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Strategic positioning and strategic types of small firms

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Abstract

Purpose – The purpose of this paper is to study the strategic process of small- and medium-sized enterprises (SMEs) including strategic reference points (SRP) (Fiegenbaum *et al.*, 1996).

Design/methodology/approach – The paper identifies the strategic positioning of SMEs (Lavie and Fiegenbaum, 2000, 2003) according to the importance that their managers give to internal and external SRP. Their influence on strategic types (Miles and Snow, 1978) and performance are analysed. This study uses information, from 83 SMEs in the Canary Islands (Spain), collected with a questionnaire.

Findings – SMEs are primarily adaptive firms followed by narcissist ones: numerous SMEs focus their attention on internal SRPs. SMEs strategic positioning determines their strategic orientations to a much lesser extent than their characteristics (sector, size and age) do. The results show that product specialisation, the only difference between adaptive SMEs and narcissist and amorphous ones, is not evident in their performance.

Practical implications – Decision makers and institutions should reflect about the maturity of the strategic process and the adaptation dynamic of SMEs. The need for SMEs to focus on their external vision should be highlighted.

Originality/value – The study includes SRP in the strategic process of SMEs. It contributes to the literature by drawing a map of the strategic positioning of SMEs, based on their SRPs (Lavie and Fiegenbaum (2000, 2003) and by linking the strategic positioning of SMEs with their strategic types. It also has the value of applying the Rasch Rating Scale Model (Andrich, 1978, 1988).

Keywords Performance, Rasch model, Strategic positioning, Strategic management, Strategic reference points, Strategic types

Paper type Research paper

Introduction

This study presents an empirically rigorous view of the strategic process emphasizing the role of strategists. Specifically, this paper fills a gap in the literature by including the importance of reference points when making strategic choices, in accordance with prospect theory (Kahneman and Tversky, 1979), strategic reference points (SRP) theory (Fiegenbaum *et al.*, 1996) and the typology of strategic positioning (Lavie and Fiegenbaum, 2000, 2003). Strategic choices are studied from the point of view of Miles and Snow (1978) and their typology. In this way, this paper solves the omission of the role of the decision maker pointed out by Zahra and Pearce (1990) as one limitation of the Miles and Snow (1978) typology.

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This conceptual framework is applied to a sample of small- and medium-sized enterprises (SMEs), where the role of the manager in choosing the strategy is crucial (Begley and Boyd, 1986). It should be taken into account that in this type of organisation, strategic choices are more conditioned by the perceptions (reference points) of the decision maker than by formal, objective analysis and diagnosis of the firm's situation (Parnell *et al.*, 2000).

This paper uses the Rasch (1960/1980) methodology, which has started to be applied in the business field over the last decade (e.g. Salzberger, 2009; Yanes-Estévez *et al.*, 2010). However, as far as we know, this work is a pioneer in the application of the Rasch methodology in the analysis of strategic behaviour of SMEs.

The present study thus contributes to the literature by:

(1) drawing a map of the strategic positioning of SMEs, based on their SRPs and the strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003);

(2) determining whether the strategic positioning of SMEs is coherent with their strategic choices grouped in the Miles and Snow (1978) strategic types;

(3) testing whether the strategic positioning (and the strategic types) of SMEs affect their performance; and

(4) applying the Rasch Rating Scale Model (Andrich, 1978, 1988), which in management research has just begun to be applied over the last years.

Conceptual framework

This research makes an important contribution by starting from an essential step in every strategic process: the reference points that are considered by individuals when making decisions. The next step is to link the reference points of the firms (strategic positioning) with strategic choices and performance by analysing their coherence and effect on results (Figure 1).

SRPs and the strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003)
Prospect theory (Kahneman and Tversky, 1979) proposes that the way in which individuals make their strategic decisions is determined by the reference points they consider. From this conclusion, Fiegenbaum *et al.* (1996) proposed the concept of SRP. These SRPs are defined as the objectives or references used by managers to evaluate their choices or make their strategic decisions (Bamberger and Fiegenbaum, 1996).

According to SRP theory (Fiegenbaum *et al.*, 1996), SRPs have three dimensions: internal, external and temporal. The internal dimension represents the firm's inputs
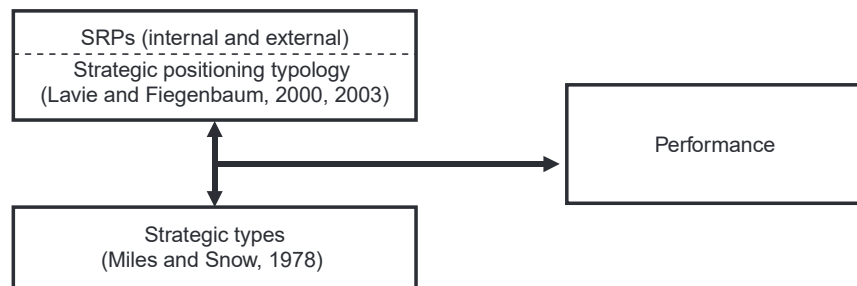

Figure 1.
Conceptual framework

Source: The authors

and outputs while the external dimension is categorised by customers, stakeholders and competitors, and the temporal dimension represents the firm's orientation to the past, present or future. Thus, depending on the importance that each dimension of the SRP has, the firm's orientation may be more internal than external, or more focused on the past than the future, which will determine the strategic choices that it makes and its results.

From SRP theory (Fiegenbaum *et al.*, 1996), the strategic positioning typology of Lavie and Fiegenbaum (2000, 2003) was developed. According to this typology, a firm can adopt four types of strategic position depending on its level of internal or external orientation (Table I) and therefore, the importance they give to the internal and external SRPs. A myopic organisation is one with low internal and external orientation; in other words, the influence of the internal and external SRPs is low. There is a strong probability that such firms will fail. The narcissist organisation will be influenced more by internal than by external SRPs. Amorphous firms are those with an external orientation and, therefore, are influenced more by external than by internal SRPs. Finally, adaptive firms are influenced by both internal and external SRPs.

The importance of SRPs ultimately lies in the fact that it is the choice of the reference point that determines the strategic positioning and consequently, which strategic decision is made.

Strategic types (Miles and Snow, 1978)
In this study, strategic positioning typology is linked to the strategic types of Miles and Snow (1978), which are appropriate for the study of the strategies of SMEs (Davig, 1986; Olson and Currie, 1992; O'Regan and Ghobadian, 2005, 2006). The proposed strategic types are the analyser, defender, prospector and reactor.

