

THE IMPACT OF ENTREPRENEURIAL ORIENTATION ON THE AUSTRALIAN AUTOMOTIVE COMPONENTS INDUSTRY

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Abstract

This study found that all Lumpkin and Dess' (1996) Entrepreneurial Orientation EO dimensions impacted on firm performance within the Australian Automotive Components industry. *Proactiveness* was identified as the dominant dimension in terms of improving firm performance though it followed a reactive approach rather than providing first mover advantage. *Competitive aggressiveness* represented the need to continually monitor and control the supply base whilst *risk taking* met the definition of calculated and moderated types. *Innovation* was driven by quickly responding to customer demands and having in-house research and development units. There was difficulty in assessing *autonomy* due in part to most of the organisations surveyed being constrained by overseas boards.

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INTRODUCTION

According to Covin (1991) in dynamic and extremely competitive global economic systems, entrepreneurial orientation (EO) can be the vehicle for a firm's ultimate survival and success. Statements by government officials, business leaders, and professors of entrepreneurship reflect the opinion that entrepreneurial activities in organisations of all sizes help all nations re-energise their economic development and regain their competitive edge (Sexton, 1988). Zahra and Covin (1995) suggest that firms with EO can take advantage of emerging markets and trends.

Lumpkin and Dess (1996) provided a construct of EO, which consists of five dimensions; *innovation, proactiveness, risk-taking, competitive aggressiveness* and *autonomy*. These dimensions were used to develop a conceptual framework to determine whether or not they had an impact on firm performance within the Australian Automotive Components industry.

The Australian Automotive Components industry consists of organisations which are mainly involved in manufacturing automotive components. In Australia there are four main car manufacturers: Toyota, Holden-General Motors, Ford and Mitsubishi. There are over 200 component, tooling, design and engineering firms. The industry directly employs more than 50,000 Australians and exported more than \$4.6 billion of automotive products (Federation of Automotive Products Manufacturers (FAPM) report 2002).

The consistent increase in export sales has enabled Australia to emerge as a major force in supplying car components. This increase in exports has been the direct result of stronger affiliations and associations with leading automotive and component manufacturers in Europe, Asia and the USA.

On average, domestic demand has increased strongly since 1997-98 for the entire Automotive Components Industry which has also improved employment levels in the industry. Domestic demand for automotive components was estimated to have increased by 12% in 2000-01, mainly from car manufacturers. Due to this significant increase, the industry turnover increased by 17.5% in 2000-01 (IBIS Report, 2002).

In summary, it can be seen that the Australian Automotive Components industry is both important to the local Australian economy, and a key element in the drive to increase Australia's exports. It is therefore a pertinent industry in which to undertake research on entrepreneurship.

This study aimed to determine whether the EO construct developed by Lumpkin and Dess (1996) is a relevant measure to assess the performance of the Australian Automotive components industry and if so, to what extent. An additional aim was to determine whether those firms who displayed EO gained a competitive advantage in the industry. To date, there is no apparent research conducted into this specific industry utilising these entrepreneurial dimensions.

LITERATURE REVIEW

Defining Entrepreneurship

A variety of approaches have been selected to describe entrepreneurs (Cunningham and Lischeron, 1991) and entrepreneurship (Low and MacMillan, 1988). Therefore, it is not surprising that a consensus has not been reached on the definition of entrepreneurship.

The classic definition provided by Schumpeter (1934) stresses that entrepreneurship combines resources in new ways that create disequilibrium in the economic system. This means that an entrepreneurial firm is innovative to an extent that it has an impact on the market (Wiklund, 1998).

More recently, two primary schools of thought in defining entrepreneurship have evolved. First, there are studies, which have focussed on traits, personalities and early experience (Carland, Hoy, Boulton and Carland, 1984). These have been heavily criticised and have produced inadequate findings (Gartner, 1990; Low and MacMillan, 1988).

Secondly, a number of studies have focused on the behavioural aspects of entrepreneurs (Chell, Haworth and Brearley, 1991; Gartner, Bird and Starr, 1992; Lumpkin and Dess, 1996). Stevenson and Jarillo (1990), clearly side with the behavioural view of entrepreneurship defining entrepreneurship as a process by which individuals – either on their own or inside organisations – pursue opportunities without regard to resources they currently control.

Wiklund (1998) suggests that these definitions of entrepreneurship and Schumpeter's (1934) definition compliment each other, and when combined define entrepreneurship as "taking advantage of opportunity by novel combinations of resources in ways which have impact on the market." In a more recent definition, Shane and Venkataraman (2000) expand on this and explain that entrepreneurship is about how opportunities to create future goods and services are discovered, evaluated and exploited.

A Firm's Entrepreneurial Orientation

A major development in the literature has been on the conceptual model of entrepreneurship as a firm's behaviour. Miller (1983) provided a useful starting point. He saw Entrepreneurial Orientation (EO) as a combination of risk-taking, innovation and proactiveness. He suggested that an entrepreneurial firm is one that "engages in product market innovation, undertakes somewhat risky ventures, and is first to formulate proactive innovations, beating competitors to the punch" (Miller, 1983, p.771).

Covin and Slevin (1991), also advocate the use of risk taking, innovation and pro-activeness as the key dimensions of entrepreneurship. However, they refer to these as *entrepreneurial postures*. These authors believe that firms with such entrepreneurial postures "are willing to take on high risk projects with chances of very high returns, and are bold and aggressive in pursuing opportunities" (Covin and Slevin, 1991, pp.7-8). Despite the popularity of Miller's and Covin and Slevin's definitions, Zahra (1993) criticises their definitions suggesting that more dimensions and different types of entrepreneurial activities should be recognised and included.

