

**Distinctive competencies and competency-based management in regulated sectors:
A methodological proposal applied to the pharmaceutical retail sector in Spain**

Abstract

To gain the competitive advantage needed to survive and compete in an environment led by large distribution chains, small-scale retailers need to develop distinctive competencies. This is particularly relevant in the case of retail pharmacies, which are already affected by continuously eroding profit margins, increasing liberalization of the sector and growing competition from new non-pharmaceutical outlets. Against this background, this paper contributes to identifying distinctive competencies with the potential to enhance business performance in retail pharmacies. Using structural equation modelling on a sample of Spanish pharmacies, it also establishes relationships between possession of certain distinctive competencies and success in building a sustainable competitive advantage.

Key words: Competitive advantage, Distinctive competencies, Pharmaceutical distribution, Small Business, Retail.

1. Introduction

The resource and capability theory, which has become a dominant paradigm in the management literature (Lavie 2006), enjoys widespread theoretic and empirical support, albeit not in the same measure (Newbert 2007). As part of a firm's resource base (Teece et. al., 1997), distinctive competencies are the skills, knowledge and capabilities which, according to Mooney (2007) share the characteristics of being visible to customers, superior to those of rival firms and difficult to imitate. When strategically implemented, these distinctive competencies can lead to sustainable competitive advantages. Nevertheless, as Voigt et. al. (2016) suggest in their research, competitive advantages are losing relevance within the current turbulent global economic environment. They propose to add innovation processes as a way to preserve firms market position.

There is an extensive literature on the relationships between distinctive competencies and firm performance (e.g., Snow and Hrebiniak 1980; Dess and Robinson 1984; Conant et. al., 1990; Martin et. al., 2017) and between distinctive competencies and competitive advantage (e.g., Stoner 1987; Lado et. al., 1992; Conant et. al., 1993). However, most of the research evidence regarding these relationships relates to large firms and industrial companies (Neil 1986; Dröge et. al., 1994). Despite being one of the basic components of the social and economic structure of most cultures, the small-scale retail sector has rarely been the focus of interest in this respect. Most of the research on the relationships among distinctive competencies, firm performance and competitive advantage have concentrated on medium-sized and large firms (Hitt and Ireland 1985; Miller et. al., 1997).

Still fewer attempts have been made to analyze the potential of distinctive competencies to create competitive advantages in regulated retail sectors. Competition is limited in these sectors, the environment is less aggressive, and thus, the incentives for management improvements have diminished (Carman and Domínguez, 2001). However, training and development for owners and employees within the pharmaceutical sector remains a key factor for the firm to survive and succeed (Srinivas and Suresh 2014). Given the lack of scope in regulated markets for certain competitive advantages, such as the unrestricted siting of outlets, competency-based management and the development of distinctive competencies can still play an important role.

Although these theories were adapted in the course of time to apply to small firms, the findings were largely limited and inconclusive, since the approach used to

obtain the approximations failed to consider their specific characteristics (Huck and McEwen 1991). This premise motivates our desire to provide some insight on the key factors of success in small firms and small-scale retailers in particular. From the literature and previous studies, it appears clear that success is closely linked to possessing and securing a competitive advantage (Wagner and Hollenbeck, 2014). This paper therefore focuses on analyzing the potential of distinctive competencies to generate competitive advantages in a strictly regulated environment, such as that of the retail distribution of pharmaceutical products. This requires finding a suitable means to measure the degree of acquisition of a competitive advantage, but the wide range of research on the topic has provided tested indicators. The ultimate aim of the paper is to identify potential areas within the scope of small-scale retailers that will enable them to acquire these competitive advantages.

The remainder of the paper is organized as follows. Section 2 offers a brief discussion of the conceptual framework. Section 3 describes the empirical research setting: retail pharmaceutical distribution in Spain. The research method is explained in Section 4. Section 5 identifies distinctive competencies and analyzes the impact of each of these on the performance of retail pharmacies and the generation of competitive advantages. The limitations and conclusions of the study are set out in Sections 6 and 7.

2. Conceptual Framework

The resources and capabilities theory shocked the field of strategic management prompting a significant change in the concept of what constitutes a performance-determining factor in business. It is a theory that places the emphasis on two concepts arising in works such as Barney (1991), Grant (1991) and, Amit and Schoemaker (1993): resources and capabilities and competitive advantage.

The idea of resources and capabilities focuses on sources of heterogeneity among firms. Even within the same sector or geographical location, all firms differ in terms of resource and skill endowment. It is their skill in managing these factors and developing the necessary competencies to integrate them into the firm that is the source of their competitive capacity. Resources and capabilities, therefore, provide the foundations of competitive advantage, which is the second key concept in this framework (Wernerfelt 1984). Competitive advantage is the capacity to generate a sustained improvement in average revenues (Barney 1991). To meet this objective, the

firm needs to develop factors (resources and capabilities) that will differentiate it from others (Kraaijenbrink et. al., 2010).