These four types of firms are expected to implement different degrees of fit along the lines of the four strategic types proposed by Miles and Snow (1978). According to these authors, the firm's survival depends on the quality of the fits achieved by

Perceived influence of SRPs (SRP theory – Fiegenbaum *et al.*, 1996)	Strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003)	Strategic types (Miles and Snow, 1978)
High influence of external SRPs Low influence of internal SRPs	Amorphous	Prospector Flexible and innovative firms that seek market opportunities in the environment
Low influence of external SRPs High influence of internal SRPs	Narcissist	Defender Firms that seek stability and control of their operations and decisions with efficiency
High influence of external SRPs High influence of internal SRPs	Adaptive	Analyser Firms with an intermediate strategic behaviour between prospector and defender
Low influence of external SRPs Low influence of internal SRPs	Myopic	Reactor Firms with no clear strategic orientation

Sources: Based on Lavie and Fiegenbaum (2000, 2003) and Miles and Snow (1978)

Table I.
Strategic reference points and strategic typologies

managers from among the product-market, the technology to serve that product-market binomial and the organisational structures and processes developed to control and coordinate the technology. To manage these fits, managers must choose the most appropriate orientation and strategic behaviour for success (Olson *et al.*, 2005). Therefore, the quality of these fits requires a more internal or external orientation, or both; in other words, a specific strategic positioning in line with Lavie and Fiegenbaum (2000, 2003).

The narcissist firms correspond to the defender strategic type of Miles and Snow (1978) (Table I) given that they have an internal orientation (O'Regan and Ghobadian, 2005, 2006): firms that concentrate on a narrow and limited product-market area. These firms aim to protect their market share and have an orientation that focuses on cost reduction and increased efficiency, although they do not tend to search outside for new opportunities (Gimenez, 2000). Thus, their knowledge structures combine a low level of external scanning with an intense internal focus on efficiency (Kabanoff and Brown, 2008).

The amorphous firms correspond to the prospector strategic type of Miles and Snow (1978), owing to their external orientation (O'Regan and Ghobadian, 2005, 2006). These firms constantly seek new market opportunities; they are more innovative firms and have a stronger market orientation (Laforet, 2008). They respond rapidly to trends emerging from the environment and usually favour changes in the sector. These firms are continuously reflecting and attending to a broader and more dynamic domain externally (Kabanoff and Brown, 2008).

The adaptive firms correspond to the strategic type that Miles and Snow (1978) called the analyser, which is a symbiosis of the previous two, although some authors place them between the defender and prospector strategic types (Zahra and Pearce, 1990). Thus, these firms have both an internal and external orientation.

The myopic firms fall within the strategic type that Miles and Snow (1978) call reactor and are firms that lack a clear and consistent strategy and, therefore do not have a clear strategic orientation. They are firms characterised by perpetual instability and inconsistency due to their inability to respond to changes in the environment. In this case, it would not be clear whether they are firms in a transitory phase or, on the contrary in an "enduring maladaptive pattern" (Zahra and Pearce, 1990).

Among the recent studies on the Miles and Snow (1978) typology is the work of DeSarbo *et al.* (2005, 2006). They suggest that a firm's capabilities and environment are related to its strategic type, and understanding the links between these could have an effect on its results.

In the context of SMEs, strategic types have not been considered in many studies, and when considered, quite specific samples have been used (e.g. Davig, 1986; O'Regan and Ghobadian, 2006). Kickul and Gundry (2002) focused their study on prospector firms to test the mediating role of the prospector strategy orientation between proactive personality and small firm types of innovation. Moreno and Casillas (2008) considered the Miles and Snow (1978) classification to analyse the links between entrepreneurial orientation, strategy and growth. The most recent study is that by Kumar *et al.* (2012). They examine the differences in the strategic orientation and innovations of SMEs and large companies and their implications for the market performance of companies. They found that those SMEs mainly have a defender or reactor orientation.

The effect of the strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003) and strategic types (Miles and Snow, 1978) on a firm's performance
Studies focusing on the effect of strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003) and the Miles and Snow (1978) strategic types on the performance of firms

have reached varied and contradictory conclusions. There are studies that conclude that some of these types obtain better results than others (e.g. Davig, 1986; Hambrick, 1983; Luo and Park, 2001; Snow and Hrebiniak, 1980). Thus, some studies conclude that analyser types and defenders and prospectors can obtain good results if the fits and the strategic orientation are coherent (Conant *et al.*, 1990; Jennings and Seaman, 1994; Miles and Snow, 1978; Moore, 2005). The reactor type also generates controversy because, in many cases, it is seen as the one that provides the worst performance (Conant *et al.*, 1990; Moore, 2005; Parnell and Wright, 1993), although Snow and Hrebiniak (1980) demonstrate that reactor types can obtain better results than either defenders or prospectors. Fiegenbaum *et al.* (1996) also suggest that firms that focus on both internal and external SRPs outdo those that are mainly centred on either internal or external aspects, as indicated by Wright *et al.* (1995). According to this approach, and using the Lavie and Fiegenbaum (2000, 2003) typology, adaptive firms would be the ones that achieve the best results.

Some explanations of the diversity of conclusions about strategic types may lie in the indicator used to measure the results (subjective, objective or a combination of both), the nature of the firm's environment (Hambrick, 1983) or the sector's influence on the relationship (Parnell and Wright, 1993; Segev, 1987).

This study follows the most generalised idea that reactor strategic types would obtain worse results than analysers, defenders and prospectors (Miles and Snow, 1978; Conant *et al.*, 1990; Jennings and Seaman, 1994; Dyer and Song, 1997), or following the strategic positioning typology, myopic firms would obtain worse results than adaptive, narcissist and amorphous firms.

Method
Data analysis: the Rasch (1960/1980) models
The application of Rasch (1960/1980) models is one of the most recent methodological contributions in the field of management (e.g. Salzberger, 2009; Yanes-Estévez *et al.*, 2010).

Applying Rasch methodology avoids researchers assuming certain characteristics derived from the scales frequently used in this field. The commonly accepted assumptions Rasch (1960/1980) methodology does not rely on are (Fischer *et al.*, 2006): "(1) that all items have the same descriptive impact on the scale score and (2) that all item the categories have the same distance from the next category". Thus, Rasch (1960/1980) models constitute the only available technique for the construction of linear measures (Bond and Fox, 2007) from ordinal observations (Fischer, 1995; Linacre, 2004), like those derived from the scales considered in this study.

