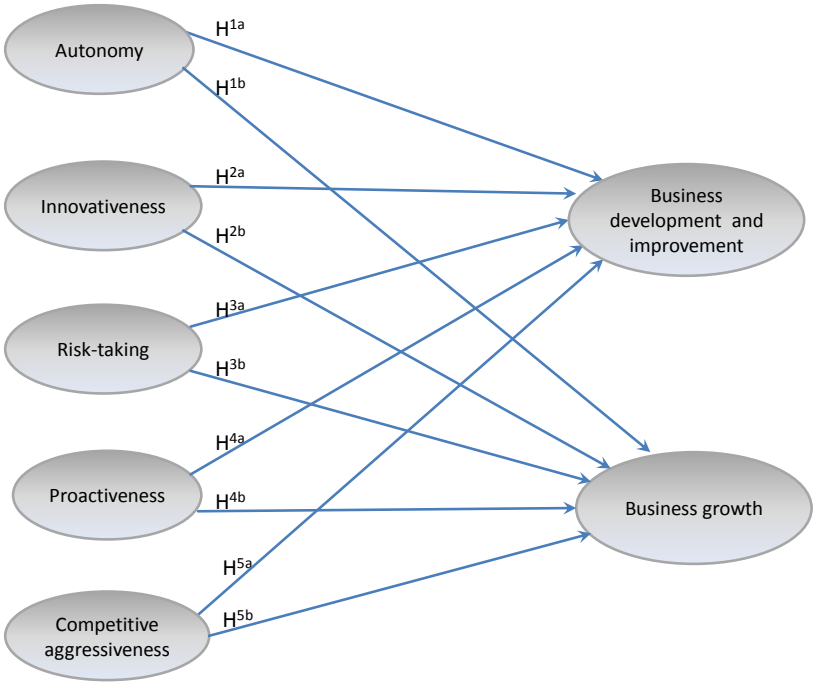

Figure 2: The modified hypothesised model

Multiple regression analyses results

In order to determine whether the independent variables – *Proactiveness*, *Risk-taking*, *Autonomy*, *Innovativeness* and *Competitive aggressiveness* – have an influence on the dependent variables *Business development and improvement* and *Business growth*, a multiple regression analysis was performed. Factor scores for each participant were computed as the average of all items contributing to the relevant factor, automatically replacing missing values by means of substitution. The results of the multiple regression analysis for the influence of the independent variables on the dependent variables are presented in Tables 3 and 4, respectively. A normal probability plot on the residuals of this fit confirmed the assumption of normality.

Table 3 indicates that, in practice, a significant percentage (53,1%) of the variation in the *Business development and improvement* of the participating organisations is explained by the five entrepreneurial orientation variables, i.e. *Proactiveness*, *Risk-taking*, *Autonomy*, *Innovativeness* and *Competitive aggressiveness*.

The multiple regression analysis indicates significant positive relationships between the independent variables *Proactiveness* ($p < 0,001$), *Risk-taking* ($p = 0,022$) and *Autonomy* ($p < 0,001$) and the dependent variable *Business development and improvement*, respectively. No significant relationship could be found between the independent variables *Innovativeness* and *Competitive aggressiveness* and *Business development and improvement*.

The hypotheses that there is a positive relationship between the variables *Proactiveness* (H^{4a}), *Risk-taking* (H^{3a}) and *Autonomy* (H^{1a}) and *Business development and improvement* respectively were therefore accepted. The hypotheses that there is a positive relationship between the independent variables *Innovativeness* (H^{2a}) and *Competitive aggressiveness* (H^{5a}) and *Business development and improvement* were, however, not accepted.

Table 3: Multiple regression results: Impact of the independent variables on the dependent variable *Business development and improvement*

	Non-standardised coefficients		Standardised coefficients		
Model	**B**	**Std. Error**	**Beta**	**t-value**	**p-level**
(Constant)	0,453	0,138		3,280	0,001
Proactiveness	0,470	0,044	0,453	10,776	0,000**
Risk-taking	0,073	0,032	0,082	2,296	0,022**
Autonomy	0,234	0,029	0,271	8,105	0,000**
Innovativeness	0,083	0,066	0,080	1,260	0,208
Competitive aggressiveness	0,036	0,052	0,041	0,703	0,482

R^2 =0,531 (** p<0,05)

Table 4: Multiple regression results: Impact of the independent variables on the dependent variable *Business growth*

Model	Non-standardised coefficients		Standardised coefficients	t-value	p-level
	B	Std. Error	Beta		
(Constant)	1,916	0,152		12,582	0,000
Proactiveness	0,327	0,048	0,339	6,804	0,000**
Risk-taking	-0,079	0,035	-0,095	-2,238	0,026**
Autonomy	0,080	0,032	0,100	2,511	0,012**
Innovativeness	0,274	0,073	0,282	3,763	0,000**
Competitive aggressiveness	0,016	0,057	0,019	0,272	0,785

R^2 =0,34 ** (p<0,05)

Table 4 indicates that, in practice, a significant percentage (34,0%) of the variation in *Business growth* is explained by five entrepreneurial orientation variables, i.e. *Proactiveness*, *Risk-taking*, *Autonomy*, *Innovativeness* and *Competitive aggressiveness*.