A recent study by Wiklund (1998), found that there is a strong link between entrepreneurial orientation and entrepreneurial behaviour. Therefore, an organisation with an entrepreneurial orientation could, thus be defined as an entrepreneurial organisation (Mattila and Ahlqvist, 2001).

Dimensions of Entrepreneurial Orientation (EO)

Lumpkin and Dess (1996) extended the entrepreneurial characteristics to form the framework of EO. They build on Covin and Slevin's entrepreneurial postures of risk-taking, innovativeness and proactiveness by adding two more: *autonomy* and *competitive aggressiveness*. Lumpkin and Dess differentiate between Entrepreneurship and EO and argue that the essential act of entrepreneurship is new entry. "New entry explains what the entrepreneurship consists of, and EO describes how new entry is undertaken" (Lumpkin and Dess, 1996, p.136).

The five dimensions are used to build a generic profile of a firm's level of EO. Therefore, it is expected that if a company were entrepreneurial, all these five dimensions of EO would be important attributes in surveyed firms.

Hypothesis 1: *All five dimensions of EO are considered important attributes within the firms of the Australian Automotive Components industry in terms of improving a firm's performance.*

EO and Performance

In an increasingly volatile competitive environment, with rapidly changing customer demands, firms with flexible, innovative strategic orientation that take advantage of emerging market opportunities, may have an advantage over more conservative firms (Piore and Sabel, 1984). Many researchers suggest that such a strategic orientation, referred to as EO, may be a key to enhancing a firm's performance. Such firms have the ability to monitor market changes, respond quickly and capitalise on emerging opportunities and thus enhance their performance.

However, the performance of firms varies considerably both in terms of growth and economic returns (Wiklund, 1999). Empirical evidence indicates that an EO effect on performance is limited. Covin and Slevin (1991) refer to the lack of systematic empirical evidence of causal relationships between EO and performance. According to Wiklund (1999), a possible explanation for this lack of solid empirical evidence may be that EO is conceptually problematic. However, there are conceptual arguments in the theory that support that a firm's performance is enhanced through EO and a strong relationship is present.

Lumpkin and Dess (1996) believe that it is essential to recognise the multi-dimensional nature of the performance construct. Contingency theory suggests that fit among key variables, such as the environment, structure and strategy, is critical for obtaining optimal firm performance (Miller, 1983). Therefore, these variables may influence how an entrepreneurial orientation will be configured to achieve high firm performance.

Zahra and Covin (1995) and Wiklund (1999) add that other variables could influence performance or moderate the relationship between EO and performance. For example, when growth is studied, the expansion of sales, employment and assets all provide important and complimentary information. Brush and Vanderwerf (1992) found that the most common measures of a firm's performance were rates of employment and sales growth.

As financial accounts are not made publicly available, difficulties occur when analysing business performance. There is no consensus on the appropriate measures of firm performance, and prior research has focussed on variables for which information is easy to gather (Cooper, 1995). Therefore, past researchers advocate growth as the most important performance measure in firms. Hoy, McDougall, and D'Souza (1992) stress that a consensus has been reached among researchers that sales growth is the best measure in that it reflects both short and long-term changes in the firm, and is easily obtainable.

Hypothesis 2: *Displaying an Entrepreneurial Orientation will significantly enhance a firm's performance.*

EO Dimension – Innovation

Schumpeter (1934, 1942) emphasised the role of *innovation* in the entrepreneurial process. He suggested this was a process of "creative destruction" where wealth was created when existing market structures were disrupted by the introduction of new goods or services that shifted resources away from existing firms and caused new firms to grow. Innovativeness has become an important factor used to characterise entrepreneurship. Drucker (1985) believes that innovation is the specific tool for entrepreneurs, the means by which they exploit change as an opportunity for a different business or a different service. He believes that innovation can be practised systematically.

Innovation involves the exploitation of new ideas. Bradmore (1996), states that innovation is the ability to take quick advantage of scientific or technological discoveries, commercialising them in ways that translate the new discoveries into added-value goods and services for their customers. In its original sense, innovativeness can be defined as the degree to which an individual or other

entity is relatively earlier in adopting new ideas than the other members of a system (Rogers, 1962). Similarly, it is the tendency to support new ideas, experimentation and creative processes (Hitt and Ireland, 2000, Lumpkin and Dess, 1996). However, Wolfe (1994) states that there is no one theory of innovation, as the notion of change is not fully understood.

Scott (1965) states that innovativeness is closely linked with creativity. Peters (1990) adds that innovativeness requires creativity and obsession to see it through. Brazeal and Krueger (1994) also stress the benefits of innovation by suggesting that creation is an integral part of the entrepreneurial process. Bolton and Thompson (2000) also associate innovation closely with creativity; however they suggest that it must be linked to entrepreneurship if the innovation is to become a commercial opportunity to be exploited.

Amabile, Conti, Coon, Lazenby and Herron (1996) suggest that even though creativity is closely linked to innovation, it may not be the motivation or driving force behind it.

An important source of innovation is research and development (Neely and Hii, 1998). Additionally, several empirical studies and surveys on innovation have concluded that effective co-ordination of research and development is required to enhance innovation (Souder and Chakrabarti, 1980).

Anecdotal evidence suggests that innovation is closely linked to business performance. Neely and Hii, (1998) suggest two alternative views. The first view holds that the production of new products or processes strengthens a firm's competitive position in relation to its rivals. The second view argues that the process of innovation transforms a firm fundamentally by enhancing its internal capabilities, making it more flexible and adaptable to market pressures than non-innovating firms. Hence, innovation enhances business performance because it makes firms more competitive and the process of innovation transforms a firm's internal capability.