Another important characteristic to highlight is that Rasch (1960/1980) models are focused on the level of individual analysis and thus, there is no need to assume that the data follow a normal distribution (Engelhard, 1984). Moreover, it gives special emphasis to the model as it is the data that fit a model and not a model that fits the data. This model is an ideal model that Rasch methodology designs from the sample data and fulfils the desirable characteristics of the measures (Engelhard, 1984).

In addition, Rasch models are considered models of conjoint probabilistic analysis (Perline *et al.*, 1979). In particular, the model used in this work is the Rasch Rating Scale Model. This model was developed by Andrich (1978, 1988) specifically for the treatment of information from ordinal multiple category score scales. The parameters are estimated by the maximum likelihood method, using the Winsteps programme (Linacre, 2006), which considers the PROX and JMLE algorithms (joint maximum

likelihood estimation). In this study, the Rasch Rating Scale Model (Andrich, 1978, 1988) is applied three times, to the internal SRPs, to the external ones[1] and to the strategic choices by means of the Winsteps 3.63 programme (Linacre, 2006).

Sample

The data were collected from a sample of SMEs located in the Canary Islands (Spain)[2]. In this region, 45 per cent of the firms have less than ten employees (microfirms) and 83 per cent belong to the service sector (Confederación Canaria de Empresarios, 2006).

Between February and May 2006, the person with strategic responsibilities in the firm or with good overall knowledge of its strategic behaviour answered a questionnaire about the external environment (Table II) to identify the external SRPs; the internal characteristics (Table III), which provided the internal SRPs, and other questions about strategic choices (Table V), which provided the information to identify the strategic types (Miles and Snow, 1978). The respondents were asked to indicate the level of influence of each SRP on a scale that ranged from (1) a very low level of influence to (5) a very high level. A similar scale was used to evaluate the importance of the different strategic choices (1) very low importance, (5) very high importance.

The initial sample was 96 SMEs [3]. The Rasch Rating Scale Model (Andrich, 1978, 1988) was then applied separately: first, to managers' responses about the external

Question on questionnaire	Items
Influence on the management of your firm	Belonging to the European Union
	Inflation
	Interest rates
	Technological change
	Unemployment
	Euro exchange rate
	Change in labour regulations
	Labour costs
	Taxation
	Central administration policy
	Autonomous region administration policy
	Island administration policy
	Municipal administration policy
	Business associationism
	Access to external training courses
	External advice
	Availability of communications media
	Slowness of the administration
	Trading law (business hours)
	Change of type of trade
	Consumer protection
	Consumption habits
Influence on your firm	Pressure from suppliers
	Pressure from distributors
	Pressure from end customers
	Substitute products
	Current competitors
	Threat of new competitors

Table II.
External strategic
reference points

Question on the questionnaire	Items
Influence on the management of your firm	Creativity
	Training
	Flexibility when faced with internal problems
	Adaptation to change in the environment
	Establishment of specific objectives for employees
	Communication between management and employees
	Individual initiative
	Cooperation
	Decision making dependence on the parent company
	Decentralisation of decision making
	Control
Influence on human resources management	Motivation
	Satisfaction (of employees)
	Absenteeism
	Turnover
	Training for the job
	Resistance to change
	Identification with the firm
	Participation in decision making
	Participation in setting objectives
	Autonomy of decision in the performance of your work
	Initiative in your work
	Control over your work
Influence on the achievement of objectives	Efficacy of managers
	Way of making decisions
	Information system
	Communications system
	Participation in decision making
	Process of control

Table III.
Internal strategic
reference points

items; and second, to the internal ones. As a result of these two applications and after the refinements, valid samples of 87 and 88 SMEs were obtained in the analyses of external and internal SRPs, respectively. The next step was to eliminate those SMEs that lacked some of the measurements or information required for the later analyses. Thus, the dataset used consisted of 83 SMEs[4], whose internal and external SRPs were jointly analysed with their strategic choices. 44.6 per cent of the firms in this final sample were microfirms, 36.1 per cent small firms and 19.3 per cent medium-sized firms. Following the main features of Canarian firms, the majority belonged to the retail sector (33.7 per cent) and other services sector (34.9 per cent) while, with respect to age, 42.2 per cent were less than ten years old and only 6 per cent older than 40.

The scales
SRP. To identify the most and least influential internal and external SRPs for SMEs, a scale for each type of reference was developed. Both scales are the results of literature review, discussion among researchers and experts in each of the different areas of study and the experience obtained from the people interviewed. The participants in the study assessed the influence they perceive for each of the items from 1 (low influence) to 5 (high influence).

To identify the external SRPs, this study considered the variables of the task environment (Porter, 1980) and the general environment in an island economy, since they include a wide range of external factors that may condition a firm's behaviour and be perceived as reference points (Table II).

Related to the internal SRPs, the factors included were variables related to the management of the firms (Pekar, 1982; Porter, 1980; Rockart, 1979), characteristics concerning their human resources management and the internal influences to achieve their objectives (Table III). This choice was made considering that the greatest weakness of these firms lies in their managerial talent and skills, particularly in their strategic practices.

The measurements were evaluated according to the Rasch (1960/1980) methodology. The reliability of internal and external SRP measures of the model was analysed both for SMEs and for the scale items. The levels obtained were satisfactory to carry out the analysis, according to Nunnally (1978) (Table IV).

The fit analysis was used to assess validity measures, both at the global level of the model and at the individual level of SMEs and items. At a global level, the model validity is adequate, as the values OUTFIT and INFIT[5] are close to the expected level of 1 on both scales. In the individual analysis, eight and nine SMEs were eliminated from the calculation of the internal and external SRPs, respectively, because their values generated significant misfits for the model (Linacre, 2002). It was only necessary to eliminate one item from the internal SRPs (absenteeism) for the same reason. These characteristics show both the global and the individual validity of the model's measures.

Strategic choices. This research includes a list of specific strategies linked to growth (product-market range), technology (e.g. efficiency, product standardisation) and organisational structure (e.g. job flexibility), integrating them into the different strategic types proposed by Miles and Snow (1978) (Table V), thus following a multi-item approach (Blumentritt and Danis, 2006; Conant *et al.*, 1990; Segev, 1987).

The reliability of the model's measures was analysed and the levels obtained were satisfactory to carry out the analysis (Nunnally, 1978) (Table IV).