However, the mere possession of resources and capabilities is no guarantee of achieving a competitive advantage. Proper resource management is what makes the difference between gaining and failing to gain this advantage, through a sustained profit increase. Competencies are the amalgam of capabilities, knowledge and skills, which, according to Collis (1994), enable a firm to increase its intangible resources, perform critical activities more efficiently than their competitors and be ready with new strategies for adapting to change. Distinctive competencies are higher skills, which, being difficult to imitate, help to sustain a competitive advantage (Teece et. al., 1997).

Given the important role of distinctive competencies in firm performance, it is hardly surprising to find such an abundance of literature on the subject. It must be noted, however, that the factors for competitive success in business vary not only through time, but also across sectors and geographical locations. Thus, the factors that determine success in one context will not necessarily do so in another (Megicks 2001; Xiong 2005). It is clear, therefore, that before embarking on the analysis of the distinctive competencies that generate a competitive advantage, it is first necessary to establish our research setting.

Small businesses must continually attempt to achieve a sustainable competitive advantage over competitors. In the retail distribution sector, while various competencies have been identified as being important, there are three that stand out above the rest: store image, managerial control and the implementation of knowledge management (McGee and Peterson 2000).

Firstly, it should be noted that store image is one of key factors of success in the retail industry (Conant et. al., 1990; Woodside et. al., 1999). Wu et. al., (2010) reveal that store image has a direct and positive effect on the purchase intention. This is further corroborated by Diallo's findings on the positive relation between store image and purchase intention. In this study, Diallo found a mediating effect of store image, on the relationship between price image, risk perception and purchase intention (Diallo, 2012). Bouzaabia et. al., (2013) take a different approach on the relation between store image and customer satisfaction and loyalty, based on in-store logistics operations, in order to create value for the customer. Thomas (2013) confirms in his research the positive impact of store image on customer loyalty, through the mediating variable customer satisfaction. Small-scale retailers tend to equate company image with store image, while

multi-store businesses acknowledge possible differences between these two constructs. Martineau (1958, p.47) used the concept of store image, which he defined as “the way in which the store is defined in the consumer's mind, partly by its functional qualities and partly by an aura of psychological attributes”. The store’s image is its positioning with potential customers; that which differentiates it from its rivals. Bhat and Reddy (1998) and Levy et. al., (1992) claim that image is based on functional and symbolic characteristics. The functional characteristics for the small-scale retailer are basically the surface area and proximity of the store, and the range, availability, prices and quality of the products; while the symbolic elements relate to more subjective and abstract issues, the most important being the intangible aspects of customer service. Grönroos (1994) focuses on these intangible factors and identifies customer service image with service quality and staff-customer interaction attributes. Building on the above-mentioned studies, Jarvenpaa and Todd (1997) identify the key dimensions of the store image construct as product perception, the purchase experience and customer service. In the retail distribution of pharmaceutical products, all these aspects of store image are important. Not only physical features, such as the product layout in the store, but also customer service or the pharmacy’s participation in public health campaigns can help to build a positive store image leading to improvements in firm performance and competitive advantage.

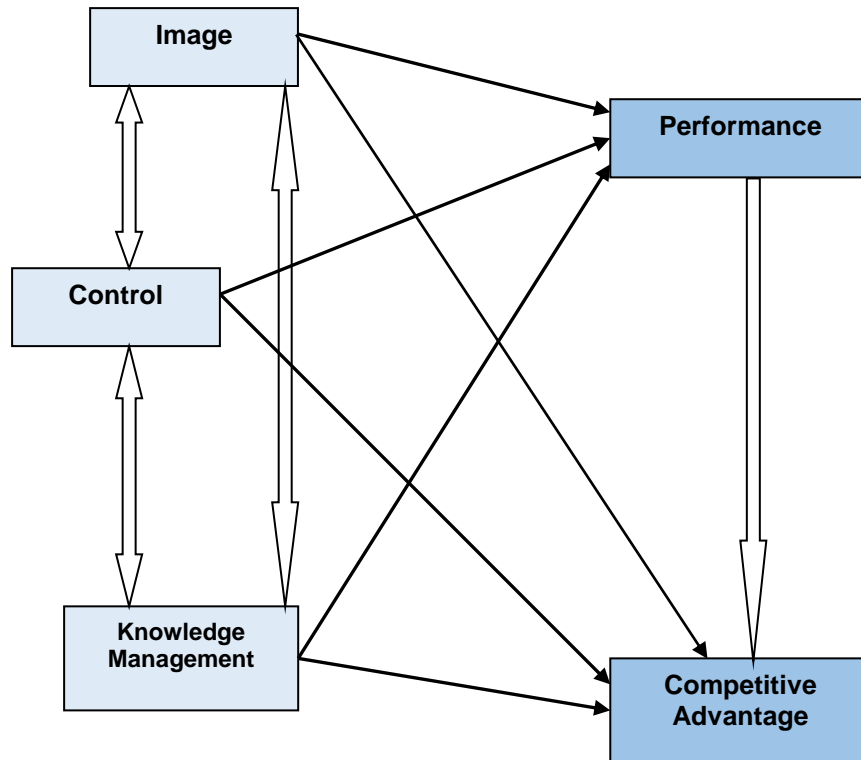
Managerial control as a distinctive competency is our second research focus. The predominant business format in the retail pharmaceutical distribution sector is the micro enterprise, which is typically run by a small staff, making communication, control and knowledge-sharing simpler (Kogut and Zander 1996). Shared knowledge is a powerful tool for controlling managerial decisions, through more widespread awareness of cost issues or price setting criteria, for example, Conant et. al., (1990) provide empirical evidence about the relationship between store performance and managerial control. Furthermore, Conant et. al., (1993) find that small stores with control over their basic activities perform better than those with no clear idea of what issues they need to control. Both McGee and Finney (1997) and McGee and Peterson (2000) report a relationship between managerial control over strategy implementation and firm performance. Voss and Brettel (2014) as well identified in their research that managerial control has a stronger effect on small firm’s performance, if the firm emphasizes human resources management. In this sense, the authors suggest that managers should employ a portfolio consisting of both formal and informal controls.