The multiple regression analysis indicates significant positive relationships between the independent variables *Proactiveness* (p < 0,001), *Autonomy* (p = 0,012) and *Innovativeness* (p < 0,001), and the dependent variable *Business growth*, respectively. A significant negative relationship was found between the variable *Risk-taking* (p = 0,026) and the dependent variable *Business growth*. No relationship could be found between the independent variable *Competitive aggressiveness* and the dependent variable *Business growth*.

The hypotheses that there is a positive relationship between the entrepreneurial orientation independent variables, i.e. *Proactiveness* (H^{4b}); *Autonomy* (H^{1b}) and *Innovativeness* (H^{2b}), and the dependent variable *Business growth*, respectively, were therefore accepted. The hypotheses that there is a positive relationship between the independent variables *Risk-taking* (H^{3b}) and *Competitive aggressiveness* (H^{5b}) and *Business growth* were, however, not accepted.

Conclusion and recommendations

The objective of this study was to investigate the relationship between the entrepreneurial orientation of agribusinesses in South Africa and their perceived success. The results show that managers in the participating agribusinesses perceived the following entrepreneurial orientation factors as influencing the *Business development and improvement* i.e. *Proactiveness*, *Risk-taking* and *Autonomy*. Put differently, agribusinesses that are continuously monitoring market trends and future needs of customers; pursuing opportunities created by these trends and needs; improving existing products/services continually; having a strong inclination towards high risk projects and when confronted with uncertainty, typically adopts a bold posture to maximise the probability of exploiting opportunities; encouraging their employees to manage their own work without continual supervision and being allowed flexibility to be creative and try different methods to do their jobs, are more likely to experience an increase in organisational efficiency and effectiveness, improved image as well as increased job satisfaction and highly committed employees.

Similar to the findings of Lumpkin *et al*. (2010), positive relationships were also found to exist between the entrepreneurial orientation factors *Proactiveness*, *Autonomy* and *Innovativeness*, and the *Business growth* of the participating agribusinesses. In practice, this implies that the more agribusinesses are continuously monitoring market trends and future needs of customers; pursuing opportunities created by these trends and needs; improving existing products/services continually; encouraging their employees to manage their own work without continual supervision and being allowed flexibility to be creative and try different methods to do their jobs; introducing new products/services/processes on a regular basis; increasing the number of service/product offerings during the past few years and the extent to which these new products/services/processes have been dramatic within the past few years, the more likely it will lead to business growth in terms of increased turnover, profits and market share.

Competitive aggressiveness, consistent with the findings from Lumpkin and Dess (2001) and Lumpkin *et al.* (2010), showed no relationship with *Business development and improvement* or *Business growth*. In this regard, Lumpkin and Dess (2001:446) perhaps present an explanation and argue that *Competitive aggressiveness* may enhance a business' efforts to maintain a strong position relative to competitors (reactive behaviour), but this behaviour may not necessarily lead to higher performance. Surprisingly, a negative relationship is reported between the independent variable *Risk-taki*ng and the dependent variable *Business growth*. In part, this finding can be explained by the risk-adverse culture of managers in the participating agribusinesses found to exist during a similar study (Lotz, 2009: 230). The reason for the positive relationship between *Risk-taking* and *Business development and improvement*, yet simultaneously showing a negative relationship with *Business growth*, is unclear. It is recommended that this finding be investigated with follow-up studies to explain the finding.

To enhance the entrepreneurial orientation in agribusiness, a number of recommendations are put forward. Firstly, because an entrepreneurial orientation has its roots in the strategy-making process, it is recommended that entrepreneurship becomes the strategic way of thinking (dominant logic) within agribusinesses. This can be done by specifically including the word "entrepreneurship" in the vision statement of the business, setting goals and developing strategies for entrepreneurship. The focus of the business then becomes opportunity identification, discovery

of new sources of value, and product and process innovation that could lead to greater success.

Being proactive or the posture of anticipating and acting on future wants and needs in the marketplace is vital to the entrepreneurial orientation in businesses. Agribusinesses must therefore constantly monitor the external environment and, importantly, disseminate this information among all employees with the view of seeking new opportunities and ideas.

It is the task of management to create an environment in which workplace autonomy can be fostered. Furthermore, autonomy must actually be granted to employees to enable them to exploit new opportunities and ideas. In this regard, task objectives should be framed in such a way that they are clear but defined in broad terms to allow employees the freedom to pursue a number of different approaches to perform their tasks.

New opportunities and ideas need to culminate into new products/services/processes. Goals and objectives need to be set for innovation. This must include the type of innovation as well as the number of innovative products/ services/processes required. An integrative approach to the type of innovation is recommended and goals and objectives must be developed for both incremental innovations as well as radical innovations.