The validity of strategic choice measures was considered bearing in mind the misfits both at a global and individual level of the SMEs and items. In both cases, the validity of the global model was confirmed as adequate, because the OUTFIT and INFIT values are near to the expected level of 1. As for the validity at an individual level, the SMES that did not fit were eliminated (nine in the case of the strategic typology analysis and ten in the descriptive ones), thus reaching the required levels.

Results. An objective measure (in line with Hambrick, 1983; Parnell and Wright, 1993), such as the "exploitation result" was used to analyse the performance of the SMEs. The information was obtained from the SABI (Sistema de Análisis de Balances Ibéricos) database.

	Reliability of SMEs	Reliability of items
Internal strategic reference points	0.88	0.96
External strategic reference points	0.83	0.92
Strategic choices (DIF strategic positioning vs choices)	0.87	0.97
Strategic choices (DIF strategic positioning vs firms' characteristics)	0.89	0.97

Table IV.
Reliability of measurements

Strategic types	Items
Prospector	Takeover
	Mergers and acquisitions
	Strategic alliances
	Market diversification
	New market penetration
	Restructuring
	Product diversification
	Product differentiation
	Customer satisfaction[a]
	Customer loyalty[a]
	Labour flexibility[a]
	Development (expand the service)[a]
Defender	Survival
	Decrease
	Market concentration
	Control of the market
	Cost reduction
	Specialisation in products
	Standardisation of the product
	Job stability
	Reduction of labour costs
	Stability
Analyser	Labour flexibility[a]
	Quality at work
	Subcontracting
	Improved professional training
	Quality of service
	Development (expand the service)[a]
	Quality
	Customer satisfaction[a]
	Customer loyalty[a]
	Increase market share
	Internal development

Notes: [a]Choice that may belong to various strategic types of Miles and Snow (1978). The reactor has not been considered since its strategic orientation does not respond to a clear strategy (Aragón and Sánchez, 2005)

Table V.
Strategic choices

Results and discussion
Analysis of the strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003)
The Rasch Rating Scale Model (Andrich, 1978, 1988) was applied to the information about the external and internal SRPs obtained from the questionnaire. The measures for the SMEs provided by this model were used to build Figure 2, which represents the strategic positioning typology (Lavie and Fiegenbaum, 2000, 2003).

The figure shows that most of the SMEs are adaptive firms (49 firms) followed by narcissist ones (21 firms). This finding indicates that a considerable number of SMEs focus their attention on internal SRPs while also adapting to the environment, although others only pay attention to their internal environment.

Finally, the groups of amorphous and myopic firms contain the fewest organisations (seven and six, respectively). In other words, firms whose references are found in the environment or in neither the external or internal dimensions are in the minority.
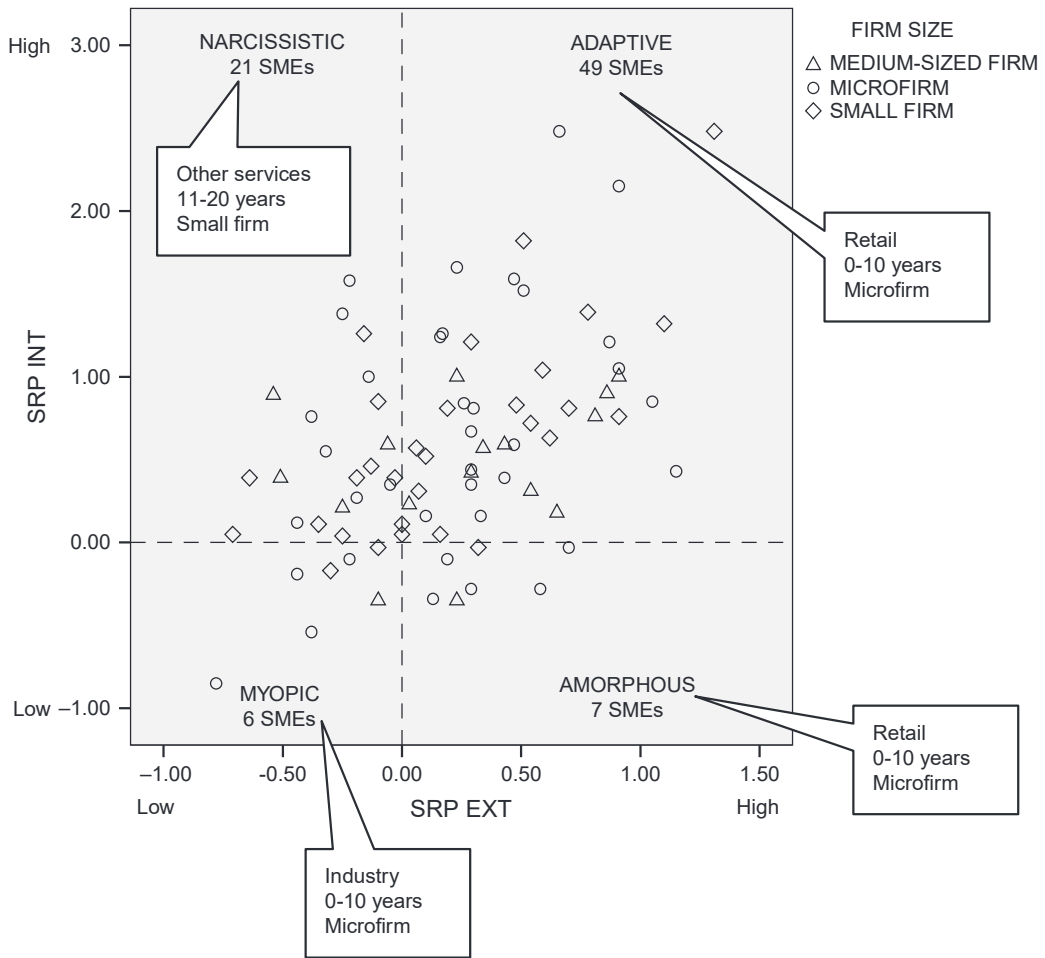
Figure 2.
Strategic positioning of small and medium sized enterprises (SMEs)

In Figure 2, it can be seen that the groups in which firms give special importance to external references (adaptive and amorphous) contain mostly retail SMEs enterprises, while industry stands out as the predominant sector in the case of the myopic firms, and firms in the other services sector are narcissists. It is logical that the SMEs that attach greater importance to external references are in the retail sector, since it is an activity devoted to the market, with increasingly demanding customers with changing tastes. Moreover, the fact that the few industrial SMEs are positioned in the group of myopic firms makes us think, first, that SMEs "develop" better in the retail or other services sector. Second, industry is a sector characterised by its small size within the Canarian economy (if the energy subsector is excluded) and by its low contribution to the islands' gross value added. These results for the industrial sector coincide with those obtained by Kumar *et al.* (2012). In their sample, there are only industrial firms in the reactive and defensive SMEs with a more internal orientation.