The third and last key competency for retail store success we will discuss is knowledge management, which has drawn considerable attention in the literature, (Nonaka 1991; Choi and Lee 2002; Chakravarthy et. al., 2003; Chan Kim and Mauborgne 2005). Knowledge management is relevant in any context. Tolstoy (2009) for example, asserts that knowledge is dispersed among the individuals and entities that interact with the organization and the main aim of the manager is to collect, compile and segment that knowledge in order to give it value-creating capacity. As in the case of managerial control, the typically small staffs running retail pharmacies mean that interpersonal issues play a larger role. Thus, one of the goals of the small retailer is to manage his own knowledge as a competency with which to generate competitive advantages. Wong and Aspinwall (2005) identify knowledge management in small and medium-sized firms based on the following concepts: human resource management, staff training, IT, knowledge management processes and business culture. The knowledge spreads among external agents (customers, market) and internal agents (staff). Integrating their knowledge is vital for the generation of competitive advantage. Soleck-Borowska (2017) reveals that small enterprises do not rely as much as bigger firms, upon explicit knowledge sharing channels. Therefore, small enterprises can focus on fostering face-to-face interactive processes that facilitate tacit knowledge sharing.

As already indicated, these three key areas of distinctive competency have the potential to enhance business performance and competitive positioning. As noted by Dröge et. al., (1994), however, they are also interrelated. McGee and Peterson (2000) argue that retailers who stand out in one competency largely tend to stand out in the rest. Man and Lau (2008) also suggest possible synergistic effects between the various competencies. Overall, we can argue that better knowledge management makes it easier for a firm to be in strategic control. Knowledge of market trends and the firm's strengths, for example, makes it easier to understand the desired price strategy and implement it more effectively. Knowledge management and control also make it easier to deliver more consistent customer service quality and thereby enhance store image. Similarly, once the store has established a positive image within the market, the incentive to maintain it tends to make store managers manage knowledge and control strategy implementation more effectively to secure their competitive positioning.

Based on these antecedents, the proposed model, summarized in Figure 1, will be tested using the survey presented in this paper.

Figure 1
Research model outline



3. Research Setting. The Retail Pharmaceutical Distribution Sector

In recent years, deregulation of public services has taken place in several member states of the European Union (Volkerink et al. 2007). The pharmaceutical industry, which includes retail pharmacies, is among the affected sectors. The situation has called for a process of adaptation and new management models based on knowledge of the business itself and the environment in which it operates. As in other member states of the European Union, the Spanish pharmaceutical industry was always, until recently, highly regulated in order to guarantee high quality and ease of access to pharmaceutical products. Current proposals for the regulation of this sector have to do with the opening of new pharmacies (based on estimated needs), ownership issues (independent ownership of pharmacies and/or legislation banning pharmacy chains), the level of qualification of pharmacists and other pharmacy staff.

The rationale behind deregulation in the pharmacy sector is the expectation that liberalisation will increase competition and thus succeed in lowering, or at least containing public expenditure, while accessibility to and quality of pharmacy services will be, at least, kept stable or even be improved by the opening of new outlets. Examples of the phenomenon, drawn mainly from the UK, the Republic of Ireland and the Netherlands, tend to illustrate that pharmacies must respond to the threat of deregulation through improved management¹.

The context for this survey is the Foral Community of Navarra, in Northern Spain. Spain, Belgium and Greece have the lowest numbers of inhabitants per pharmacy in Europe (Vogler et. al., 2006). Navarra has the lowest number of inhabitants per pharmacy in Spain and one of the lowest of any European region (General Council of Pharmaceutical Colleges, 2016²). Thus, the survey area has one of the most intensely competitive pharmaceutical sectors in Spain or indeed Europe.

This climate of deregulation and increasingly intense competition has raised the need for retail pharmacies to implement new strategies. The acquisition of distinctive competencies as a basis for these new strategies could enable reversal of the progressive profit erosion that besets retail pharmacies and help them to build competitive advantages. Against this backdrop, we conducted a survey aimed at identifying the key competencies required to complete this task and explain their role in the achievement of management improvements in retail pharmacies.

