

Working Paper 96-56 (10)  
Business Economics Series 01

Departamento de Economía de la Empresa  
Universidad Carlos III de Madrid  
Calle Madrid, 126  
28903 Getafe (Spain)  
Fax (341) 624-9608

A RED QUEEN APPROACH TO MANAGEMENT ACCOUNTING:  
AN EXPERIENTIAL STUDY OF A SPANISH HOTEL GROUP\*

Salvador Carmona\*\*

Abstract

---

Studies of accounting in action have primarily focused on the organization as a unit of analysis. Remarkably, however, the population level as a field of study has been neglected. This paper studies the process of management accounting change in a population of beach hotels located in Southern Spain. This population, like those of other Spanish organizations, experienced the turbulent environment characteristic of Spanish society from 1975 until 1995. It is shown how an analysis of the macro and task environments of the population provides support for a Red Queen metaphor, which is deemed to be a valid contribution to population ecology as a relevant context for management accounting theorizing.

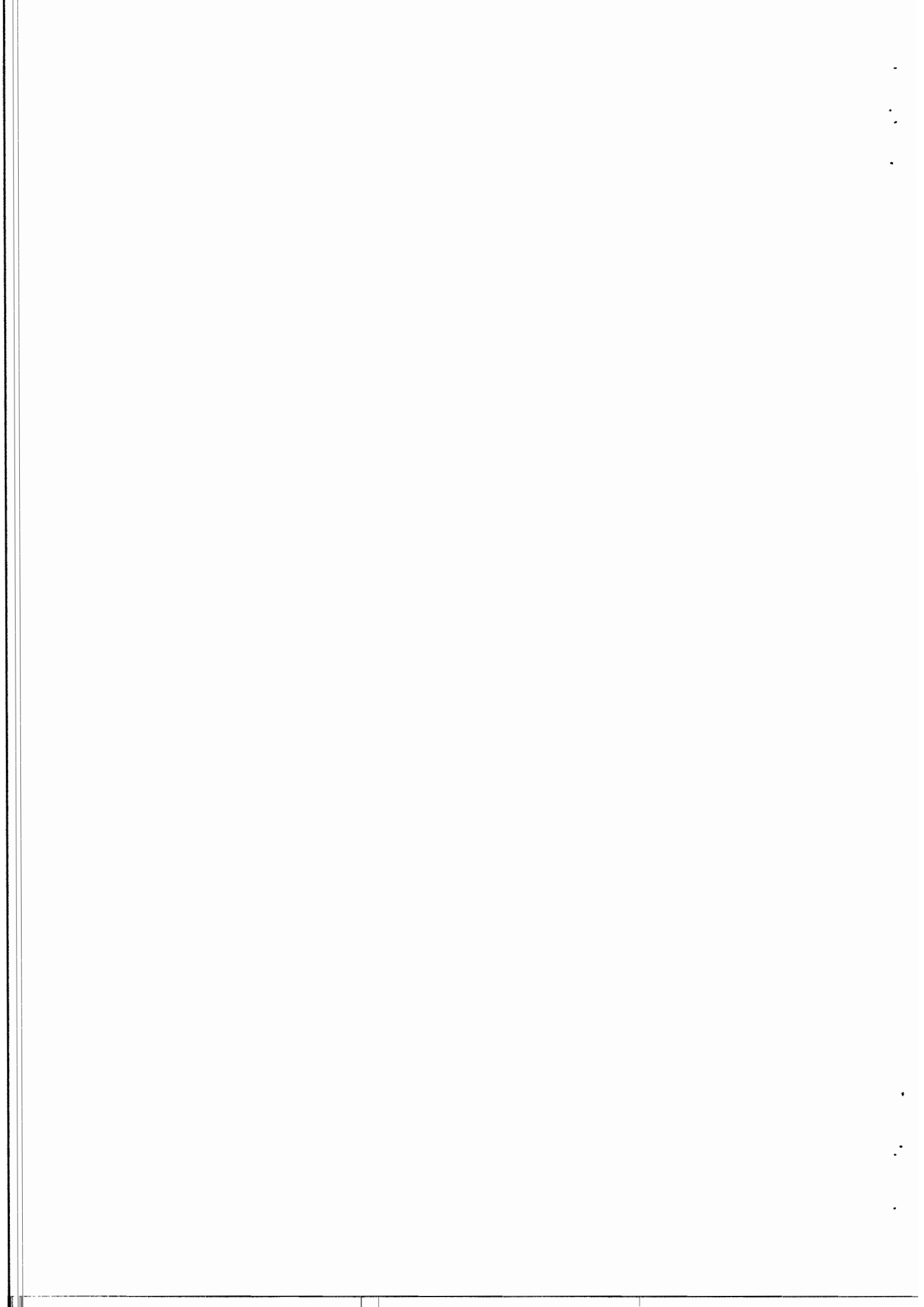
---

Key Words

Accounting change, Organizational Learning, Population Ecology, Red Queen, Spain, Service Sector

\* Research funded the DGICYT grants #PB 95-9282 and PB 94-0372. This paper has benefitted from discussions with Luis Fernández-Revuelta, Isabel Gutiérrez, and Sten Jönsson.

\*\* Salvador Carmona, Departamento de Economía de la Empresa de la Universidad Carlos III de Madrid



**A Red Queen Approach to Management Accounting:**  
An Experiential Study of a Spanish Hotel Group.

ABSTRACT

Studies of accounting in action have primarily focused on the organization as a unit of analysis. Remarkably, however, the population level as a field of study has been neglected. This paper studies the process of management accounting change in a population of beach hotels located in Southern Spain. This population, like those of other Spanish organizations, experienced the turbulent environment characteristic of Spanish society from 1975 until 1995. It is shown how an analysis of the macro and task environments of the population provides support for a Red Queen metaphor, which is deemed to be a valid contribution to population ecology as a relevant context for management accounting theorizing.

Key words: Accounting change, Organizational Learning, Population Ecology, Red Queen, Spain, Service Sector.

There is increasing knowledge about the functioning of accounting systems in organizations. The early exhortation of Hopwood (1983) for academics to gain a sound understanding of accounting in action is generating a vast number of contributions to the field (Chua, 1995; Jönsson, 1996; Preston *et al.*, 1992). Such research has shown different features of the intertwining of accounting systems and their contexts. Remarkably, however, the unit of analysis has always been at the organizational level. Consequently, population level as a field of study has been neglected. This paper intends to explore how the interaction between a population and its environment brings about a continual process of change in management accounting systems. Empirical evidence supporting this paper has been gathered from a population of hotels located in Southern Spain.

Organizational learning studies provide a perceptive look at the process of management accounting systems change. Hedberg & Jönsson (1978) found that information systems contain assumptions about which data are relevant, which characteristics of the environment are essential, who the decision makers are, etc. These implicit worldviews in information systems serve as conserving forces and delay organizations' adaptation to changing environments. Organizational learning establishes standard procedures that make organizational behaviour more consistent over time. The setup of these successful routines is reinforced through a variety of accounting techniques; such as reporting systems, budgeting standards, and variation analysis. Hence, organizations in changing environments should design information systems with built-in mechanisms to counteract the stabilizing forces that learning breeds (Hedberg *et al.*, 1976). Because different organizational levels have different control logics (e.g., lower organizational levels emphasize behavioral control), Jönsson & Grönlund (1988) propose that each particular organizational level is supported by a particular system. Therefore, the design of flexible management accounting systems will require embodying the specific control logic into the system. In short, this literature asserts that management accounting systems should attempt a reasonable and continual fit with their ever changing environments.