The adversity to risk-taking in agribusinesses must be addressed. Risk-taking behaviour needs to be encouraged in agribusinesses by articulating to employees that risk-taking behaviour is acceptable. Naturally, employees will be sceptical and it may be necessary to set boundaries for risk-taking behaviour by explaining the types of risk-taking behaviour that will be acceptable. Agribusinesses must develop rules and procedures regarding risk-taking behaviour and identify areas where risk-taking would be acceptable as well as the level of risk that would be tolerated.

Finally, in today's dynamic and uncertain competitive environment, successful agribusinesses will be those in which entrepreneurial behaviour will be used to explore opportunities to build a foundation for future success.

Limitations and suggestions for further research

This study has attempted to make a contribution to the body of knowledge on the relationship between entrepreneurial orientation and the perceived success of South African agribusinesses. Although there is general consensus in the literature on the dimensions measuring entrepreneurial orientation, there is little consensus on the underlying dimensions of business success. Success may therefore depend upon the indicators used to assess success. More comprehensive research is therefore still needed to clarify the underlying dimensions of business success. Another limitation is that, when measuring success, this study relied entirely on the perceptions of the respondents. To close the gap between perception and reality, future research could be designed to collect actual data on business success such as turnover, profits and market share, for example.

The sampling method used to determine the agribusiness study population was a non-probability sample. Furthermore, only agribusinesses previously known as agricultural co-operatives were considered for this study. The findings can therefore not be considered to be representative of all agribusinesses in South Africa. Care should therefore be exercised in the interpretation and utilisation of the results, and the findings of the study cannot be generalised to all agribusinesses. In other words, the typical agribusiness could be underrepresented in the sample. The low response rate from some of the agribusinesses may also skew the findings towards those agribusinesses with a higher response rate.

Finally, the exploratory factor analysis of the measuring instrument assessing the entrepreneurial orientation and perceived success of agribusinesses provides some evidence of construct validity and reliability. Further research is, however, needed before the measuring instrument can be utilised to diagnose these issues in corporate businesses.

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Appendix 1: Items measuring the dependent variable

Item	Statement
BUSS DEVELOPMENT AND IMPROVEMENT	
Success7	In our business, employees are viewed as the most valuable asset of the business.
Success8	Our employees are highly committed to our business.
Success9	The morale (job satisfaction) of our employees has improved over the past few years**.**
Success10	The image (stature) of our business, relative to our competitors, has grown over the past few years.
Success5	The effectiveness (doing the right things) of our business has improved over the past few years.
Success11	During difficult economic periods, investments in research and development/ innovative projects continue and no significant financial cuts are made.
Success6	The efficiency (doing things right) of our business has improved over the past few years.
BUSINESS GROWTH	
Success2	Our business has experienced growth in profits over the past few years.
Success1	Our business has experienced growth in turnover over the past few years.
Success3	Our business has experienced growth in market share over the past few years.
Success4	The competitive position of our business has improved over the past few years.

Appendix 1: Items measuring the independent variables

Item	Statement
AUTONOMY	
Autonomy 01	I have enough autonomy in my job without continual supervision to do my work.
Autonomy 02	Our business allows me to be creative and try different methods to do my job.
Autonomy 03	Employees in our business are allowed to make decisions without going through elaborate justification and approval procedures.
Autonomy 04	Employees in our business are encouraged to manage their own work and have flexibility to resolve problems.
Autonomy 05	I seldom have to follow the same work methods or steps while performing my major tasks from day to day.
INNOVATIVENESS	
Innovativeness 01	Our business regularly introduces new services/products/processes.
Innovativeness 02	Our business places a strong emphasis on new and innovative products/ services/processes.
Innovativeness 03	Our business has increased the number of services/products offered during the past two years.
Innovativeness 04	Our business is continually pursuing new opportunities.
Innovativeness 05	Over the past few years, changes in our processes, services and product lines have been quite dramatic.
Innovativeness 06	In our business there is a strong relationship between the number of new ideas generated and the number of new ideas successfully implemented.
Innovativeness 07	Our business places a strong emphasis on continuous improvement in products/service delivery/processes.
Innovativeness 08	Our business has a widely held belief that innovation is an absolute necessity for the business' future.
Innovativeness 09	Our leaders seek to maximise value from opportunities without constraint to existing models, structures or resources.
RISK TAKING	
Risk-taking 01	When confronted with uncertain decisions, our business typically adopts a bold posture in order to maximise the probability of exploiting opportunities.
Risk-taking 02	In general, our business has a strong inclination towards high-risk projects.

Risk-taking 03	Owing to the environment, our business believes that bold, wide-ranging acts are necessary to achieve the business' objectives.
Risk-taking 04	Employees are often encouraged to take calculated risks concerning new ideas.
Risk-taking 05	The term 'risk-taker' is considered a positive attribute for employees in our business.
PROACTIVENESS	
Proactiveness 01	Our business is very often the first to introduce new products/services/ processes.
Proactiveness 02	Our business typically initiates actions that competitors respond to.
Proactiveness 03	Our business continuously seeks out new products/processes/services.
Proactiveness 04	Our business continuously monitors market trends and identifies future needs of customers.