All the typologies except one are characterised by the predominance of SMEs less than ten years old (Figure 2). That exception is the narcissist, in which small firms established for up to 20 years predominate. Perhaps, once these small firms reach 11-20 years and develop their activities in other services, they concern themselves with their internal references in their quest for efficient processes and management models.

Analysis of strategic choices according to the Miles and Snow (1978) types
To analyse whether belonging to a certain type of firm, according to their strategic positioning (narcissist, adaptive, myopic or amorphous), is reflected in their strategic choices, the firm's strategic positioning is linked to the strategic types proposed by Miles and Snow (1978). To do this, a differential analysis of the item (DIF), provided by the Rasch (1960/1980) methodology, was applied. The DIF indicates that one group of respondents scores higher than another group of individuals on an item (Linacre, 2006). A hypothesis contrast determines if the difference of the measures of the items in each group of individuals is significant (significance level of 0.05). In this case, the aim is to identify statistically the possible differences existing between the strategic choices of the groups of firms according to whether they are adaptive firms or either of the other two groups, in which firms attach importance to only one of the two references (narcissist and amorphous)[6].

The results in Table VI indicate that the only significant difference lies in the importance that the adaptive SMEs attach to "product specialisation". Thus, the efforts of those firms are more focused on a determined product than those of narcissist or amorphous firms.

The few differences found do not coincide with the hypothesis of DeSarbo *et al.* (2006), which indicates that, depending on the strategic type, the organisation (strategic unit) focuses on improving different capabilities. This focus should be reflected in their SRPs, which was not clearly evident in this study.

With the aim of obtaining more information about the strategic behaviour of the SMEs, and given that their strategic positioning is not determinant in that respect, this study analyses whether their descriptive characteristics (size, age and sector) might lead to different strategic behaviours. Therefore, a differential item analysis (DIF)[7] of the Rasch (1960/1980) methodology was applied including these characteristics of the firm.

Considering the size of the firms, the information obtained (Table VII) reveals that the microfirms give less importance to the growth and market expansion than small- and medium-sized ones. Moreover, they prefer to focus more on customer satisfaction, loyalty and service quality than larger firms do. Thus, the microfirms personify the SMEs' emphasis on and closeness to the customer, while as they grow and become consolidated in the market, they seek to expand their business idea to other markets. The conclusion may be that the smallest (microfirms) have a more analyser strategic orientation while the larger ones (small- and medium-sized firms) have a more prospector strategic orientation. This trend is also observed in the works by Kumar *et al.* (2012) and Laforet (2008).

In the case of age, the SMEs in the intermediate stage of maturity (11-20 years) are particularly concerned with their internal development, since they have already survived a first decade of adaptation and fit and intend to face this stage with the best possible design and efficiency while growing in a controlled way. Furthermore, medium-aged and older firms display greater interest in objectives related to human resources management, such as job stability and training.

Strategic choice	DIF measure	DIF SE	DIF measure	DIF SE	*t*	Prob.
Specialisation in products	Adaptive SMEs		Narcissistic and Amorphous SMEs			
	0.29	0.21	0.41	0.25	2.15	0.0355

Table VI.
Differences in the strategic orientation according to the strategic positioning

Strategic choice	DIF measure	DIF SE	DIF measure	DIF SE	t	Prob.
Size						
Market diversification	Microfirms		Small firms		2.20	0.0320
	0.74	0.20	0.00	0.27		
New market penetration	Microfirms		Medium-sized firms		−2.16	0.0366
	0.66	0.20	−0.22	0.36		
Customer satisfaction	Microfirms		Medium-sized firms		2.62	0.0120
	−2.79	0.40	−1.26	0.43		
Service quality	Microfirms		Medium-sized firms		2.20	0.0333
	−2.37	0.35	−1.15	0.43		
Age						
Internal development	11-20 years		More than 21 years		−2.38	0.0228
	−0.48	0.30	0.50	0.27		
Job stability	0-10 years		11-20 years		2.12	0.0387
	−0.04	0.22	−0.86	0.32		
Job stability	0-10 years		More than 21 years		2.95	0.0050
	−0.04	0.22	−1.39	0.40		
Improvement of professional training	0-10 years		11-20 years		2.17	0.0344
	0.39	0.21	−0.39	0.29		
Sector						
Alliances	Secondary sector[a]		Retail		−2.44	0.0185
	0.73	0.23	1.51	0.22		
New market penetration	Secondary sector[a]		Retail		3.23	0.0023
	0.73	0.23	−0.45	0.28		
New market penetration	Retail		Other services		−3.17	0.0028
	−0.45	0.28	0.72	0.24		
Market control	Retail		Other services		−2.41	0.0201
	−0.71	0.30	0.23	0.25		
Subcontracting	Secondary sector[a]		Retail		−2.19	0.0340
	1.21	0.23	1.91	0.23		
Subcontracting	Retail		Other services		2.38	0.0216
	1.91	0.23	1.14	0.23		

Notes: [a]Due to the requirement of minimum size of the groups to be compared by means of the DIF of the Rasch methodology, the subsamples industry and construction were combined to form the "secondary sector"

Table VII.
Differences in the strategic choices according to the size, age and sector of SMEs

Finally, the different possibilities of strategic orientation of the SMEs according to the sector to which they belong are analysed. In this case, the firms in both the industrial and the construction sectors must have a minimum size in order to be efficient and have sufficient resources to be competitive, which they probably cannot achieve individually; hence the higher importance they attach to strategic alliances. This importance given to alliances for the secondary sector coincides with the conclusion of Kumar *et al.* (2012) on the dependence of SMEs' success on their external partners in the value chain to, for example, launch a new product.

It is also important to highlight the stronger trend of the retail sector, in comparison to other tertiary activities, to control a saturated market dominated by large retail outlets. This retail sector considers that its priority is expanding into new markets (e.g. the geographically close African market) as the way to continue growing.