Hypothesis 3: Innovation will be more positively related to a firm's performance compared to other EO dimensions within the industry.

EO Dimension – Proactiveness

Lumpkin and Dess (1996) refer to *proactiveness* as being associated with innovation. Proactiveness suggests a forward-looking perspective characteristic of a marketplace leader. Venkatraman (1989) defines proactiveness as seeking new opportunities, which may or may not be related to the present line of operations. He suggests firms can be proactive, by shaping the environment, by introducing new products and brands ahead of competition, and by strategically eliminating operations which are in the mature or declining stages of product life cycle.

Entrepreneurship centres on the recognition of opportunities. (Kirzner, 1973, 1979, 1985). It is the organisational pursuit of favourable business opportunities (Knight, 1997; Stevenson and Jarillo, 1990). Similarly, Bygrave (1993) sees an entrepreneurial act as the creation of a new organisation to pursue opportunities. Recognition of these new opportunities requires alertness, defined as the ability to notice and identify opportunities that others have overlooked (Kirzner, 1979).

Kotey and Harker (1998) explain that many businesses will reveal consistent proactive strategies in a large number of business activities. However, these authors also identify that consistent reactive strategies may also be employed in many areas of business operations. Reactive strategies may be characterised by reactions to certain events in the environment. These businesses imitate the more successful firm's in the industry, but may fall short in some important respect (Hambrick, 1983). As suggested by Covin (1991), these firms are confined to lower price segments of the market as they tend to compete on the basis of price. Additionally, creativity and innovativeness are discouraged and there is pressure to comply with the status quo (Kuratko and Hodgetts, 1998).

There is also some contention amongst researchers who associate the dimension proactiveness with a related dimension – competitive aggressiveness. For example, Knight (1997) argues that

aggressive competitive behaviour is directed at rival firms and that the significance of proactiveness be on “aggressive execution and follow through, driving towards the achievement of the firm’s objectives by whatever means are necessary” (Knight, 1997, p.214). Based on these views, it could be said that entrepreneurial firms must both take advantage of market opportunities, and successfully match their competitors’ strategies in creating and meeting demand. Therefore the fit between these two dimensions may determine firm performance.

EO Dimension – Competitive Aggressiveness

Competitive aggressiveness refers to the intensity of a firm’s efforts to outperform industry rivals. For example, in the Automotive Components industry this may be demonstrated by implementing flexible and cost-effective solutions to meet demand for niche volume production. Venkatraman (1989) further suggests that competitive aggressiveness is accomplished by setting ambitious market share goals and taking bold steps to achieve them such as cutting prices and sacrificing profitability.

As stated previously, in the entrepreneurship literature, there is a tendency to equate proactiveness with competitive aggressiveness. Prior research has often regarded the dimensions of proactiveness and competitive aggressiveness as synonymous. However, Lumpkin and Dess (1997) believe that there is an important distinction between the two dimensions. They argue that proactiveness and competitive aggressiveness are distinct concepts that may not covary and are differentially related to firm performance. They suggest that proactiveness is more a response to opportunities whereas competitive aggressiveness is a response to a threat. Cavusgil and Zou (1994) explain that in order to deal with competitor threats, many firms attempt to expand their sales into foreign markets. Furthermore, international strategic alliances provide new and potentially profitable markets and help increase a firm’s competitiveness. Additionally, it facilitates access to new product ideas, manufacturing innovations and the latest technology.

Chen and Hambrick (1995) suggest that it is possible for a particular firm to exhibit both competitive aggressiveness and proactiveness; though their presence may vary in strength.

Therefore; Hypothesis 4: *Proactiveness and competitive aggressiveness are differentially related to a firm’s performance within the industry.*

EO Dimension – Risk-Taking

The concept of risk-taking has been long associated with entrepreneurship. Early definitions of entrepreneurship centred on the willingness of entrepreneurs to engage in calculated business risks (Brockhaus, 1980).

Lumpkin and Dess (1996) identified “venturing into the unknown” as a definition for risk taking, though one difficult to quantify. This is because, in addition to monetary risk, it typically entails psychological and social risk (Gasse, 1982; Lumpkin and Dess, 1996).

Recent research indicates that entrepreneurs score higher on risk-taking than do non-entrepreneurs (Falbe and Larwood, 1995). Entrepreneurs are generally believed to take more risks than non-entrepreneurs do because the entrepreneur faces a less structured and a more uncertain set of possibilities (Bears, 1982).

Hypothesis 5: *Entrepreneurial firms will be identified as calculated risk-takers and this dimension will have a positive effect on a firm’s performance.*

EO Dimension – Autonomy

Lumpkin and Dess (1996, p.140) refer to *autonomy* as “the independent action of an individual or a team in bringing forth an idea or a vision and carrying it through to completion.” These authors further explain how autonomy relates to the freedom granted to individuals and teams, allowing them to exercise their creativity and ideas that are needed for entrepreneurship to occur.

According to Mintzberg and Waters (1985), a strong and decisive leader has the autonomy to make decisive and risky decisions.

Some authors report that top management in high performing firms encourage employee interaction and suggest that ideas of employees at all levels are valued (Kanter, 1983; Nadler and Tushman, 1990). According to these authors, employees are energised by the orientation of the firm and new ideas are routinely generated and embraced by employees who feel they belong and their contributions are valued.

An alternative view of autonomy can be viewed in the management literature. Since the turn of the century the classical management school of thought, with emphasis on formal structure, autocratic leadership, and control by superiors, has been dominant (Holt and Knut, 1999). These types of leaders depend on their authority and their power that comes from being an owner of the business or occupying a high position. They depend on personal power, directive problem solving and decision-making. According to Schrivastava and Grant (1985), autonomy may be regarded as autocratic.