4. Empirical study

4.1. Qualitative Analysis: Adaptation and Generation of List of Items.

The innovativeness of this approach in the field of research on distinctive competencies intensifies the need to adapt and tailor the measuring tools and constructs to fit the research model to the sector under investigation. To identify the scale dimensions and ensure their validity, sources of secondary information are drawn upon as follows. The scales were generated primarily based on those used in previous research, especially the studies by Conant et. al., (1993), Hitt and Ireland (1985), McGee and Finney (1997) and McGee and Peterson (2000) already mentioned in the description of the conceptual framework. Following a review of the existing literature,

¹ The Regulation of Pharmacies in Six Countries. Downloaded: 20th October 2017
http://eprints.lse.ac.uk/22505/1/The_regulation_of_pharmacies_in_six_countries.pdf

² Consejo General de Colegios Oficiales de Farmacéuticos de España. Downloaded: 17th October 2017
<http://www.portalfarma.com/Profesionales/organizacionfcolegial/presentacion/Paginas/Presentacion.aspx>

we conducted interviews with the owners of five retail pharmacies in Navarra to test the first draft of the questionnaire. We wished to assess understanding of the items and the need for their adaptation to our research setting. As a result of these interviews, five survey questions were found to require explanatory notes and examples to aid comprehension. In-depth interviews were then conducted with three pharmacy owners with no prior knowledge of the questionnaire in order to ensure that all the questions were fully comprehensible. The addition of explanatory notes and examples produced a satisfactory level of comprehension and the final questionnaire (included in Appendix 1) was then drawn up.

4.2 Field work

The survey universe was defined as all pharmacies in Navarra that had been operating for more than three years, the aim being to observe the evolution of their economic performance data over a set period of time. Copies of the questionnaire were sent out by post to the entire population of retail pharmacies in the region. The forms included a note emphasizing the confidentiality of the data and, in order to improve the response rate, an e-mail address was provided to enable completion of the survey online. The data collection process resulted in the participation of 451 establishments, 171 of whom returned valid replies, that is, a response rate of 37.2%, which was deemed satisfactory.

In the final questionnaire, the manager of each retail pharmacy was asked to provide a subjective perceptual rating of his/her store on a seven-point scale, where a score of 1 indicated “much worse than other pharmacies” and a score of 7 indicated “much better than other pharmacies”. As can be checked in the questionnaire included in the appendix, the manager of each pharmacy was asked to rate two subjective performance indicators (Dess and Robinson 1984) and two competitive advantage indicators (Ukens 1997; McGee and Peterson 2000; Spanos and Lioukas 2001). They were also required to rate their pharmacies on 26 indicators for the three distinctive competencies considered. Descriptive data, including the total surface area of the dispensary section of the pharmacy in square metres, annual sales figures, prescription drugs as a percentage of total sales, number of staff, period in operation, and time since license-holder pharmacist qualified, were also collected.

A summary of the descriptive data shows that the average retail pharmacy in Navarra has an area of 112 square metres, 34 of which make up the prescription drug

section. On average, prescription drugs account for 59% of total revenue. The average period in operation is 20 years and the average time since license-holder pharmacist qualified is 10 years.

4.3. Research method

The multidimensionality of the concepts to be considered in this study suggests the use of a structural equations model (Bollen 1989; Jöreskog and Sörbom 1982), which enables the simultaneous analysis of relationships between different concepts, as well as a prior exploratory analysis to validate the measurement scales.

The scale validation was performed by means of an exploratory factor analysis using the initial set of 30 variables, which includes all the attributes associated with the distinctive competency, performance and competitive advantage constructs. The aim of this analysis is to reveal the underlying structure of the data obtained from the sample survey, validate the initial scale reliability and ensure their unidimensionality.

An EFA (Exploratory Factor Analysis) with varimax rotation revealed five constructs as hypothesised: performance, competitive advantage, strategy implementation, knowledge management, and store image.

A review of the literature and subsequent qualitative and quantitative analyses led to the development of five scales for measuring the constructs identified: a four-item image construct, a two-item control construct, a six-item knowledge management construct, a four-item performance construct, and a five-item competitive advantage construct. The scores constitute the manager's perception of objectives achieved over the last three years in operation.

4.4 Model Goodness of Fit and Results

The proposed model (Figure 1) includes the effect of distinctive competencies on performance and on competitive advantage. These are all first-order constructs. Figure 1 shows the three distinctive competency constructs (image, control and knowledge-based management), as well as the performance and competitive advantage constructs. The model was estimated using Structural Equation Modelling in R (R Development Core Team 2008)

Removal of items with factor loads below 0.50 (Hair et. al., 1991) significantly improved the overall fit and content validity of the model. Analysis of the standardized loadings, individual reliability coefficient (R^2), confidence interval and significance of