Analysis of the effect of strategic positioning on the performance of SMEs
Since practically no differences are found in the strategic choices of the SMEs
according to their strategic positioning, the results cannot determine whether the
strategic types of Miles and Snow (1978) lead to differences in performance. However,
what can be analysed is whether the strategic positioning of the SMEs has any effect
on their performance.

To do this, a single-factor ANOVA between the results of the SMEs and their
strategic positioning according to their internal and external SRPs is applied. This
resulted in an *F*-value and significance level ($F \frac{1}{4}$ 1.397 and $p \frac{1}{4}$ 0.250) that indicate
no significant differences between the SMEs according to their strategic positioning.

This fact leads us to conclude that the only difference detected between the strategic
choices of adaptive firms and those of narcissist and amorphous firms is the focus on
product specialisation. This difference is not reflected in the performance of these firms.

This lack of definition in the results obtained coincides with the conclusions of
Laugen *et al.* (2006) which suggest, "companies today are increasingly required to
combine operational excellence in terms of price, quality, variety and speed with
innovation excellence (Boer and Gersten, 2003). In effect, differences between
companies, in terms of their competitive priorities and the systems they use to support
their functioning, may be disappearing".

Conclusions, implications and future lines of research
Conclusions and implications
This study focuses on the strategic behaviour of SMEs based on the relative
importance that their decision makers attach to their reference points and strategic
choices. In this respect, the research considered two of the most important typologies in
strategic literature: strategic positioning (Lavie and Fiegenbaum, 2000, 2003), and that
of Miles and Snow (1978) for strategic types.

The first conclusion that can be drawn from this study is that the majority of SMEs
are more focused on internal than external factors (narcissist and adaptive). Although
only the adaptive ones differ strategically from the rest of the SMEs (amorphous and
narcissist) giving more importance to the specialisation in products, a strategy closely
followed by defensive firms.

Furthermore, strategic positioning, and consequently SRPs, of SMEs in the Canary
Islands (Spain) determine firms' orientation to a much lesser extent than their
descriptive characteristics, such as size, age and sector, do. Neither does their strategic
positioning determine the financial results obtained by these SMEs. This shows that
product specialisation, the only difference found between the strategic choices of
adaptive firms and narcissist and amorphous firms, has not yet generated a competitive
advantage that is evident in the performance of these firms.

One possible interpretation of these results could be the lack of maturity of the
strategic process and, therefore, the scarce adaptation dynamic of these firms or fit.
These SMEs probably need greater professionalism and maturity when developing
their strategies and, as a result, greater consistency among the basic dimensions of the
strategic typology of Miles and Snow (1978), "entrepreneurial", "administrative" and
"engineering" and the reference points of decision makers. This lack of maturity
and consistency in the strategic processes could be due to the recent establishment and
small size of the firms studied.

It seems that only those SMEs that focus their reference points on both internal and
external factors (adaptive SMEs) begin to opt for a different strategy from the rest,

like specialisation in products, although without obtaining different results yet. This may be a sign of the beginning of a movement towards maturity and coherence in the process of strategic decision making in these SMEs.

In short, given the scarce differences observed, the SMEs do not seem to follow a "comprehensive framework" to develop their strategies (Sing *et al.*, 2008) and in which their strategic positioning should have an essential role. This allows us to highlight important implications for their improvement. First, both the firms themselves and the public institutions should emphasise the need for SMEs to consider to a greater degree external circumstance using their SRPs. This would require firms to reflect holistically (Sing *et al.*, 2008) on all the factors that are involved in the development of a strategy in order to identify those that would lead to a greater coherence between strategic positioning and their strategic decisions. In this case, the Miles and Snow (1978) typology would be of particular use as it allows us to specify, a priori, the activities that characterise each type (Hambrick, 2003). In this way, depending on the strategic type, the manager should focus on improving different capabilities (DeSarbo *et al.*, 2006). As for public institutions, they should promote greater external orientation among SMEs to achieve greater adaptation to market tendencies with their scarce resources. To do this, public institutions could facilitate the creation of external networks or any other type of interorganisational links, like alliances, sector or territorial associations and to look for synergies that, for example, in innovation, would be generated given that the size of the SME affects its strategy more than its SRPs.

Future lines of research
This work is the first step in studying in greater depth the importance of strategic positioning of SMEs in the development of their strategy. The results allow us to suggest various lines of research. First, future research may enrich the study by considering other indicators to measure firms' performance, improving the operationalisation of the strategic types of Miles and Snow (1978) and adding the third dimension of the SRP approach (time).

Further analysis of the groups could study the strategic resources and the competencies of each group, as well as their perceptions of the general and task environments in which they carry out their activities. This may clarify why no significant differences were found in exploitation results, and possible sources of heterogeneity could be identified, in line with the work of DeSarbo *et al.* (2005, 2006).

Moreover, given the importance of managers in SMEs, it would be useful to analyse, following the perspective of Hambrick and Mason (1984), if their characteristics, both objective and psychological, influence the definition of SRPs and strategic choices. Similarly, we could study in more detail one of the main contributions of this study, which is to place special importance on managers and their perceptions, thus resolving some of the limitations of the Miles and Snow (1978) typology.

Notes

1. The temporal dimension of the SRPs is not considered in this paper.

2. A non-probability and convenience sampling was chosen, which is used for obtaining a large number of completed questionnaires quickly and economically and when other means of obtaining a sample are impractical (Zikmund *et al.*, 2010). Convenience sampling is "the well-disguised norm" in many studies in managerial cognition (Johnson *et al.*, 1998), like this paper.

3. They were classified according to the European Commission Recommendation of 6 May 2003 (OJL 124, 20.05.2003).

4. One important advantage of the measures of the Rasch (1960/1980) model is their stability, even though they are used in small samples (Fisher, 1997, 2005; Linacre, 1994, 2006).

5. The OUTFIT statistics reflect the model's sensitivity to unexpected behaviours that affect the responses to items that are distant from the measure of perceived influence of SRPs' importance by the firms. The INFIT statistics are sensitive to unexpected behaviours close to that measure (Wright and Mok, 2004). Both can be expressed as MNSQ (mean-square) and ZSTD (standardized z-value).

6. The narcissist and amorphous firms are grouped together to carry out the DIF analyses and then two groups of firms are considered with a nearly homogenous size. In this case, the myopic firms are not considered since they lack reference points and have no clear strategic orientation (reactors) (Aragón and Sánchez, 2005).