Strategic management accounting contributions have also a potential interest for this paper. Theoretical research has suggested that accountants might develop an active role in providing information for strategic decision making and for the monitoring of

strategies (Bromwich, 1990). This paper analyzes the information requirements of two economic theories. One theory stresses product features. It requires that the accountant calculates the costs of the characteristics of the goods. He or she should also develop a regular monitoring and reporting of these costs. The other theory is known as the contestable market theory. It demands that the company's cost structure be related to those of its present and potential competitors. Most of the empirical research has drawn on some of the archetypes of the strategic management literature (Miles & Snow, 1978; Mintzberg, 1973; Utterback & Abernathy, 1975; Porter, 1980) to study potential alternatives in management control systems among companies competing differently. Miller & Friesen (1982) analyzed the relationship between product innovation and some organizational variables, such as the use of control systems. These authors concluded that controlling for the organizational strategy becomes a core element when analyzing the links between control and innovation. Drawing on the archetypes of Prospectors and Defenders established by Miles & Snow (1978), Simons (1987) studied whether organizations classified as either archetype utilized different management control systems. Statistical analysis showed that management control systems differed among these two groups of organizations. Successful Prospectors stressed budget goals and an extensive use of forecast data in internal reports. In particular, the reporting systems of large Prospectors produced continual and uniform reports subject to frequent changes in their contents. Simons concluded that Prospectors use their management control systems to screen environmental uncertainty. On the other hand, Defenders proved to be less active in their use of control systems and produced negative correlations between profit indexes and budgeted targets and outputs monitoring. Simons (1990, p. 127) realized that these studies began to provide answers to "how" management control systems differ among firms, but not to "why" they differ. Hence, he conducted a 2-year field study focusing on the management control systems features of two large companies (A and B) competing in the same industry. The analysis shows that interactive management control processes can be used to manage emergent strategies. Company A was classified as a Defender. It operated in a stable environment, and managers only needed to consider a narrow set of strategic uncertainties such as product specifications or technological innovations that could undermine current low-cost positions. Company B fit in with the Prospector archetype. Its interactive management

control systems, such as planning and budgeting, were used to discuss strategies and actions related to changing products or market condition uncertainties.

Two remarkable insights can be drawn from the analysis of these contributions. First, management accounting systems should pursue a reasonable and continual fit with their ever changing environments. Second, as long as the company strategy mirrors the planned interaction between a company and its environment, the design of its management accounting systems should aim toward fitting that strategic profile. Except for the case of these two similitudes with the literature, this paper places less emphasis on the organization as a unit of analysis, stressing instead the population level as the focus of the study. The unit of analysis is a constitutive element when examining the relationship between management accounting systems and their environments (Simons, 1990, p. 141). It is worth noting that the population level as an empirical focus has been traditionally neglected in management accounting research. This paper explores how a population of Spanish hotels continually changed their management accounting systems to fit the persevering demands of their environments. The period of study, 1975-1995, covers dramatic changes in the Spanish society (e.g., the replacement of a military dictatorship by a full-fledged democracy). It is argued that these developments should be taken into consideration when undertaking contextual research of management accounting systems in Spain.

The chronology of transformations that the Spanish society underwent during those 20 years might well be classified as follows:

(a) *The transition to democracy (1975-1978)*. In 1975, Spain was ruled by an extreme right-wing military dictatorship headed by General Franco. Although the Franco regime had gradually softened its stringent initial position on human rights, the Spanish people still suffered coercive restrictions on rights such as non discrimination on the basis of gender; the right to form and join trade unions; and freedom of speech and freedom of religion.

This transition period to democracy overlapped the economic recession caused by the oil crisis of 1973. The recession exacerbated the already precarious Spanish economy, characterized by an extreme degree of government intervention as well as by a high

dependence on foreign economies. Government intervention seeped into all aspects of economic life, in the form of stiff controls on currency exchange and imports, and protective tariffs on goods like bread and sugar. The reliance of the Spanish economy on external circumstances was due to the importance of tourism and emigrant money transfers as sources of income.

*(b) The implementation of democratic institutions (1979-1984).* The juridical framework enshrined in the Constitution of 1978 made Spain a formal western democracy. However, many of the institutions and traditions of the 40-year dictatorship were still in place (e.g., the local governments were formed in accordance with the provisions established by the Franco regime). The subsequent pace of frenetic reforms included aspects such as the legalization of divorce and trade unions. During this period, the economic situation worsened; the unemployment rate grew from 4.3% in 1973 to 16% in 1983. The social agents and the government, therefore, compelled themselves to subscribe to a series of agreements to boost the economy and employment as well as reduce labor conflicts. These social agreements served to reduce immediately the number of days lost due to strikes from 16.3 million in 1979 to 3.2 million in 1985. However, the agreements did not render any relevant impact on the economy and employment until the second half of the 1980s.

*(c) The adaptation to the institutions of the European Economic Community (1985-1987).* Spain furthered the process of structural change, especially in deregulating economic activity. A series of reforms including the reduction of government ownership, the elimination of monopolies, and the deregulation of the stock market were implemented. These economic reforms and the social agreements reached in the first half of the 1980s generated confidence among investors, making the Madrid Stock Exchange the most profitable one in Europe in 1986; its general index increased by 108%.

*(d) The adaptation to the conditions of the European Union (1988-1997).* The single European market was due to be operational in 1993. This challenge for the Spanish economy impelled subsequent reforms to improve its competitiveness. The government focused specifically on cutting the public deficit and deregulating the labor market. Deregulation, however, incited outright hostility among the trade

unions, who called for a 1-day national strike in December 1988. The strike was massively supported, signaling the start of a long period of social conflicts.

Studies of accounting in action represent only a small fraction of management accounting research in Spain (Alvarez-Dardet, 1993). Nevertheless, this sparse literature provides remarkable insight into the underlying reasons for management accounting systems change. Amat (1992) found that during the late 1970s and early 1980s extant patterns of management accounting systems were explained by the concomitant social, economic, and political developments of these decades. Carmona & Pérez-Casanova (1993) analyzed the deterioration of organizational learning in three departments of a high-tech company. The departments were involved in a long-term team project aimed at absorbing shop-floor uncertainty. The project ended up with a process of organizational "forgetting" (deterioration of learning) after a long period of learning and success. This deterioration was attributed to the restrictive role of the budgeting system in the development of innovative projects as well as the cultural inability of Spanish operators to raise an open discussion with their superiors about the underlying reasons for organizational forgetting. The analysis of this literature shows that both the unique changes experienced by the Spanish society during the last 20 years as well as some idiosyncratic features of the Spanish culture cannot be neglected when studying the contemporary functioning of management accounting systems. Nonetheless, these studies assume that contextual factors dominate organizational life, placing less emphasis on how individual organizations can potentially shape their own environment. This paper attempts to show that the intertwining among organizations and their environments is essentially dynamic, resulting in a process of reciprocal and continual adaptation.