Today, responsibility and accountability for operational issues tend to be devolved to individuals and work teams who have been given, and accept, increased decision making authority within agreed envelopes of control. Samson's study (1999) found that line workers rather than general managers fully control daily work in all the leading companies researched. This suggests that managers have become strategists and change agents and that autonomy is being delegated down the hierarchy.

Hypothesis 6: *Companies within the Automotive Components industry practice a high level of autonomy and this has a positive impact on a firm's performance.*

METHODOLOGY

Research Design

A multi-method approach consisting of two stages was used. Stage one consisted of an explanatory study through a self-administered mail questionnaire. The variables used were the five dimensions of EO, firm performance and firm size. Questions were based on a review of the literature and previous research on EO. The questionnaire consisted of two sections. The first section covered background information and demographic details of the firm and the respondent. It also contained questions related to organisation performance and growth. These questions allowed respondents to rate their firm on a five-point scale. The scores from these scales were then used to develop an overall performance index for the firm.

Section two of the questionnaire focused on the previously identified EO dimensions developed by Lumpkin and Dess (1996). Questions were developed by reviewing the literature and were based on previous research (e.g. Nelson, 2001; Wiklund, 1998). Additionally, some questions were developed purely for this research as they were directly related to the Australian Automotive Components industry. Most questions followed a 5-point rating scale graded 1-5 where the respondent rated how they felt about particular items. An open ended question concluded the questionnaire which enabled the respondent to give a detailed answer regarding their thoughts of EO within their organisation.

Stage two consisted of a descriptive qualitative approach through telephone interviews with enthusiastic respondents identified via the questionnaire. The interview questions were used to clarify issues raised in stage one and seek explanations to initial findings.

This multi-method approach enabled triangulation to occur. Such triangulation enabled crosschecking for internal consistency and reliability. By integrating these data collection methods the results of this study can be considered to have greater veracity.

The Sample

The target population consisted of Australian Automotive Component companies across Australia, in particular those members of the Federation of Automotive Products Manufacturers 2002, (FAPM). A total of 200 organisation addresses were identified.

Potential respondents were randomly selected from a FAPM directory. Of those that responded to the mail questionnaire, 44% were by CEO's and General Managers. Additionally, 56% of the responses were by Functional Managers of which 36% were Marketing Managers. As all respondents held senior positions, their responses were considered to be a reasonable reflection of the entrepreneurial nature of the firm.

It was found that 71% of respondents had worked for their company for less than 15 years. This may suggest that there is a frequent change of people in the industry, perhaps moving from firm to firm. Also 52% of respondents had been in the Automotive Components industry for less than 15 years. This suggests the industry is one involved in continuous change, an attribute that research suggests attracts entrepreneurs and entrepreneurial behaviour (Lumpkin and Dess, 1996).

The actual interview sample consisted of senior managers from five firms who expressed their willingness to cooperate in the mail survey. These firms were: an Australian aftermarket division of a multi-national firm; a general purpose webbings firm; a transporter of automotive goods; a custom plastic moulding and tool-making firm; and a fluid systems division of a multi-national firm.

Reliability

The dependent variable (firm performance) and all multi item summated indexes were tested using Cronbach's alpha analysis. Nunnally, (1967) has indicated 0.7 to be an acceptable reliability coefficient, however, lower thresholds have sometimes been used in the literature. Furthermore Nunnally states that in basic research, "reliabilities of .6 or .5 will suffice." (p.226). The following table depicts the reliabilities for major variables:

Table 1 about here

The dependent variable (firm performance) and all independent variables (i.e. measures of EO constructs) reached a satisfactory alpha.

RESULTS

This section brings together the findings from both the qualitative and quantitative stages of the research.

Importance of an Entrepreneurial Orientation

The results show that respondents considered all EO dimensions important in improving firm performance (refer to Figure 1).

Figure 1 about here

From the figure it can be seen that proactiveness was rated the highest with an average score of 4.3. Innovation with an average of 4.2 was the second most important dimension. Risk taking was the lowest ranked dimension with an average score of 3.3. When risk taking is reviewed in isolation, respondents were found to be risk adverse.

Because all EO dimensions were rated by respondents to be “somewhat important” to “very important”, the results support Hypothesis 1: *All five dimensions of EO are considered important attributes within the firms of the Automotive Components industry in terms of improving a firm’s performance.*

EO and Performance

In order to test Hypothesis 2, a standard multiple regression analysis was performed between firm performance as the dependent variable and the EO dimensions as independent variables. As all correlations were under 0.7 and no extreme outliers were detected it was concluded that neither multicollinearity or outliers effected the results.

Table 2 about here

Altogether, 46% (40% adjusted) of the variability in firm performance was predicted by the five EO constructs. According to Cohen (1969), any r^2 value greater than 25% is strong. Among the independent variables, proactiveness was the predominant influence, with a standardised coefficient of .47 and a significance value of .00 ($p < .05$). This is supported in figure 1 where respondents rated proactiveness as the most important construct in terms of improving firm performance.

It was found that Hypothesis 2: *Displaying an Entrepreneurial Orientation will significantly enhance a firm’s performance* is supported when taking together the net effect of EO. However, proactiveness uniquely contributes to the model and is the only measure which is statistically significant.

Innovation

According to Neely and Hii (1998) innovation enhances firm performance.

The results of this survey concur with previous studies in that there is a positive relationship between innovation and firm performance. (e.g. Lumpkin and Dess, 1996; Nelson 2001). However, the relationship can only be described as mild-moderate in the Australian Automotive Components Industry.

Additionally, innovation did not have the strongest relationship with firm performance, as it was ranked second behind the proactiveness dimension.