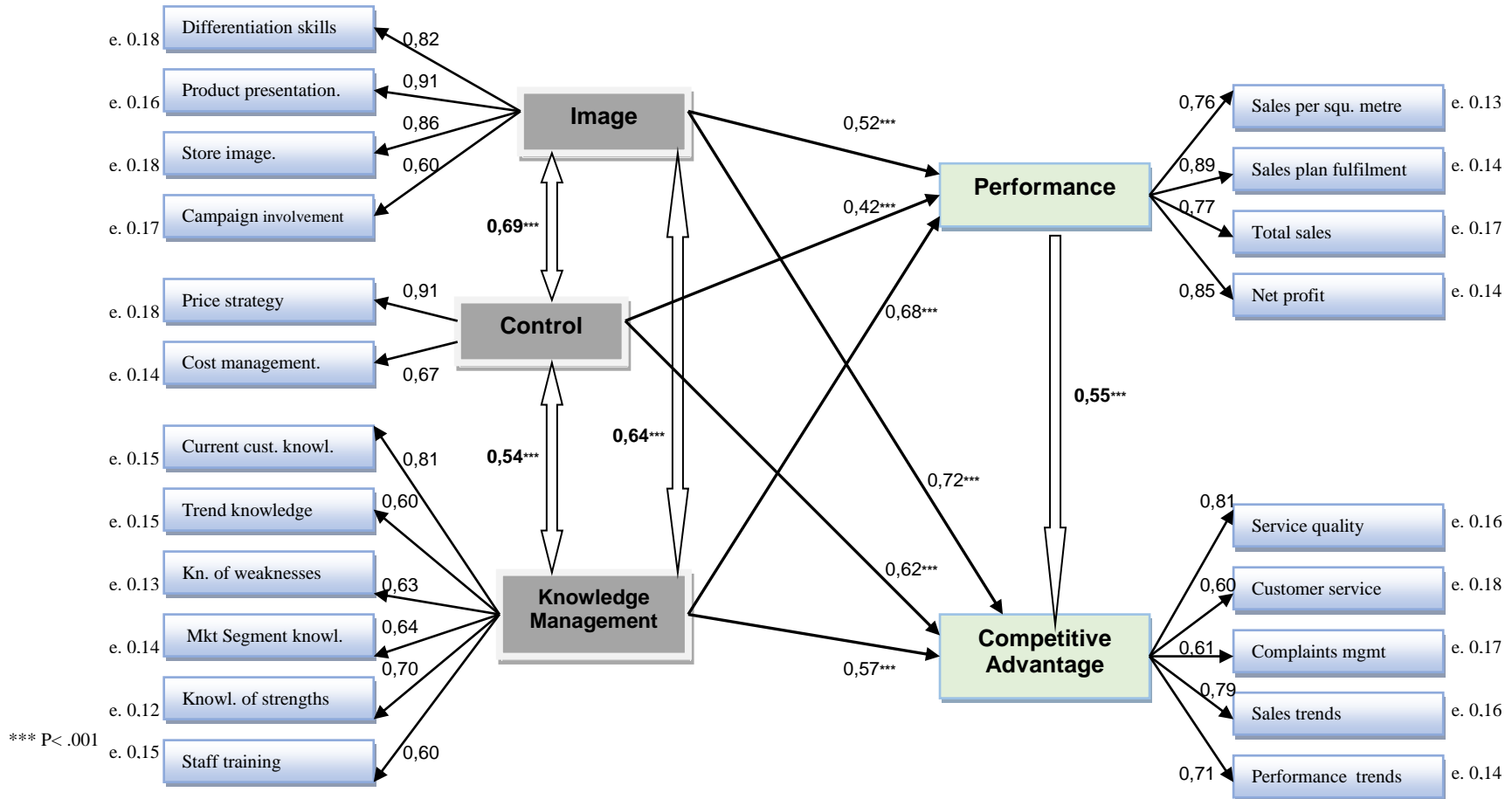
each of the items included showed the reliability index scores to be above the 0.50 threshold. The internal consistency of the scale constructs was then checked by calculating composite reliability and variance extracted, which were found to be above the recommended thresholds of 0.70 and 0.50, respectively (Del Barrio and Luque 2000, p. 523). The discriminant validity test also revealed a clear difference between the constructs, since all the between-factor correlation coefficients were below 0.9. These scores confirm the validity of the set of items proposed to measure distinctive competencies, performance and competitive advantage. The goodness-of-fit indices presented in Table 1 show that the model satisfactorily fits the data.

Table 1
Model goodness-of-fit indicators

| Goodness-of-fit indicators | Scores |
|---|-------------------|
| Significance level p(Chisq) | Above 0.05: 0.054 |
| Goodness-of- Fit Index | Above 0.95: 0.963 |
| Standardized Root Mean Square Residual | Below 0.08: 0.062 |
| Root Mean Square Error of Approximation | Below 0.08: 0.059 |
| Normed Fit Index | Above 0.95: 0.963 |
| Non-Normed Fit Index | Above 0.95: 0.978 |
| Comparative Fit Index | Above 0.95: 0.954 |

Figure 2 shows the relationships between constructs, factor loadings of the attributes and the associated error. The 21 attributes represent five distinct constructs, three of which (image, control and knowledge management) are interrelated with the other two (performance and competitive advantage). The coefficients both of the constructs and their component attributes are all significant at $p=0.001$. The overall model fit can therefore be described as satisfactory (Table 1).