Available accounting studies have focused on the organization as a unit of analysis while the population level has only produced a sparse number of marginal references (e.g., Dent, 1990, p. 21). Conversely, the latter level of analysis has given rise to an active stream of research in such areas of organization theory as population ecology. Hannan & Freeman (1977, 1989) assert that individual organizations seeking change do so with great risk. For instance, technological changes bring about the failure of a large number of existing organizations (Gutiérrez & Núñez, 1996). The creation of new organizations bearing their new selective features will become a major mechanism of



organizational change. Organizational inertia is the converse process of organizational change. The former is linked to independent variables such as age and size; that is, organizations are more inert as procedures, roles, and structures become well established. It is noteworthy to point out that the concept of organizational change has a very precise meaning for organizational ecologists. In this regard, they make a clear-cut distinction between structural core changes and noncore, peripheral ones. Hannan & Freeman (1984) provide a list of four organizational core characteristics (listed in decreasing order of importance): organization's mission, authority structure, technology, and marketing structure. Some of the empirical studies on the effects of organizational change on mortality support the basic tenet of the structural inertia theory (see Barnett & Carroll, 1995), finding that failure rates are positively correlated to organizational core changes.

Hence, from the organizational ecologist's point of view, accounting change is classified in the noncore, peripheral organizational changes domain. Contrary to the high risk of organizational failure inherent in core changes, the peripheral changes might provide a longer life for the organization.

Population ecology has devoted some attention to the study of the hotel industry. In particular, the Manhattan hotel industry from 1898 to 1990 has been thoroughly investigated. Baum & Mezias (1992) analyzed whether the organizations in a population with similar resource requirements compete more intensely. According to Hannan & Freeman (1977, 1989), organizations with identical resource requirements would be perfect competitors while those with distinct resource requirements do not compete. In short, the research question states that a greater similarity between an organization and its competitors will provoke a higher intensity of competition and a decrease in its survival chances. Similarity among organizations has been attributed to size (Hannan & Freeman, 1977) and firm generalist or specialist strategy (e.g., Carroll, 1985). After studying the effects of localized competition on the Manhattan hotels' failure in terms of variations in three organizational dimensions (size, geographic location, and price; Baum & Mezias 1992, p. 599) concluded that when a greater similarity existed between a focal hotel and its competitors with respect to these three organizational dimensions, a greater intensity of competition was shown. Baum & Haveman (1995) used the same database to study choice of location by hotels. They

found that new hotels that are most different from and most similar to their neighbours locate closest to them. Likewise, they found that other hotels are located relatively close to similar competitors on one domain/product dimension to benefit from the agglomeration of economies. However, these hotels are differentiated from their potential competitors in other dimensions to avoid direct competition and create complementary differences.

An overall conclusion that can be drawn from the organizational ecology studies is that the population as a unit of analysis is relevant to investigate some of the consequences of organizational change. Particularly, available evidence on the hotel industry shows that similarity among competitors is closely linked to the intensity of competition and its related survival chances. In spite of these interesting insights, these studies neglect accounting as a matter of research. This might be due to the noninclusion of accounting changes in Hannan & Freeman's (1984) typology of organizational core characteristics. Although the discussion of their typology is beyond the scope of this paper, we should know that the sociological background of these authors, with scarce or null interest in accounting, could explain their implicit view of accounting as a rather technical and static organizational activity.

This paper studies the process of management accounting change at the population level. Empirical evidence has been collected from a population of beach hotels located in Southern Spain. This population, like those of other Spanish organizations, experienced the turbulent environment characteristic of Spanish society from 1975 until 1995. However, the context of change was particularly intense for the tourist industry, because of its dependence on international economic conditions. This paper intends to show how an analysis of the macro and task environments of the population provides support for a Red Queen metaphor, which is deemed to be a valid contribution to population ecology as a relevant context for management accounting theorizing.

The remainder of this paper is structured as follows. The empirical evidence supporting this paper is described first. The paper then analyzes that evidence, introducing the Red Queen hypothesis and exploring its potential for management

accounting research. The final section presents concluding remarks, limitations of the paper, and implications for future research.

## THE HOTEL INDUSTRY IN THE RESORT AREA

The population of hotels forms a beach resort area in Southern Spain. The weather is characterized by an average rainfall index of 240 mm<sup>3</sup>/yr, bringing about 340 days/yr of sunlight. Certainly the weather is an enticement to tourists demanding "sandy beaches and sun." But the setup of the resort area still required an international airport and a solution to the chronic water supply shortages before tourists would come. The airport was inaugurated in 1967 and a reliable water supply system was put into place in 1970. The first hotel located in the resort area was open to receive groups of British, German, and Dutch guests in 1972.

The evolution of the population of hotels might be well exemplified through the developments of one hotel group that, for confidential reasons, we will call the Maya Hotels Group. This group of hotels is the largest one established in the resort area and has played a leading role in the implementation of innovative practices at the population level. This section also provides evidence on the other hotels that compose the population.

### The Maya Hotels Group and the Rest of the Population

The antecedents of the hotel group are found in a travel agency that opened in the late 1960s. It operated as liaison office between international tour operators and the hotels located in Southern Spain. It was founded in the late 1960s by an entrepreneur with no particular experience in this business, whom we will call Mr. Tomillo. The agency implemented a diversified strategy (Porter, 1980) in its search for a niche in a market with considerable entry barriers. It, therefore, had to complete the tender usually offered by a receiving travel agency with a regular package of what were at the time innovative services: car rentals, visits to historic sites, and diving courses. By 1973, it had gained an international reputation among tour operators as a reliable firm with which to do business.

Mr. Tomillo soon realized that his business opportunities would expand substantially if he were also able to sell his own beds, rather than just serve as an intermediary between the international tour operators and the hotels. His financial constraints and the middle-class infrastructure of the resort area restricted him to entrance into the three-star hotel business. The First-Maya Hotel opened in 1976 having two distinctive facilities: the largest swimming pools of any of the existing European hotels in its category, and two queen-sized beds in every double room.

At the time that the First-Maya Hotel started its operations, the Spanish tourist industry was already enmeshed in a recession that would last until 1983. As a result, the industry was extremely dependent on foreign customers. The effects of the oil crisis of 1973 on European economies and the high exchange rate of the Spanish currency (Table 1) halted the growth of the 1960s and early 1970s; the number of available hotel beds increased by just 1.9% during the years 1976-1980 (see Table 2). The overall stagnation of the industry had dramatic consequences on the resort area, where three hotels went bankrupt. On the other hand, the First-Maya Hotel implemented a policy of intensive maintenance and renovation of its premises (e.g., it was the first hotel in the resort area to install color TV sets in all rooms), aiming at offering a different product. It, consequently, built up a reputation of quality and low prices among international tour operators. The First-Maya Hotel drew on this reputation to achieve a steady room occupancy during the crisis period.

TABLE 1 AND 2 TO APPEAR HERE.