7. In this case, in which strategic behaviour is not analysed, the reactor SMEs are included in the analysis.

References

Andrich, D. (1978), "A rating scale formulation for ordered response categories", *Psychometrika*, Vol. 43 No. 4, pp. 561-573.

Andrich, D. (1988), *Rasch Models for Measurement*, Sage, Newbury Park, CA.

Aragón, A. and Sánchez, G. (2005), "Strategic orientation, management characteristics, and performance: a study of Spanish firms", *Journal of Small Business Management*, Vol. 43 No. 3, pp. 287-308.

Bamberger, P. and Fiegenbaum, A. (1996), "The role of strategic reference points in explaining the nature and consequences of human resources strategy", *Academy of Management Review*, Vol. 21 No. 4, pp. 926-958.

Begley, T.M. and Boyd, D.P. (1986), "Executive and corporate correlates of financial performance in smaller firms", *Journal of Small Business Management*, Vol. 24 No. 2, pp. 8-15.

Blumentritt, T. and Danis, W.M. (2006), "Business strategy types and innovative practices", *Journal of Managerial Issues*, Vol. XVIII No. 2, pp. 274-291.

Boer, H. and Gersten, F. (2003), "From continuous improvement to continuous innovation: a (retro) (per)spective", *International Journal of Technology Management*, Vol. 26 No. 8, pp. 805-827.

Bond, T.G. and Fox, C.M. (2007), *Applying the Rasch Model. Fundamental Measurement in the Human Sciences*, Erlbaum, Mahwah, NJ.

Conant, J.S., Mokwa, M.P. and Varadarajan, P.R. (1990), "Strategic types, distinctive marketing competencies and organisational performance: a multiple measures-based study", *Strategic Management Journal*, Vol. 11 No. 5, pp. 365-383.

Confederación Canaria de Empresarios (2006), *Informe Anual de la Economía Canaria*, Confederación Canaria de Empresarios, Las Palmas de Gran Canaria.

Davig, W. (1986), "Business strategies in smaller manufacturing firms", *Journal of Small Business Management*, Vol. 24 No. 1, pp. 38-46.

DeSarbo, W.S., Di Benedetto, A., Song, M. and Sinha, I. (2005), "Revisiting the Miles and Snow strategic framework: uncovering interrelationships between strategic types, capabilities, environmental uncertainty, and firm performance", *Strategic Management Journal*, Vol. 26 No. 1, pp. 47-79.

DeSarbo, W.S., Di Benedetto, C.A., Jedidi, K. and Song, M. (2006), "Identifying sources of heterogeneity for empirically deriving strategic types: a constrained finite-mixture structural-equation methodology", *Management Science*, Vol. 52 No. 6, pp. 909-924.

Dyer, B. and Song, X.M. (1997), "The impact of strategy on conflict: a cross-national comparative study of US and Japanese firms", *Journal of International Business Studies*, Vol. 28 No. 3, pp. 467-493.

Engelhard, G. (1984), "Thorndike, Thurstone and Rasch: a comparison of their methods of scaling psychological and educational test", *Applied Psychological Measurement*, Vol. 8 No. 1, pp. 21-38.

Fiegenbaum, A., Hart, S. and Schendel, D. (1996), "Strategic reference point theory", *Strategic Management Journal*, Vol. 17 No. 3, pp. 219-235.

Fischer, G.H. (1995), "Derivations of the rasch model", in Fischer, G.H. and Molenaar, I.W. (Eds), *Rasch Models. Foundations, Recent Development, and Applications*, Springer-Verlag, New York, NY, pp. 14-38.

Fischer, A.R.H., Frewer, L.F. and Nauta, M.J. (2006), "Toward improving food safety in the domestic environment: a multi-item Rasch scale for the measurement of the safety efficacy of domestic food-handling practices", *Risk Analysis*, Vol. 26 No. 5, pp. 1323-1338.

Fisher, W.P. Jr (1997), "Blind guides to measurement", *Rasch Measurement Transactions*, Vol. 11 No. 2, pp 566-567 available at: www.rasch.org/rmt/rmt112g.htm (accessed 19 April 2012).

Fisher, W.P. Jr (2005), "Meaningfulness, measurement and item response theory (IRT)", *Rasch Measurement Transactions*, Vol. 19 No. 2, pp. 1018-1020, available at: www.rasch.org/rmt/rmt192d.htm (accessed 19 April 2012).

Gimenez, F.A.P. (2000), "The benefits of a coherent strategy for innovation and corporate change: a study applying Miles and Snow's model in the context of small firms", *Small Enterprise Strategy*, Vol. 9 No. 4, pp. 235-244.

Hambrick, D.C. (1983), "Some test of the effectiveness and functional attributes of miles and snow's strategic types", *Academy of Management Journal*, Vol. 26 No. 1, pp. 5-26.

Hambrick, D.C. (2003), "On the staying power of defenders, analysers, and prospectors", *Academy of Management Executive*, Vol. 17 No. 4, pp. 115-118.

Hambrick, D.C. and Mason, P.A. (1984), "Upper echelons: the organisation as a reflection of its top managers", *Academy of Management Review*, Vol. 9 No. 2, pp. 193-206.

Jennings, D.F. and Seaman, S.L. (1994), "High and low levels of organisational adaptation: an empirical analysis of strategy, structure and performance", *Strategic Management Journal*, Vol. 15 No. 6, pp. 459-475.

Johnson, P., Daniels, K. and Asch, R. (1998), "Mental models of competition", in Eden, C. and Spender, J.C. (Eds), *Managerial and Organisational Cognition Theory, Methods and Research*, Sage Publications, London, pp. 130-146.

Kabanoff, B. and Brown, S. (2008), "Knowledge structures of prospectors, analysers, and defenders: content, structure, stability and performance", *Strategic Management Journal*, Vol. 29 No. 2, pp. 149-171.

Kahneman, D. and Tversky, A. (1979), "Prospect theory: an analysis of decision under risk", *Econometrica*, Vol. 47 No. 2, pp. 263-291.

Kickul, J. and Gundry, L.K. (2002), "Prospecting for strategic advantage: the proactive entrepreneurial personality and small firm innovation", *Journal of Small Business Management*, Vol. 40 No. 2, pp. 85-97.

Kumar, K., Boesso, G., Favoto, F. and Menini, A. (2012), "Strategic orientation, innovation patterns and performances of SMEs and large companies", *Journal of Small Business and Enterprise Development*, Vol. 19 No. 1, pp. 132-175.