Therefore: Hypothesis 3: *“Innovation will be more positively related to a firm’s performance compared to other EO dimensions within the industry”* was not proven in this industry group.

The questionnaire identified that only a small number of respondents put new ideas into practice on a daily or weekly basis. Telephone interviews clarified this. The majority of the companies interviewed had initiated major product or technological innovations in the last three years. All five companies interviewed suggested that lead times for new ideas to be put into practice was approximately 6-12 months. These respondents felt that to expect new ideas to be put into practice either daily or weekly was unrealistic. They identified new ideas as being major innovations, not something more in line with a continuous improvement approach to innovation. It

was therefore considered that the reliance on this question as an indicator as to the level of innovation should be considered with caution.

Analysis of the mail questionnaire suggested that 83% of respondents agreed that research and development occurred in their organisation. Furthermore, 68% stated that the research and development occurred in-house rather than being outsourced. These findings were additionally raised in the telephone interviews to understand the role in which research and development played in the companies.

Respondents spoke widely about research and development departments and how they were responsible for searching the market for new materials and production techniques to revamp and modify existing products. Additionally, new materials and techniques were utilised to maintain and extend the life-cycle of existing products. This is consistent to the research undertaken by Souder and Chakrabarti (1980), who suggested that in order to enhance innovation, an effective research and development unit is required in the firm.

Many respondents further discussed how their companies were constantly analysing and up-dating their machinery in order to minimise the risk of damage and improve quality of products. This was supported in the literature where authors have suggested the need for creativity and identified the strong effect it has on the entrepreneurial process (Brazeal and Krueger, 1994; Scott 1965).

Responses from the telephone interviews suggested that these firms listen to their customers and respond quickly to their demands. The environment of the firm was found to play a crucial role in determining whether its innovative capacity was high and whether it contributes to firm performance within the Australian Automotive Components industry. The environment was in turn shaped by factors such as the macro-economic framework, (i.e. customer base) and support mechanisms available in the vicinity of the firm (i.e. research and development units). The comments made in telephone interviews indicated that the high power level of customers was also a driving force in encouraging innovation in respondent firms.

Proactiveness

Results of this study suggested that proactiveness was the most important dimension in terms of improving firm performance in the Australian Automotive Components industry.

The researcher identified the possibility of an inaccuracy with this finding. There was suspicion that there may have been a problem with understanding the definition of the dimension. This suspicion was confirmed after an analysis of the items making up the proactiveness dimension in the mail survey. To clarify the results more accurately, telephone interviews were used.

When asked about the importance of being the first to launch new products ahead of competitors, nearly 50% of respondents were neutral. This is inconsistent with previous studies, which found it vital for proactive firms to introduce new products and brands ahead of competitors (Venkatraman, 1989). The responses from this survey suggest that first mover advantage was not a driving force within the industry.

Items that related to identifying new opportunities scored highly. These findings are consistent with previous studies by Venkatraman, (1989) and Kirzner (1973, 1979, 1985) who explained how proactiveness centres on the recognition of opportunities. Therefore, the responses from the survey imply that opportunity alertness was a driving force in the industry.

In telephone interviews, three managers identified proactive behaviour as strong in their companies. It was observed that they seemed to associate proactive strategies with what is defined in the literature as a "reactive" approach. These strategies are confined to lower price strategies in the market as they tend to compete on the basis of price. This was supported through the explanation given by some companies who continuously pursued cost reduction strategies in

order to meet customer requirements through market research. Additionally, one company explained that differentiation strategies were not as important as pursuing low cost strategies.

One company explained how reactive behaviour has its advantages and gives the company creditability. The respondent explained that when the company develops better quality products than those produced by the market leader, they can gain a competitive advantage in the industry.

A number of respondents suggested that undertaking strategies that are defined as reactive in the literature could actually have a proactive element. Firms in this industry, who proactively seek to lower their cost structure and successfully match their competitive strategy to their external environment to gain a competitive price advantage, are proactively positioning themselves to be dominant players in the industry.

Competitive Aggressiveness

In order to identify the key predictors of competitive aggressiveness in the Australian Automotive Components industry, each item making up the dimension in the mail survey was analysed.

Analysis identified that 35% of respondents suggested that price competitiveness was important whilst a further 56% suggested it was very important. These results supported by Venkatraman (1989) who suggested the importance of price competitiveness in terms of being successful in an industry.

Interviewees suggested that securing suppliers provided a competitive edge in this industry. According to all five companies interviewed, competitive tendering was an important process employed to critically review the supply base. Some companies believed that a tendering operation process was the best way to ensure quality and cost effective results

The telephone interviews highlighted the importance of presenting a strong competitive, aggressive stance in this industry. Competitive strategies in the form of strategic alliances were consistently linked to the competitive aggressiveness dimension. According to one company, globalisation has reshaped the Australian Automotive Components industry and the continuing over-capacity in the domestic market is driving consolidation and strategic alliances in the industry. Another company suggested that a large, highly skilled manufacturing base makes partnering linkages with overseas players attractive.

In summary, the dimension of competitive aggressiveness in this industry was identified by the need to continually monitor and control the supply base and develop strategic alliances.

Relationship between Competitive Aggressiveness and Proactiveness

According to the literature, the dimensions of proactiveness and competitive aggressiveness are differentially related to firm performance (Lumpkin and Dess, 1997).

The statistical findings in this research supported this. Although these two dimensions may have been both important factors in regards to firm success, the correlation analysis suggested that these two dimensions make distinct contributions to firm performance, in particular sales and profitability.