Figure 2
Model and Interactions



As can be appreciated from Figure 2, the various distinctive competencies are highly interrelated. The strongest relationship occurs between store image and control (0.69). The relationship between store image and knowledge management is also very strong (0.64), as well as the relationship between knowledge management and control (0.54).

When it comes to relationships between distinctive competencies and firm performance or the generation of potential competitive advantages, the latter is found to be influenced most strongly by image (0.72), control (0.62) and knowledge management (0.57), while the main drivers of firm performance prove to be knowledge management (0.68), image (0.52), and control (0.42).

5. Analysis and Discussions

The analysis confirms that, in the retail pharmacy sector, firm performance and the acquisition of competitive advantages are positively related with possession of distinctive competencies based on store image, managerial control and knowledge management.

Store image is the competency with the strongest influence, both direct and indirect (through performance), on the generation of competitive advantage. Store image also comes second in the effectiveness ranking of direct drivers of firm performance. The strong relationship between store image and control (0.69), shows that among the sample pharmacies a well-defined store image tends to be associated with a high capacity for controlling the pricing strategy and managing costs and vice versa. The relationship between store image and knowledge management (0.64) suggests that pharmacies that include knowledge management among their distinctive competencies also tend to show a capacity for image management. Knowledge management has a direct impact on the capacity to create store image in the minds of consumers. This knowledge underpins the foundations upon which to develop the store image, and helps to bridge the gap between the image expected by consumers and the one that is projected, based on the pharmaceutical retailer's prior knowledge of customers' expectations. Limited resources are a characteristic feature of businesses in general and small-scale retailers in particular. The results reported above suggest that pharmacy managers should make enhancement of store image a priority.

The next priority should be knowledge management. This has an even stronger short-term impact on performance although a somewhat weaker impact on competitive advantage. The link between knowledge management and control (0.54) indicates that the knowledge of customers, trends and different market segments enables the retailer to match prices to demand. Thus, knowledge management and control attributes allow the retailer to better respond to market demands. The development of the competency knowledge management will enable a pharmacy to achieve a performance level above the average achieved by those that lack it.

Third and last in the priority ranking of desirable distinctive competencies comes managerial control. This distinctive competency possesses a stronger influence on the potential generation of a competitive advantage (0.62) than it does on influencing performance (0.42).

These findings also confirm the theoretical model in which the degree to which a firm achieves one distinctive competency is a predictor of the degree to which it will achieve others, based on their interactions. Similarly, failure to develop one competency is associated with failure to develop others.

The outcome of this study supports the viability of competency-based management as a useful tool to enable pharmaceutical retailers to improve their competitive position against the large distribution chains. The findings also pinpoint the need for a change of mentality by the managers of retail pharmacies, who will need to develop a more entrepreneurial self-image. This will involve making store image and control systems their priority business-development targets and treating the retail pharmacy as a business within the health-care sector, with the managerial implications that this entails. Furthermore, as a result of the analysis and self-assessment required to implement a competency-based management system, and depending on which areas are earmarked for improvement, it is in the interests of retail pharmacies to join pharmacy associations with objectives in line with their needs. Membership of sector associations can enable retail pharmacies to access otherwise unattainable economies of scale.

Finally, management of knowledge about its own business, the environment in which it operates and, particularly, its customers, is a firm's key tool for achieving above-average performance for the sector and for building competitive advantages. Retail pharmacies would thus be advised to establish a close pharmacist-patient relationship including not only prescription-drug dispensing, but also value-added services, such as advisory and follow-up services, participation in public health

education, or home delivery of pharmaceutical products. This would enable them to reduce the share of prescription drugs in total sales, and increase that of more profitable products and services.

6. *Limitations*

As far as the choice of statistical techniques is concerned, note that structural equation models assume linearity of the causal relationships, thereby risking oversimplification of the problem under discussion. Therefore, notwithstanding our earlier justification of the conceptualization of each construct, a deeper qualitative approach might add more relevant information to the model. In terms of the research setting, the data were drawn from a survey of retail pharmacies in Navarra (Spain). Although this choice of establishment in no way rules out application of the methodology to other free-service outlets, the findings are particular to the geographical area and retail sector considered and cannot be generalized to any other setting. Finally, it proved impossible to obtain details of how retail pharmacies that were removed from the list over the five-year study period went out of business. This highly useful information would enhance the model with data enabling identification of both success and failure factors for retail pharmacies.

7. *Conclusions*

The aim of this paper was to provide an understanding of how distinctive competencies have the potential to improve performance and generate competitive advantages in the regulated small-scale retail environment.

According to analysis of the results, store image, knowledge management and control, in that order, are the key distinctive competencies that retail pharmacies need to develop in order to achieve above-average performance ratings and generate sustainable competitive advantages.

The results obtained clearly show the positive effect gained from the development and implementation of distinctive competencies on performance and competitive advantage, which makes them a useful tool for small independent retailers within the pharmaceutical distribution sector. The observed high correlation between the various distinctive competencies also enables us to establish that possession of one distinctive competency is a predictor of the degree of acquisition in others. Finally, the

model enables the detection of interaction between performance and competitive advantage, showing that it is possible to predict the strength of the performance-mediated relationship between possession of a distinctive competency and the development of a competitive advantage.