Laforet, S. (2008), "Size, strategic and market orientation affects on innovation", *Journal of Business Research*, Vol. 61 No. 7, pp. 753-764.

Laugen, B.T., Boer, H. and Acur, N. (2006), "The new product development improvement motives and practices of Miles and Snow's prospectors, analysers and defenders", *Journal Compilation*, Vol. 15 No. 1, pp 85-95.

Lavie, D. and Fiegenbaum, A. (2000), "The strategic reaction of domestic firms to foreign MNC dominance: the Israeli experience", *Long Range Planning*, Vol. 33 No. 5, pp. 651-672.

Lavie, D. and Fiegenbaum, A. (2003), "The dominant strategic positioning of foreign MNCs: a typological approach and the experience of Israeli industries", *Journal of Business Research*, Vol. 56 No. 10, pp. 805-814.

Linacre, J.M. (1994), "Sample sized and item calibration stability", *Rasch Measurement Transactions*, Vol. 7 No. 4, p. 328, available at: www.rasch.org/rmt/rmt74m.htm (accessed 17 April 2012).

Linacre, J.M. (2002), "What do infit and outfit, mean-square and standardized mean?", *Rasch Measurement Transactions*, Vol. 16 No. 2, p. 878, available at: www.rasch.org/rmt/rmt162f.htm (accessed 19 April 2012).

Linacre, J.M. (2004), "Estimation methods for rasch measures", in Smith, E.V. Jr and Smith, R.M. (Eds), *Introduction to Rasch Measurement. Theory, Models and Applications*, JAM Press, Maple Grove, MN, pp. 25-47.

Linacre, J.M. (2006), "Winsteps. Rasch measurement computer program", Winsteps.com, Chicago, available at: www.winsteps.com (accessed 17 April 2012).

Luo, Y. and Park, S.H. (2001), "Strategic alignment and performance of market-seeking MNCs in China", *Strategic Management Journal*, Vol. 22 No. 2, pp. 141-155.

Miles, R.E. and Snow, C.C. (1978), *Organisational Strategy, Structure and Processes*, McGraw-Hill, New York, NY.

Moore, M. (2005), "Towards a confirmatory model of retail strategy types: an empirical test of Miles and Snow", *Journal of Business Research*, Vol. 58 No. 5, pp. 696-704.

Moreno, A.M. and Casillas, J.C. (2008), "Entrepreneurial orientation and growth of small and medium-sized enterprises: a casual model", *Entrepreneurship: Theory and Practice*, Vol. 32 No. 3, pp. 507-528.

Nunnally, J.C. (1978), *Psychometric Theory*, 2nd ed., McGraw Hill, New York, NY.

Olson, S.F. and Currie, H.M. (1992), "Female entrepreneurs: personal value systems and business strategies in a male-dominated industry", *Journal of Small Business Management*, Vol. 30 No. 1, pp. 49-57.

Olson, E.M., Slater, S.F. and Hult, G.T.M. (2005), "The performance implications of fit among business strategy, marketing organisation structure and strategic behaviour", *Journal of Marketing*, Vol. 69, July, pp. 49-65.

O'Regan, N. and Ghobadian, A. (2005), "Innovation in SMEs: the impact of strategic orientation and environmental perceptions", *International Journal of Productivity and Performance Management*, Vol. 54 No. 2, pp. 81-97.

O'Regan, N. and Ghobadian, A. (2006), "Perceptions of generic strategies of small and medium sized engineering and electronics manufacturers in the UK: the applicability of the Miles and Snow typology", *Journal of Manufacturing Technology Management*, Vol. 17 No. 5, pp. 603-620.

Parnell, J.A. and Wright, P. (1993), "Generic strategy and performance: an empirical test of the Miles and Snow typology", *British Journal of Management*, Vol. 4 No. 1, pp. 29-36.

Parnell, J.A., Lester, D.L. and Menefee, M.L. (2000), "Strategy as a response to organisational uncertainty: an alternative perspective on the strategy-performance relationship", *Management Decision*, Vol. 38 No. 8, pp. 520-530.

Pekar, P.P. (1982), "The strategic environmental matrix: a concept on trial", *Planning Review*, Vol. 10 No. 5, pp. 28-30.

Perline, R., Wright, B.D. and Wainer, H. (1979), "The Rasch model as additive conjoint measurement", *Applied Psychological Measurement*, Vol. 3 No. 2, pp. 237-255.

Porter, M.E. (1980), *Competitive Strategy*, The Free Press, New York, NY.

Rasch, G. (1960/1980), *Probabilistic Models for Some Intelligence and Attainment Tests*, University of Chicago Press, Chicago, IL.

Rockart, J.F. (1979), "Chief executives define their own data needs", *Harvard Business Review*, Vol. 5 No. 2, pp. 81-92.

Salzberger, T. (2009), *Measurement in Marketing Research: an Alternative Framework*, Edward Elgar, Northampton.

Segev, E. (1987), "Strategy, strategy making and performance-an empirical investigation", *Management Science*, Vol. 33 No. 2, pp. 258-269.

Sing, R., Garg, S. and Deshmukh, S.G. (2008), "Strategy development by SMEs for competitiveness: a review", *Benchmarking: an International Journal*, Vol. 15 No. 5, pp. 525-547.

Snow, C.C. and Hrebiniak, L.G. (1980), "Strategy, distinctive competence and organisational performance", *Administrative Science Quarterly*, Vol. 25 No. 2, pp. 317-336.

Wright, B.D. and Mok, M.M.C. (2004), "An overview of the family of Rasch measurement models", in Smith, E.V. and Smith, R.M. (Eds), *Introduction to Rasch measurement. Theory, Models and Applications*, JAM Press, Maple Grove, MN, pp. 1-24.

Wright, P., Kroll, M., Pray, B. and Lado, A. (1995), "Strategic orientations, competitive advantage and business performance", *Journal of Business Research*, Vol. 33 No. 2, pp. 143-151.

Yanes-Estévez, V., Oreja-Rodríguez, J.R. and García-Pérez, A.M. (2010), "Perceived environmental uncertainty in the agrifood supply chain", *British Food Journal*, Vol. 112 No. 7, pp. 688-709.

Zahra, S.A. and Pearce, J.A. II (1990), "Research evidence on the Miles-Snow typology", *Journal of Management*, Vol. 16 No. 2, pp. 751-768.

Zikmund, W.G., Babin, B.J., Carr, J.C. and Griffin, M. (2010), *Business Research Methods*, South-Western, Cengage Learning.

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