In this study, proactiveness had a moderate-strong relationship to sales and profitability and was statistically significant whilst competitive aggressiveness had a negative relationship with profitability and was very weakly related with sales. These findings were similar to the research undertaken by Lumpkin and Dess (1997), who explained that competitive aggressiveness is a firm's response to competitive threats and proactiveness a firm's response to marketplace opportunities.

The telephone interviews were important in clarifying the independence and co-variation of these two EO dimensions. One company explained how the company's performance had improved over the past three years by aggressively striving to dominate the market by implementing international strategies, in particular the formation of strategic alliances with companies in China and Japan: "Strategic alliances have allowed us to be major players in the global arena, giving us the opportunity to enter into more markets whilst also gaining hard to imitate technological machinery gained from the alliances." Additionally, the company had acted proactively by seizing opportunities to increase sales by designing a new chrome plating plant, which suggested that opportunity alertness was a dominant driver in the industry.

The success of one company was therefore attributed to the proactive behaviour, i.e. the development of a new plating plant as well as competitively aggressive behaviour, i.e. entrance into international markets and the implementation of international strategic alliances.

From the qualitative analysis, both proactiveness and competitive aggressiveness appear to be important elements in driving the success of the companies in the Australian Automotive Components industry. This is supported by Chen and Hambrick's (1995) description who suggested that successful firms need to be both proactive and competitively aggressive. In relation to responding to marketplace opportunities and responding to competitive threats, these are distinctly different avenues to entrepreneurial success as suggested by Lumpkin and Dess (1997).

Therefore: Hypothesis 4: *Proactiveness and competitive aggressiveness are differentially related to a firm's performance within the industry*, is proven to be correct.

Risk Taking

Entrepreneurial organisational behaviour is characterised by moderate or calculated risk takers (Morris, 1998). Hypothesis 5 posited that entrepreneurial firms will be identified as calculated risk takers and the dimension will have a positive effect on firm performance.

The results suggested that over 50% of the respondents agree that the company was willing to take calculated risks. Therefore: Hypothesis 5: *Entrepreneurial firms will be identified as calculated risk-takers and this dimension will have a positive effect on a firm's performance* was supported through the statistical findings and interview responses.

However, risk-taking dimension was rated the lowest in terms of improving firm performance within the firm compared to the other four EO dimensions. This may be due to respondents wanting to believe that their company was risk averse or calculated risk-takers when considering risk as a subject in isolation

Autonomy

The literature suggested that two types of autonomy are present within organisations. One view defines autonomy as ideas that are routinely generated and embraced by a number of employees from all levels of the firm. (Bourgeois and Brodwin, 1984; Hart, 1992; Kanter, 1983; Lumpkin and Dess, 1996). Secondly, that autonomy should be regarded as autocratic where a single key manager is the primary decision making agent. (Schriavastava and Grant, 1985).

In the Australian Automotive Components Industry, the statistical results of this study suggested that autonomy was consistent with the first explanation of the dimension. Approximately 87% of respondents of the mail survey suggested that decisions made in the organisation were through a consensus opinion of the firm. Furthermore, 75% of respondents suggested that the organisation was managed through a democratic leadership style.

All interviewees said they were in charge and had a clear focus on the type of decisions they were able to make. Most of the companies suggested that their Head Office had the power and authoritarian control to decide on risky and investment decisions such as large financial decisions and capital investment decisions.

In summary, both autocratic and democratic elements of autonomy were displayed in the Australian Automotive Components industry. The challenges of definitions and attitude towards autonomy make it difficult to assess the value of this dimension in any meaningful way other than to acknowledge that where people feel part of the decision-making process, they are likely to feel and act in a positive manner that could lead to higher firm performance. However, this study could not prove any more than this.

Therefore: Hypothesis 6: *Companies within the Automotive Components industry practice a high level of autonomy and this has a positive impact on firm performance* is proven correct however, the positive impact autonomy has on a firm's performance is statistically insignificant.

CONCLUSION

The study found that all EO dimensions affected business performance within the Australian Automotive Components industry, although the amount of influence of each dimension varied. Proactiveness was identified as the dominant dimension in terms of improving performance. However, first mover advantage was not found to be the driving force; rather reacting quickly to customer demands was more important. This finding was partly explained by the influence of the small number of powerful manufacturers in the automotive industry. Competitive aggressiveness was important and required tight control over prices through effective control of the supply chain and development of strategic alliances. Innovation was not identified as important in improving performance as expected, rather short customer response times and having in-house research and development units were identified as part of enhancing a firm's innovative capacity. Risk taking was rated the lowest of all the dimensions for improving performance. Most firms met the definition of calculated and moderated risk types. There was difficulty in assessing the value of autonomy within the industry as analysis revealed both autocratic and democratic elements operating. This may partly be due to the fact that most of the organisations surveyed were part of foreign owned operations therefore constrained by overseas boards.

The main limitation in conducting this research was the limited sample. Also, a more complete understanding of the environment in which these businesses operated would have further assisted in determining the impact EO had on the firms.

The findings of this study demonstrate that a strong entrepreneurial orientation of a firm within the Australian Automotive Components industry leads to improved performance. Though these findings are confined to this industry, the EO dimensions approach appears to be a useful tool in entrepreneurship research. However, further studies will be required in other industries and other markets to validate this proposition. Further work also needs to be completed to check other influences on business performance such as quality and relationships and what affect they have on the EO dimensions.