Mr. Tomillo exerted a dominant influence on the managerial developments of the First-Maya Hotel not only because he was the owner but because of his keen insights into the innovative management practices undertaken by other beach hotels. He learned from others that customer loyalty was closely tied to adult satisfaction with pub and restaurant services and to the overall satisfaction of the children. The First-Maya Hotel, therefore, implemented such policies as presenting gifts to every child registered in the hotel and expanding the already existing breakfast buffet to include lunch and dinner. After 8 months, two other hotels established in the area followed Mr. Tomillo's lead and began giving gifts to their junior guests.

The accounting system of the First-Maya Hotel basically intended to fulfil tax accounting requirements and, to a lesser extent, produce monthly cash flow statements. Once computerized in 1981, its goals remained unchanged; no budgets, performance standards, or cost figures were produced at that time. Employee behavior was thoroughly monitored by a large number of supervisors, whose primary motivation was avoiding thefts.

By 1983, the resort area had begun its economic recovery. It was mainly fostered by such macro-economic factors as a weaker Spanish currency and a more confident climate on investment returns. From 1983 to 1988, the number of operating hotels increased from 6 to 10, boosting the number of beds 59% (see Table 3).

#### TABLE 3 TO APPEAR HERE

It was during this period that the Maya Hotels Group enlarged from one to four units, thus becoming a real business group. Substantial investments in hotel maintenance were overshadowed by the group's efforts to improve customer service. The Group achieved its most salient results in lunch and dinner buffet services. Overcoming its long-standing tradition of copying others' innovations, the Group created the so-called "fourth generation" in buffet services. The breakthrough consisted of the full harmonization of the buffet site in every aspect of the restaurants' interior design. This innovation became very popular, and came to be imitated by hotels around the world.

The management of the group was headed by an executive board chaired by Mr. Tomillo and composed of a managing director, a finance manager, a maintenance manager, and one operations manager, to whom all the managers of the hotels reported. The Group recruited a large number of administrative staff and constructed impressive facilities for them. Despite the improvement in administrative resources, however, the only change introduced into the accounting system dealt with group consolidation.

During 1989, increased competition from newly established beach resorts in the Mediterranean Sea, along with a stronger exchange rate of the Spanish currency (see Table 1), brought to a halt the economic growth of the population of hotels. The Maya

Hotels Group had the lowest room reservation rates since 1981. To diminish the expected financial losses, the Group needed to impose strict cost controls. In Spring 1989, Mr. Tomillo asked the executive board for the calculated cost of washing one kilogram of restaurant uniforms. As no one could answer his question, he fired all of the managers and eliminated their positions. In a revamped organizational structure, the hotels managers reported directly to Mr. Tomillo, who appointed an information systems expert as his personal advisor.

The advisor implemented a cost accounting system that initially reported historical ratios on consumptions (e.g., amount of saccharin used per guest, number of garbage bags used per hotel, amount of electricity consumed per hotel, etc.). Based on this information, the new board undertook actions like the elimination of saccharin packets from coffee shops tables, saccharin was only served upon request to waiters. Garbage bags were no longer purchased; instead garbage was thrown straight from hotel dustbins into the municipality's bins. An analogue device automatically shut off a room air conditioning when the balcony's windows were open. These concrete actions were also implemented by other resort hotels in late 1990.

Pursuing a higher market share, the Group implemented a new organizational structure characterized by three core elements: (1) Hotels became profit centers; (2) an incentive system for managers and middle managers was put into place and, (3) perhaps most important, a budgeting system was set up. Profit center budgets assumed that the hotel's management had to attain profit goals regardless of sales turnover. The incentive system echoed profit compliance as the main element in performance evaluation. Performance was judged satisfactorily if customers' evaluation reached the target of 80% of positive responses and, finally, when no complaints from tour operators had been received. The Maya Hotels Group achieved some dramatic results; the annual rate of room occupation increased from 50.5% in 1990 to 59% in 1992 (see Table 3).

Some decisions made by Mr. Tomillo at the time changed the composition of hotel owners. He sold his interest in other resort hotels to launch a cruiser and to become the single owner of the Maya Hotels Group. Being the sole owner of the largest group of hotels in the resort made Mr. Tomillo an influential person in local circles. He turned

down offers from different political parties to run for mayor of the resort's municipality. He, nevertheless, encouraged the new mayor to establish a Tourist Management Board. The Board, formed by hotels managers and representatives from different public administrations, sought to define the resort's overall strategy.

The Maya Hotels Group stressed its policy of innovation and control activities. The former included the creation of children's clubs in every hotel and the introduction of original entertainment performances. Control activities had a twofold goal: to avoid thefts and to control costs. Theft elimination was a long-standing concern of the group's management; at the time, it was specifically targeted to reduce theft by waiters. Because the cost accounting system disclosed no correspondence between coffee shops' consumptions and sales turnover, one waiter could conceivably keep the ticket of a table consumption to invoice other tables that subsequently ordered the same goods. The waiter, consequently, could hand over the ticket to the new customers while keeping the money for himself or herself. Aiming to eliminate these practices, the Maya Hotels Group offered one free bottle of wine in return for tickets amounting to ESP 5,000. Cost control activities were guided in the main by the analysis of budgetary information. Such was the case with inventory reductions in the office supplies. These materials made an average monthly inventory of ESP 5 million. The group's management decided that the central office would systematically delivered half of the requested office supplies from hotels. After 1 year, the average number of materials inventory dropped to ESP 1.5 million. Since then, the central office satisfies all requests.

The management of the Group found it increasingly difficult to follow up the growing number of innovative practices. Consequently, these practices were standardized and compiled in a manual of procedures, which became a central element of the Group's organizational life. For example, participants in any organizational meeting had to review their manual to check if agreed decisions implied any change in the procedures. (Managers used to say, "The manual is our Bible".) Second, the group set up an electronic data system, which provided information about any detail of the operational and sales processes. In 1994, the system expanded to gather information about guest consumptions. Customers could use any Group service through a special guest electronic card. The card helped to record any relevant information on patterns

of consumption. Once aggregated, the system provided reports on guest consumer behaviour by nationality, age, time of day, etc. These reports informed marketing, purchasing, and personnel policies.

Most of the innovation and control practices put into place by the Maya Hotels Group were then imitated by other hotels. Although the management of the Group was aware of this rapid dissemination of knowledge, its policy ever emphasized the maintenance of the pace of changes over the introduction of organizational mechanisms to restrict the outer transfer of innovations. However, the management tradition of continuously comparing indicators of performance between individual hotels and the average of the group made the Group realize that competitors could not imitate improvements focused on the group level. Such an example is "children's hotel"; it occupies a large part of one group's hotel and provides daily games, entertainment, special food, day rooms, playgrounds, etc., for guests' children. Another example is the "all included hotel"; that is, one hotel whose guests pay a flat rate, which allows them to eat and drink as much as they wish. Group level innovations were, thus, unlikely to be undertaken by smaller groups of hotels.