This concluding section ends suggesting future lines of research that might help to build on the contributions made by this study. The scarcity of the research on distinctive competencies and their impact in the small-scale retail sector opens up the scope for further research in two directions, one focusing on the same sector (retail pharmacies) in different geographical settings, the other on different areas of the retail sector. By extending our model along these two dimensions, it might be possible to determine its generalization potential across different geographical areas and business sectors. Another proposal would be to conduct a survey in which the indicators were treated as formative rather than reflective measures. This paper has followed the criteria established by the existing literature, which uses reflective dimensions, thereby assuming that the items can be explained by the latent variable. A formative test of the model, to observe how the items shape or provoke changes in the latent variable, would shed some light on the relationships between the attributes and the constructs and on the generation of the model. Our final suggestion would be to use the model to evaluate the results from the implementation of the proposed measures. The procedure would be to take a sufficient number of pharmacies having successfully developed the identified competencies and analyze their impact on performance and the subsequent development of competitive advantages.

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Figure 1:
Research model outline

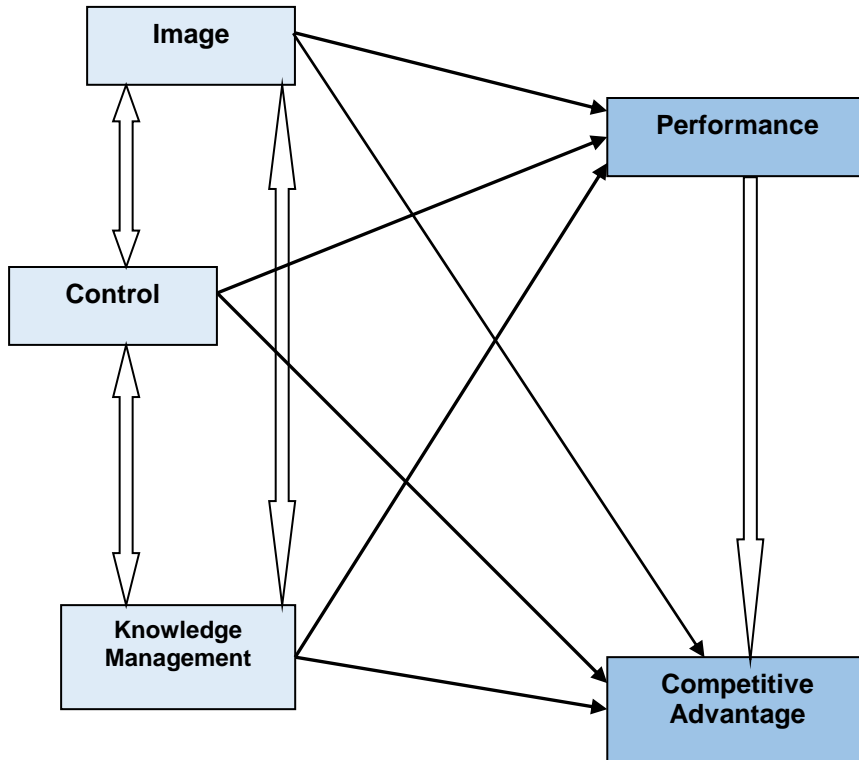


Figure 2
Model and Interactions

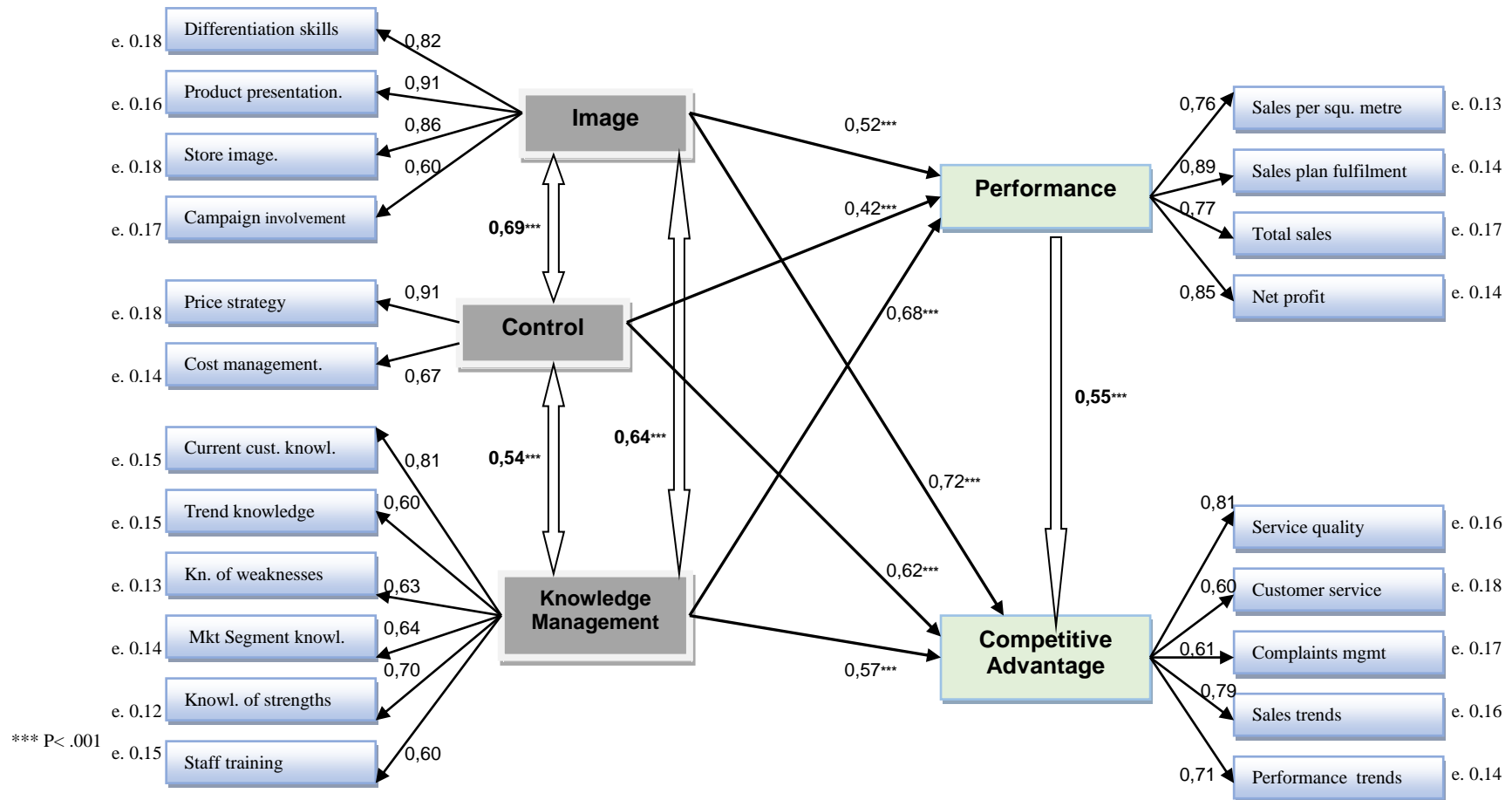


Table 1
Model goodness-of-fit indicators

| Goodness-of-fit indicators | Scores |
|---|-------------------|
| Significance level p(Chisq) | Above 0.05: 0.054 |
| Goodness-of- Fit Index | Above 0.95: 0.963 |
| Standardized Root Mean Square Residual | Below 0.08: 0.062 |
| Root Mean Square Error of Approximation | Below 0.08: 0.059 |
| Normed Fit Index | Above 0.95: 0.963 |
| Non-Normed Fit Index | Above 0.95: 0.978 |
| Comparative Fit Index | Above 0.95: 0.954 |

Appendix 1. Survey questionnaire

Please score your pharmacy on the following criteria using this scale of 1 to 7: (1= much worse than other pharmacies, 7= much better than other pharmacies).

| | | | | | | | | |
|-----|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. | Knowledge of current customers. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 2. | Knowledge of potential customers. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 3. | Knowledge of your most direct competitors. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 4. | Knowledge of pharmaceutical business trends. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 5. | Sales per m ² : Total number of m ² of customer service area divided by total sales. For the size of my pharmacy, I sell much more (7) – much less (1) than other pharmacies. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 6. | Knowledge of the weaknesses of our pharmacy. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 7. | Market segmentation and targeting skills (Young vs. older people, men vs. women, high vs. low purchasing power etc.) | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 8. | Success at meeting sales goals. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 9. | Skill at differentiating your outlet, product offer and services from those of other pharmacies. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 10. | Cash management skills: end of month payments are easier/harder for us than for other pharmacies. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 11. | Customer service quality. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 12. | Financial resource allocation: My billing and payment management is much better (7) – much worse (1) than that of other pharmacies. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 13. | Selection of new product offers and new product lines. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 14. | Effectiveness of pricing strategies. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 15. | Cost management and control effectiveness (water, electricity, telephone, product purchases, staff, advertising...) | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 16. | Control and assessment of sales plan. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 17. | Effectiveness of advertising actions. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |

| | | | | | | | | |
|----|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 18 | Sales per member of staff: Every member of my staff sells much more (7) – much less (1) than the staff of other pharmacies. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 19 | Store design and product presentation. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 20 | Customer service. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 21 | Customer complaints management. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 22 | Store image. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 23 | Level of involvement in information /awareness raising campaigns, etc. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 24 | Knowledge of the pharmacy's strengths. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 25 | Staff training. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 26 | Plan implementation capacity. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 27 | Total sales. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 28 | Net profit. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 29 | Total sales trend of pharmacy. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |
| 30 | Overall performance trend of pharmacy. | <input type="checkbox"/> 1 | <input type="checkbox"/> 2 | <input type="checkbox"/> 3 | <input type="checkbox"/> 4 | <input type="checkbox"/> 5 | <input type="checkbox"/> 6 | <input type="checkbox"/> 7 |