REFERENCES

- Amabile, T.M., Conti, R., Coon, H., Lazenby, J., and Herron, M. (1996). Assessing the work environment for creativity. *Academy of Management Review*, 29, pp. 1154-1181.
- Bearse, P.J. (1982), A study of entrepreneurship by region and SMSA size. In K. Vesper (Ed.), *Frontiers of entrepreneurship research*, pp.78-112. Wellesley, MA, Babson College.
- Bolton, B., and Thompson, J. (2000). *Entrepreneurs: Talent, Temperament, Technique*. Oxford: Butterworth-Heinemann.
- Bourgeois, L. and Brodwin, D. (1984). Strategic implementation: Five approaches to an elusive phenomenon. *Strategic Management Journal*, 5, pp.241-264.
- Bradmore, D. (1996), *Competitive Advantage – Concepts and Cases*. Prentice Hall, Sydney.
- Brazeal, D.V., and Krueger, N., Jr. (1994). Making entrepreneurship feasible: A diffusion model of entrepreneurship. *The Proceedings of the Ninth Annual U.S. Association for Small Business and Entrepreneurship (USASBE) Conference*.
- Brockhaus, R. (1980). Risk taking propensity of entrepreneurs. *Academy of Management Journal*, 23, pp. 509-520.
- Brush, C. and Vanderwerf, P. (1992). A comparison of methods and sources for obtaining estimates of new venture performance. *Journal of Business Venturing*, Vol. 7, No.2, pp.157-170.
- Bygrave, W.D. (1993). Theory building in the entrepreneurship paradigm. *Journal of Small Business Venturing*, 8(3), 255-280.
- Carland, J.W., Hoy, F., Boulton, W. R., and Carland, J. A. C. (1984). Differentiating Entrepreneurs from Small Business Owners. *Academy of Management Review*, 9, pp. 354-359.
- Cavusgil and Zou, S. (1994). Marketing Strategy-Performance relationship: An investigation of the empirical link in export market ventures. *Journal of Marketing*, 58, pp.1-21.
- Chell, E., Haworth, J.M., and Brearley, S.A. (1991). *The Entrepreneurial Personality: Concepts, Cases and Categories*. London: Routledge.
- Chen, M.J., and Hambrick, D.C. (1995). Speed, stealth, and selective attack: How small firms differ from large firms in competitive behaviour. *Academy of Management Journal*, 38(2), pp. 453-482.
- Cohen, J. (1969). *Statistical power analysis for the behavioural sciences*. New York, Academic Press.
- Cooper, A.C. (1995). *Challenges in predicting new venture performance*. In 1. Bull, H. Thomas, and G. Willard (Eds.), *Entrepreneurship: Perspectives on theory building*. London: Elsevier Science Ltd. Cooper, A.C., and Gimeno-Gascon, F.J (1992). *Entrepreneurs, processes of founding and new firm performance*. In D. Sexton and J. Kasarda (Eds.), *The state of the art in entrepreneurship*. Boston, MA: PWS Publishing Co.
- Covin, J.G. (1991). Entrepreneurial versus Conservative Firms: A Comparison of Strategies and Performance. *Journal of Management Studies*, 28(5), pp. 439-462.
- Covin, J.G. and Slevin, D.P. (1991). A Conceptual model of entrepreneurship as firm behaviour. *Entrepreneurship Theory and Practice; Waco, Spring*.
- Cunningham, J.B., and Lischeron, J. (1991). Defining Entrepreneurship. *Journal of Small Business Management*, 29, 45-61.
- Drucker, P. (1985) *Innovation and Entrepreneurship*. London: Hutchinson.
- Falbe, C.M and Larwood, L. (1995). The Context of Entrepreneurial Vision. *Frontiers of Entrepreneurship Research*.

- FAPM (2002) - Federation of Automotive Products Manufacturers, *Australian Automotive Industry Products Directory (2002)*. Executive Media Publications, Melbourne, Australia.
- Gartner, W.B. (1990). What Are We Talking About When We Talk About Entrepreneurship? *Journal of Business Venturing*, 5, 15-28.
- Gartner, W.B., Bird, B.J., and Starr, J.A. (1992). Acting as if: Differentiating Entrepreneurial from Organizational Behaviour. *Entrepreneurship Theory and Practice*, 16, pp.13-31.
- Gasse, Y. (1982). Elaborations on the psychology of the entrepreneur. In C. Kent, D. Sexton, & K. Vesper (Eds.), *Encyclopedia of entrepreneurship*, pp.57-71, Englewood Cliffs, NJ, Prentice Hall.
- Hambrick, D.C. (1983). High Profit Strategies in Mature Capital Goods Industries: A Contingency Approach, *Academy of Management Journal*, No.26(4), pp.687-707.
- Hart, S.L. (1992). An integrative framework for strategy-making processes. *Academy of Management Review*, 17, pp.327-351.
- Hitt, M., and Ireland, R.D. (2000). The intersection of entrepreneurship and strategic management research. In D.L. Sexton & H. Landstrom (Eds), *The Blackwell Handbook of Entrepreneurship*. Oxford, UK: Blackweel, pp. 45-63.
- Holt and Knut. (1999). Management and Organisation through 100 years. *Technovation*, Vol.19 (3), Amsterdam, pp.135-140.
- Hoy, F., McDougall, P.P., and D'Souza, D.E. (1992). Strategies and environments of high growth firms. In D.L. Sexton and I D. Kasarda (Eds), *The state of the art of entrepreneurship*, pp. 341-357. Boston: PWS-Kent.
- IBIS Report (April 2002). C2819 – Automotive Component Manufacturing n.e.c in Australia, IBISWorld Pty Ltd.
- Kanter, R. (1983). *The change masters*, Simon and Schuster, New York.
- Kirzner, I. (1973). *Competition and Entrepreneurship*. Chicago, IL, University of Chicago Press.
- Kirzner, I. (1979). *Perception, Opportunity and Profit*. Chicago, IL, University of Chicago Press.
- Kirzner, I. (1985). *Discovery and the Capitalist Process*, Chicago, IL, University of Chicago Press.
- Knight, G. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing*, 12, pp. 213-225.
- Kotey, B. and Harker, M. (1998). *A framework for examining strategy and strategy-types in small firms*. Faculty of Business, Sunshine Coast University College, Australia.
- Kuratko, D. and Hodgetts, M. (1998). *Entrepreneurship: A Contemporary Approach*, 4th edn. The Dryden Press, Harcourt Brace College Publishers, USA.
- Low, M.B., and MacMillan, I.C. (1988). Entrepreneurship: Past Research and Future Challenges. *Journal of Management*, 35, 139-161.
- Lumpkin, G. and Dess, G. (1996). Clarifying the Entrepreneurial Orientation Construct and linking it to Performance. *Academy of Management Review*, Vol.21, No.1, pp.135-172.
- Lumpkin, G. and Dess, G. (1997). Proactiveness versus competitive aggressiveness: Teasing apart key dimensions of an entrepreneurial orientation, *Frontiers of Entrepreneurship Research*, 1997 edn.
- Mattila P., and Ahlqvist, M. (2001). *Performance Measurement in Entrepreneurial Organisations: An Empirical Study of Swedish Manufacturing Firms*. Masters Thesis. Graduate Business School. Gotesborg University, Sweden.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*(29), 770-791.