In short, the period 1975-1995 showed a growth of 237.9% in the resort's offer of hotel's beds. This increase was not uniform during that period however; it was more modest from 1990 until 1995 (12.8%) and stagnated since 1993 (see Table 3). Rates of room occupation, however, grew during the period 1990-1995, from 51.64% in 1990 to 58.37 percent in 1995. In 1996, the population of hotels was formed by 18 units, offering 9,148 beds. Four hotels' groups concentrate 75.8% of the beds' offer. The Maya Hotels Group owns 28.06% of the available beds, followed by the Alfa-Hotels Group with 18.43%. As a result of the process of continuous innovation undertaken by the resort's hotels, the average of services offered per hotel grew from 12 services in 1983 to 25 services in 1995. In comparison, the average number of hotel services offered in one of the best known Spanish beach resorts was 20 in 1995 (Fernández-Revuelta, 1996).



## ANALYSIS

Hotels established in the resort fulfil the geographic isolation requirement that might distinguish a population of organizations (McKelvey, 1982). As a result of the dynamic intertwinement among the population of hotels and their environments, the population of hotels has changed its number, as well as such salient characteristics as service organizations, and the accounting and control systems. The rationale for the continual adaptation involved by this type of mutual exchange may be explained through Lewis Carroll's (1872) Red Queen metaphor. The Red Queen and Alice kept running to stay in the same place because the giant chessboard kept moving beneath their feet. Then, Alice said to the Queen:

*"Well, in our country," said Alice, still panting a little, "you'd generally get to somewhere else -if you ran very fast for a long time as we've been doing."*

*"A slow sort of country!" said the Queen. "Now, here, you see, it takes all the running you can do to keep in the same place, ..."*

The metaphor was used by the evolutionary biologist Leigh Van Valen (1973). He questioned the general assumption that species that existed the longest would be the best adapted and hence least likely to become extinct. In this respect, he studied the extinction rates in various lineages and concluded that extinction is not correlated to age. Therefore, how well a species has historically been adapting to its environment is not relevant for survival, since it can never relax; its competitors and its enemies are also continually adapting themselves to their niches. In evolution the metaphor takes the form of a hypothesis, which states that for an evolutionary system, continuous development is needed just to maintain its (relative) fitness (Heylighen & Campbell, 1995). As Ridley (1993, p. 64) contends, the Red Queen hypothesis assumes that the world is competitive to the death.<sup>1</sup>

---

<sup>1</sup> The Red Queen hypothesis has been thoroughly tested in evolutionary biology. For example, Gould (1978; quoted by Ridley, 1993) verified the functioning of the hypothesis in analyzing the exceptional flowering of some bamboos every 121 years. That flowering comes about exactly at the same time all over the world. Then, the bamboos die. This behaviour compensates the overall strategy of its parasite organisms; the latter develop a continuous trial-and-error process aiming toward finding variations in their genes to make some progress with respect to their hosts. In this respect, the coexistence of several generations of hosts is most beneficial for parasites because their mutations should not be so dramatic. Thereafter, the synchronization of the aforementioned bamboos' life cycles counteracts their parasites

An organizational view of the Red Queen metaphor should stress the idea that progress and competitive advantage are intrinsically temporary and relative, especially for organizations operating in changing environments. In stable environments, performance improvements achieved by one organization bring about a long-term competitive advantage. In dynamic environments, on the other hand, this competitive gain tends to vanish; competitors react promptly to restore their market position. If all members of a population are continuously involved in the creation and restoration of competitive advantage, the population will make an absolute fitness increase. However, this progress of one population will again be rendered provisional in relation to others involved in similar environments. Consequently, the application of the Red Queen metaphor to a population of organizations might well distinguish its functioning inside population from its operation at the population level.

### **The Red Queen in the Inner Population**

In 1989, the Red Queen started functioning in the population of hotels. Although Spain had made substantial changes in its political system as well as in shifting from economic isolation to full integration in the EEC, these changes proved to be insufficient for the population implementing formal management accounting and control systems. In fact, the integration of Spain into the EEC, rather than implying a business threat from international hotels' groups to hotels established in the resort, boosted the latter's business opportunities. Moreover, Spanish subordinates still behaved according to their long-standing tradition of accepting fully orders issued by their superiors (Carmona & Grönlund, 1994). There was no need to replace present mechanisms of control. However, this situation collapsed by late 1988 and early 1989. Two external variables caused the resultant stagnation of the resort's economic activity. First, the exchange rate of the ESP versus the USD went down from ESP 170 in 1985 to ESP 105 in 1989, hence, making it less convenient for international guests to stay at the resort's hotels. Second, a number of competing resort areas opened in the Mediterranean Sea (e.g., Tunisia, ex-Yugoslavia, and Morocco). Still a third external variable simultaneously changed the existing climate of industrial relations: The 1-day

---

strategy because the latter die with their hosts. Moreover, this idiosyncratic behaviour of bamboos prevents competition among parents and their offspring for common resources.

general strike of 1988 conveyed the message from the trade unions to the companies' management that conflict would replace social agreements as the instrument for resolving industrial relations problems. Finally, an internal variable like the larger number of hotels in the Group brought about monitoring difficulties, as well as marketing problems related to trying to sell an increasing number of beds. While the external variables boosted environmental uncertainty, changes in the internal variable reduced significantly the capacity of the Maya Hotels Group to buffer the impact of environmental changes on the hotels.

The survival of the hotel group was tied to a sustained policy of differentiation, which materialized in a steady process of innovation in hotel services, and to the substitution of physical controls on employees by formal control systems to cope with uncertainty raised by the labor force. The implementation of these policies involved a first move by the Maya Hotels Group to gain a competitive advantage over the rest of the population. The reaction of competing hotels essentially consisted of the imitation of the innovations, thereafter generating a dynamic intertwinement inside the population. The Red Queen metaphor provides a suitable basis for theorizing on these population developments.

An analysis of the organizations' environments might explain the inside functioning of the Red Queen metaphor. Osborn & Hunt (1974, pp. 231-234) distinguish the macro environment from the task environment. The macro environment is the general context of a specified geographical area and contains those forces recognized to have important influences on organizational characteristics and outputs. The macro environment is, thus, formed by forces such as the economy and the market, the social and cultural values, the political and legal situation, the technology, and the extant pattern of industrial relations. On the other hand, the task environment consists in the main of organizations with which the system under analysis interacts. Customers, competitors, distributors, and suppliers constitute the task environment of the population of hotels.

The salient feature of the macro environment of the population of hotels is its continuous change; the social, political, and economic forces of the military dictatorship were initially replaced by those of a western democracy. However, these

new institutions still underwent two subsequent changes: first, to fulfil the requirements of the EEC, and second, to fully integrate Spain in the single European currency. The macro environment entails a similar impact on all the hotels that make up the population.

The conditions of the task environment have remained fairly stable since 1989. Most of the sales of the resort area are made through its distributors (the tour operators) amounting to 95% of total guests stays. The dominance of the tour operators spreads over the design and implementation of hotels' activities into such areas as quality inspections, offer of services, and, particularly, price setting. Competition in the resort area is mainly undertaken by four hotels' groups. The largest group, the Maya Hotels Group, is not only the first mover in developing new services and innovative control practices but also in negotiating room prices with the tour operators. This negotiation, based on the offer of services and the existing mechanisms of control, is then extended to the rest of the hotels of the population. Other resort areas compete against the resort, although their effects on the members of the population are fairly uniform. Finally, customers and suppliers, the other forces of the task environment, play a secondary role with respecting to distributors and internal competitors. In short, the task environment differs among hotels' groups, depending on their capacity to negotiate successfully with tour operators.

The analysis of these two environments shows some idiosyncratic characteristics among the different organizations. On the one hand, the Maya Hotels Group carries out a systematic screening of the macro environment through the regular examination of domestic and foreign inflation ratios, currency exchanges, expected labor union hostility, and the deregulation of the European economies<sup>2</sup>. This analysis is then completed with a study of the task environment as well as the group's strengths and weaknesses. These analyses result in a plan of innovation and control activities. This group learns by doing. On the other hand, the rest of the population mostly disregard both the macro environment and the other competitors' analyses to concentrate on a thorough observation of the activities of the Maya Hotels Group. These other resort groups learn by imitation.

---

<sup>2</sup> In 1994, Mr. Tomillo joined the National Tourism Steering Committee, the 10-member board that settles the Spanish tourist policy.

To sum up, the following sequence might summarize the internal functioning of the Red Queen: The Maya Hotels Group analyzes the macro environment, the position of other competing resorts, and its own strengths and weaknesses. Based on the conclusions of this analysis, the group of hotels set up a plan of innovation and control practices. The implementation of these practices brings the Maya Hotels Group a (temporary) competitive advantage over its competitors. However, these competitors simultaneously conduct a close scrutiny of the activities of the Maya Hotels Group and promptly imitate their innovative practices to restore their market position. This process does not end because the Red Queen is ever at work; the imitation by others overlaps the next environmental analysis of the Maya Hotels Group. Innovative management practices will be undertaken and then imitated by the rest of the population.

The Red Queen metaphor implies that all progress is relative. Market share might be a suitable indicator of progress because it measures the relative position of one organization against its competitors. Table 3 shows the rates of room occupation for the Maya Hotels Group and the entire population of hotels. During the period 1990-1995 both rates remained at similar levels because annual variations never exceeded 1.2%. Although the Maya Hotels Group increased its rate of room occupation from 50.5% to 58.8%, this increase was relative; the rate of the resort went from 51.64% in 1990 to 58.37% in 1994. Despite all efforts of the Maya Hotels Group to continuously innovate, it did not improve its relative position against its local competitors.

The functioning of the Red Queen metaphor does not assume organizations retain only selective variations. An appeal to the idiosyncratic characteristics of the population of hotels might explain the random behaviour of the Red Queen. As we have seen above, the Maya Hotels Group introduced a guest electronic card that provided valuable managerial information. However, all utilizations of the card were not beneficial. For example, the card was used to monitor the access of guests to restaurants. Surprisingly, entrance to the restaurants became clogged because the electronic card was slow to read. Moreover, in a scenario in which one hotel was sold out and all of its guests chose to have their meals within the hotel, it would be impossible to admit all guests during business hours. Despite this malfunction, the electronic card still

monitors the access of guests to restaurants. Two reasons help to explain the maintenance of this particular procedure. First is the large power distance that characterizes Spanish culture (Carmona & Grönlund, 1995; Hofstede, 1980). Spain is ranked 31st among 53 countries or regions in the power distance index (PDI); its PDI is 57 compared with 35 for Great Britain, and 18 for Denmark. *Power distance* refers to the dependence relationships among people in a country. In small power distance countries, there is limited dependence of subordinates on bosses and a preference for consultation. In large power distance countries, there is considerable dependence of subordinates on bosses. In this case, the use of the guest electronic card was suggested by Mr. Tomillo. His dominance as executive president and owner of the group made it difficult for subordinates with a large power distance to question his ideas. Second is, the techno-culture of the Maya Hotels. Most of the mechanisms of control are computerized, and assertions against an element of the control system are interpreted as threats to technology as a basic component of the organizational culture. The rest of the population of hotels, as imitators, also retain nonselective variations as we shall see in due course.

The process of dissemination of knowledge constitutes a central component in the operation of the Red Queen metaphor. Parker (1979) introduced the concepts of *change agents* and *recipients* into accounting research to explain differences in modern accounting practices among countries. He found that international accounting firms played an outstanding role in the dissemination of accounting practices during this century. Drawing on this framework, Carnegie & Parker (1996) analyzed the significant role of the accountant William B. Yaldwin as *change agent*; he propagated accounting knowledge in several British colonies during the 19th century. Parker's proposal on *change agents* has also proved to be useful in explaining accounting developments within a particular region (Boyns & Edwards, 1996). *Change agents* transmit ideas and techniques to *recipients* who feel the need to introduce a new practice into their companies. In the case of the population of hotels, tour operators and personnel of the Maya Hotels Group acted as salient *change agents*. Tour operators are a constitutive force of the task environment; as such, they negotiate room prices according to the offer of services and mechanisms of control made by each group of hotels. They start negotiating with the Maya Hotels Group. The agreement, then, becomes the basis of negotiation for other groups of hotels because tour operators

require them a short-term effort to equalize the arranged offer. Otherwise, they will face dramatic reductions in room prices and/or in the volume of customers. This threat to *recipients* force them to rapidly imitate the developments of the Maya Hotels Group. Likewise, *recipients* implement strict mechanisms of control which often replicate those in use in the Maya Hotels Group. The imitation of these traits of control is eased through the recruitment of personnel from the Maya Hotels Group. Personnel, thereafter, act as *change agents* through the dissemination of their own knowledge as well as through the transmission of the manual of procedures. However, the fast process of propagation of knowledge implies that *recipients* do not always imitate efficient procedures. For instance, one group of hotels is overloaded in its capacity of information processing after imitating the foundations of the information system of the Maya Hotels Group.

Similarity originated in the population of hotels might involve a case of hypercompetition. Studies of the population ecology found a positive correlation between intense competition and hotel similarity (Baum & Mezias, 1992); similarity was defined in terms of size, geographic location, and price. The population of hotels is fairly similar along these three organizational dimensions. Firstly, hotel size might be measured by the offer of beds; this indicator shows an average hotel size of 579.5 beds and a standard variation of 70 beds. Second, the population of hotels is established along a narrow seaside corridor of 7 kms. Available data about the third dimension are not very relevant because negotiated prices with tour operators are kept confidential. Only face room prices are available; the average room price for the population of hotels is ESP 7,000, and its standard variation is ESP 1,500. Despite considerable similarity among hotels, competition did not peak at hypercompetition and its observed rates of organizational mortality; during the period 1990-1995, no hotel in the resort area went bankrupt. This result might be partially due to the existence of cooperation among the groups of hotels, as came about with the creation of the Tourist Management Board. Cooperation is explained by three factors: the isolation and specialization of the resort area; the concentration of bed's offer in four groups of hotels; and the medium size of the corporations that own resort hotels. Group of hotels are not interested in others' bankruptcy. On the one hand, their medium size makes impossible the acquisition of others. On the other hand, one group's bankruptcy, and its subsequent closure of hotels, would have devastating

effects on the resort's image. Therefore, populations of hotels grading high in the three organizational dimensions that define similarity may not be involved in hypercompetition; extremely close geographic location, high concentration of offer, and medium size of the individuals act as constraints to the development of more competitive environments.