- Mintzberg, H, and Waters, J.A. (1985). Of strategies, Deliberate and Emergent, *Strategic Management Journal*, 6, pp. 257-272.
- Morris, Michael H. (1998), *Entrepreneurship Intensity*, Westport, CT.: Quorum Books.
- Nadler, D. and Tushman, M. (1990). Beyond the charismatic leader: Leadership and organisational change, *California management review*, Winter, 32,2 pp.77-97.
- Neely, A., and Hii, J. (1998). Innovation and Business Performance: A Literature Review. *The Judge of Management Studies*, University of Cambridge, 15th January.
- Nelson, B (2001). *Performance Growth through Entrepreneurial Orientation: The Australian Franchise Industry*. Research Report. Department of Management, Monash University, Australia.
- Nunnally, J.C. (1967). *Psychometric Theory*. Sydney:McGraw-Hill.
- Peters, T. (1990). Get innovative or get dead, *California Management Review* 33, 1, pp.9-26.
- Piore, M.J., and Sabel, C.F. (1984). *The Second Industrial Divide*: Basic Books.
- Rogers, E.M. (1962). *Diffusion of innovations*, New York: Free Press.
- Samson, D. (1999). Big Issues for Big Business; Speaker's paper. *Trilogy of Conferences by the Melbourne Institute*, Thursday 25 – Friday 26 November 1999, University of Melbourne.
- Schriavastava, P., and Grant, J.H. (1985). Empirically derived models of strategic decision-making processes. *Strategic Management Journal*, 6: pp. 97-113.
- Schumpeter, J. (1934). *The Theory of Economic Development*. Cambridge: MA: Harvard University Press.
- Schumpeter, J.A, (1942). *Capitalism, socialism, and democracy*. New York: Harper and Brothers.
- Scott, W. (1965). *Values and Organisation*. Chicago, IL: Rand McNally.
- Sexton, D. (1988). The field of Entrepreneurship: Is it growing or just getting bigger? *Journal of Small Business Management*, Vol.26, No.1, p.5.
- Shane, S. and Venkataraman, S. (2000). The promise of entrepreneurship as a field of research. *Academy of Management Review*, Vol.25, pp.217-226.
- Souder, W.E. and Chakrabarti, A.K. (1980). Managing the co-ordination of marketing and R&D in the innovation process. *TIMS Studies in the Management Sciences*, 15, pp.135-50.
- Stevenson, H.H and Jarillo, J.C. (1990). A Paradigm of entrepreneurship: Entrepreneurial Management. *Strategic Management Journal*, 11, pp.17-27.
- Venkataraman, N. (1989). Strategic Orientation of business enterprises: The construct, dimensionality and measurement. *Management Science*, 35 pp. 942-962.
- Wiklund, J. (1998). Small Firm Growth and Performance: Entrepreneurship and Beyond. Doctoral Thesis. *Jonkoping International Business School*, Jonkoping, Sweden.
- Wiklund, J. (1999). Entrepreneurship Orientation as Predictor of Performance and Entrepreneurial Behaviour in Small Firms-Longitudinal Evidence, *Jonkoping International Business School*, Jonkoping, Sweden.
- Wolfe, R.A. (1994). Organisational innovation: Review, critique and suggested research directions, *Journal of Management Studies*, 31(3), May, pp.405-431.
- Zahra, S. (1993). A Conceptual Model of Entrepreneurship as Firm Behaviour. A Critique and Extension. *Entrepreneurship Theory and Practice*. Vol.14, No.4, pp.5-22.
- Zahra, S., and Covin, J. (1995). Contextual influence on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10, pp.43-58.

Table 1: Alpha Analysis

Variable	Reliability Coefficients (alpha)
Firm Performance	.81
Innovation	.75
Proactiveness	.68
Competitive Aggressiveness	.60
Risk Taking	.74
Autonomy	.74

Table 2: Multiple Regression Analysis

Independent Variables	Beta	Significance
<i>Innovation</i>	.31	.05
<i>Proactiveness</i>	.47*	.00
<i>Competitive Aggressiveness</i>	.04	.73
<i>Risk Taking</i>	-.04	.78
<i>Autonomy</i>	.03	.81

Summary

R	R Square	Adjusted R Square	F-ratio	Significance
.68*	.46	.40	7.05	.00

* Correlation is significant at the 0.01 level (2 tailed)

Figure 1: Importance of each EO Dimension in Terms of Improving Performance