#### **The Red Queen at the Population Level.**

The absolute progress made by the population of hotels during the period 1990-1995 is rendered relative if its outcomes are compared with the results of other populations. First, the increase by 12.8% in the resort's offer of beds falls below the growth by 15.5% achieved by the overall Spanish offer (see Table 2 and 3). Secondly, although the number of foreign guests who stayed at the resort increased by 20.9 percent, the population of hotels could not gain a higher share on the 21.5 percent growth of foreign people who visited Spain. Finally, improvements by 12.8% in the offer of beds did not match the 15% increase in the number of individuals who showed up in the population of restaurants and cafeterias (Fernández-Revuelta, 1996). These data are referred to as outcomes and not to the functioning of the Red Queen metaphor. However, it might be inferred that the implementation of innovative management practices was not an idiosyncratic characteristic of the population of hotels. Other populations of tourist organizations also seemed to experience the operation of the Red Queen.

#### **The Organizational Level as a Unit of Analysis.**

The interaction among management accounting systems and their changing environments has been analyzed by contributions of organizational learning and strategic management accounting. Although these theories focus on the organization as a unit of analysis, they may provide considerable insight into the supporting evidence of this paper.

Organizational learning studies have developed the concept of local information systems (Argyris, 1977; Jönsson, 1996). These systems are in the main characterized by their focus on unique situations and real organizational processes; they are,



consequently, decision-making oriented. On the contrary, management information systems report on recurrent situations and outcomes, being suitable for control purposes. Local information systems have been investigated in a wide range of organizations; large car manufacturers (Jönsson & Grönlund, 1988), and day-care centres (Jönsson & Solli, 1993). A common feature of these research sites is their involvement in decentralizing decision-making power. Local information systems aimed toward providing information support to the lower levels of the chain of command. In sharp contrast with these research sites, the Maya Hotels Group undertook a process of continuous information systems change at the top management level; no decentralization of information support was made at any time. At the top management level, management information systems (e.g., the budgeting system) coexisted with local information systems (e.g., the operational information system). Evidence from this paper suggests that decentralization is not a requirement for the implementation of local information systems. On the other hand, local information systems seem to be linked to decision-making power and not to how decentralized a given organization is. In the case of the Maya Hotels Group, a centralized organization, the domain of decision making is placed on the top of the organizational chart and, hence, local information systems are operative on that level; as a manager uses to say, "I do not want them (operators) to innovate or improvise but just follow the manual of procedures." This strict centralization is reinforced by the existence of full ownership with executive management as well as by the long tradition of business success.

Evidence shown in this paper apparently contradicts the conclusions of the strategic management literature, especially regarding the features that management control systems should have to fit for the organizational strategy. The Maya Hotels Group has the competitive characteristics of Prospectors: uncertain environment and continuous seeking of new product and market opportunities. Nevertheless, the organizational structure of the group conforms to the conditions of Defenders: centralization and sophisticated cost controls. A plausible explanation of this contradiction draws on Dent (1990). He considers that Prospectors implement strict cost controls to cope with task ambiguity because their environmental uncertainty is already high and uncontrollable. This overall argument is strengthened by the fact that the Maya Hotels

Group is a service organization and as such it is difficult to control the quality of the final service. Instead, tasks are segregated into different processes to ease their control.

### CONCLUDING REMARKS

Population as a unit of analysis might become a fruitful focus of study in accounting research. Accounting change (or its obverse, inertia) could be well understood through an analysis at the population level. This paper shows how a population of beach hotels has continually changed its management accounting systems. The process of accounting change is explained through the functioning of a Red Queen metaphor; in cases of fierce competition, the metaphor states that progress and competitive advantage are intrinsically relative and temporary. This paper provides some measures of progress inside the population of hotels and among populations. The population of beach hotels is formed by a first mover and its followers. The first mover undertakes an analysis of its macro and task environments that brings about the functioning of the Red Queen; drawing on these analyses, it implements innovative management practices which generate a short-term competitive gain. However, these practices are rapidly disseminated by *change agents* among *recipients*. The subsequent imitation of the new practices by *recipients* restores the market situation. The first mover, again, screens its environments in its search for control and service opportunities, and so on. Practices retained by the population of hotels, however, do not always have selective traits but may also have neutral and negative ones. These malfunctions could be due to the rapid process of dissemination of innovation as well as to the ownership structure and large power distance that characterizes Spanish culture. Management accounting systems play a significant role in the search by the first mover for new services and control mechanisms, hence, partially shaping their task environment through the subsequent dissemination of their knowledge. Conversely, imitators first implement new services and then adapt their control systems.

Supporting evidence of this paper might also be analyzed through theories that focus on the organization as a unit of analysis. Organizational learning literature links local information systems to processes of organizational decentralization; this paper suggests that local information systems could also operate in centralized

organizations, especially those serving decision-making purposes. Likewise, this paper found that a Prospector strategy may be coherent with centralized organizations and strict cost controls because of the Prospector's need to absorb uncertainty at the task environment level; this need is judged to be more intense in service organizations operating in competitive markets.

The Spanish society underwent tumultuous changes during the period 1975-1995. Conclusions of this paper suggest that Spanish organizations could not automatically respond to the developments in their macro environment with immediate changes in their management control systems (see Amat *et al*, 1994). On the other hand, it could be the combination of some concrete alterations in the macro and task environments of organizations what provoked changes in their management accounting systems.

Although conclusions of this paper might be generalized back to sustaining theories, generalization to other situations is hardly possible because the paper only refers to a population of beach hotels (Lukka & Kasanen, 1995). Population as a field of study has some potential for management accounting research. This approach could provide a sound understanding of cases of accounting inertia such as the nonimplementation of ABC systems by large consultancy companies. Likewise, research on cases of accounting change at the population level could cover more complex situations than those analyzed in this paper: Environments featured by several first movers; cases of hypercompetition; and a more active role of *change agents* like consultancy firms in the implementation of innovative practices could be environments of possible interest for accounting researchers.

## BIBLIOGRAPHY

Alvarez-Dardet, C., *Análisis Estratégico del Coste: Estudio de un Caso* (Strategic Cost Analysis: A Case Study) (Madrid: ICAC, 1993).

Amat, J., Management Accounting in Spanish Firms, *The European Accounting Review* (May 1992) pp. 1-25.

Amat, J., Carmona, S. & Roberts, H., Context and Change in Management Accounting Systems: A Spanish Case Study, *Management Accounting Research* (June 1994) pp. 107-122.

Argyris, C., Organizational Learning and Management Information Systems, *Accounting, Organizational and Society* (1977) pp. 113-123.

Baum, J.A.C. & Mezias, S.J., Localized Competition and Organizational Competition in the Manhattan Hotel Industry, 1898-1990, *Administrative Science Quarterly* (December 1992) pp. 580-604.

Baum, J.A.C. & Haveman, H.A., Love Thy Neighbor: Differentiation and Spatial Agglomeration in the Manhattan Hotel Industry (1995), Mimeo, University of Toronto.

Boyns, T. & Edwards, J.R., Change Agents and the Dissemination of Accounting Technology: Wales' Basic Industries, *Accounting History* (May 1996) pp. 9-34.

Bromwich, M., The Case for Strategic Management Accounting: The Role of Accounting Information for Strategy in Competitive Markets, *Accounting, Organizations and Society* (1990) pp. 27-46.

Carmona, S. & Grönlund, A., Learning from Forgetting, Universidad Carlos III Working Paper Series 95-50 (1995).

Carmona, S. & Pérez-Casanova, G., Organizational Forgetting and Information Systems, *The Scandinavian Journal of Management* (March 1993) pp. 29-44.

Carnegie, G.D. & Parker, R.H., The Transfer of Accounting Technology to the Southern Hemisphere: The Case of William Butler Yaldwyn, *Accounting, Business and Financial History* (March 1996) pp. 23-49.

Carroll, G.R., Concentration and Specialization: Dynamics of Niche Width in Populations of Organizations, *American Journal of Sociology* (1985) pp. 1263-1283.

Carroll, L., *Through the Looking Glass*, (London: Penguin Popular Classics, original version 1871).

Chua, W.F., Experts, Networks and Inscriptions in the Fabrication of Accounting Images: A Story of the Representation of Three Public Hospitals, *Accounting, Organizations and Society* (February/April 1995) pp. 111-145.

Dent, J.F., Strategy, Organization and Control: Some Possibilities for Accounting Research, *Accounting, Organizations and Society* (1990) pp. 3-25.

Fernández-Revuelta, L., *Análisis de la competitividad del sector turístico* (Analysis of the Competitiveness of the Tourist Sector) (Almería: UAL, 1996).

Gould, S.J., *Ever Since Darwin: Reflections in Natural History*, (New York: André Deutsch, 1978)

Gutiérrez, I. & Núñez, M., Technological Inertia as Failing Factor, (Madrid: Proceedings of the Management and New Technology International Conference, 1996) pp. 367-376.

Hannan, M.T. & Freeman, J., The Population Ecology of Organizations, *American Journal of Sociology* (1977) pp. 929-964.

Hannan, M.T. & Freeman, J., Structural Inertia and Organizational Change, *American Sociological Review* (April 1984) pp. 149-164.

Hannan, M.T. & Freeman, J., *Organizational Ecology*, (Harvard University Press: Cambridge, 1989).

Hedberg, B.; Nystrom, P. & Starbuck, W.H., Camping on Seesaws: Prescriptions for a Self-Designing Organization, *Administrative Science Quarterly* (March 1976) pp. 41-65.

Hedberg, B. & Jönsson, S., Designing Semi-Confusing Information Systems for Organizations in Changing Environments, *Accounting, Organizations and Society* (1978) pp. 47-64.

Heylighen, F. & Campbell, D.T., Selection of Organizations at the Social Level: Obstacles and Facilitators of Metasystem Transitions, *Journal of General Evolution*, 1995.

Hofstede, G., *Culture's Consequences* (Beverly Hills: Sage, 1980).

Hopwood, A.G., On Trying to Study Accounting in the Contexts in which it Operates, *Accounting, Organizations and Society* (1983) pp. 287-305.

Hopwood, A.G., The Archaeology of Accounting Systems, *Accounting, Organizations and Society* (1987) pp. 207-234.

Jönsson, S., *Accounting for Improvement* (Oxford: Pergamon, 1996).

Jönsson, S., Grönlund, A., Life with a Subcontractor: New Technology and Management Accounting, *Accounting, Organizations and Society* (1988) pp. 513-532.

Jönsson, S. & Solli, R., 'Accounting Talk' in a Caring Setting, *Management Accounting Research* (December 1993) pp. 301-320.

Lukka, K. & Kasanen, E., The Problem of Generalizability: Anecdotes and Evidence in Accounting Research, *Accounting, Auditing and Accountability Journal* (1995) pp. 71-90.

McKelvey, B., *Organizational Systematics: Taxonomy, Evolution, Classification* (University of California Press: Berkeley and Los Angeles, 1982).

Miles, R.E. & Snow, C.C., *Organizational Strategy, Structure, and Process* (New York: McGraw Hill, 1978).

Miller, D. & Friesen, P.H., Innovation in Conservative and Entrepreneurial Firms: Two Models of Strategic Momentum, *Strategic Management Journal* (January/March 1982) pp. 1-27.

Mintzberg, H., Strategy Making in Three Modes, *California Management Review* (Winter 1973) pp. 44-53.

Osborn, R.N. & Hunt, J.G., Environment and Organizational Effectiveness, *Administrative Science Quarterly* (June 1974) pp. 231-246.

Parker, R.H., Explaining Differences in Consolidated Accounts, in Lee, T.A. & Parker, R.H., *The Evolution of Corporate Reporting* (Sunbury-on-Thames: Nelson, 1979).

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

Preston, A.M., Cooper, D.J. & Coombs, R.W., Fabricating Budgets: A Study of the Production of Management Budgeting in the National Health Service, *Accounting, Organizations and Society* (August 1992) pp. 561-593.

Ridley, M., *The Red Queen. Sex and the Evolution of Human Nature* (Penguin: New York, 1993).

Simons, R., Accounting Control Systems and Business Strategy: An Empirical Analysis, *Accounting, Organizations and Society* (1987) pp. 357-374.

Simons, R. The Role of Management Control Systems in Creating Competitive Advantage: New Perspectives, *Accounting, Organizations and Society* (1990) pp. 127-143.

Utterback, J.M. & Abernathy, W.J., A Dynamic Model of Product and Process Innovation, *Omega* (1975) pp. 639-656.

Van Valen, L., A New Evolutionary Law, *Evolutionary Theory* (1973), Vol. 1, pp. 1-30.

**TABLE 1**  
**Exchange rate of ESP-USD**

<b>Year</b>	<b>Exchange rate</b>
1976	66,9
1980	71,7
1985	170,0
1989	105,5
1990	101,9
1995	124,7

Source: Banco de España

**TABLE 2**  
**The tourist industry in Spain (1976-1995)**

	1976	1980	1985	1990	1995
<i>Foreign visitors</i>					
Amount	30,014,187	38,026,816	43,235,000	52,044,100	63,255,000
Index (1990:100)	57.67	73.06	83.07	100.00	121.54
<i>Hotel beds</i>					
Amount	798,985	814,394	843,337	929,533	1,074,017
Index (1990:100)	85.95	87.61	90.72	100.00	115.54

Source: National Institute of Statistics (INE) and Ministry of Commerce and Tourism.

**TABLE 3**  
**The tourist industry in the resort area (1990-1995)**

	1990	1991	1992	1993	1994	1995
<i>Foreign visitors</i>						
Amount	175,176	174,498	193,517	209,812	211,484	211,874
Index (1990:100)	100.00	99.61	110.47	119.77	120.72	120.94
<i>Hotel beds</i>						
Amount	8,107	8,490	8,910	9,093	9,093	9,148
Index (1990:100)	100.00	104.72	109.90	112.16	112.16	112.84
<i>Rates of room occupation (resort)</i>						
	51.64	52.23	58.64	62.09	61.88	58.37
<i>Rates of room occupation (Maya Hotels)</i>						
	50.52	53.00	59.00	61.50	58.75	58.80

Source: Fernández-Revuelta (1996) and own elaboration.