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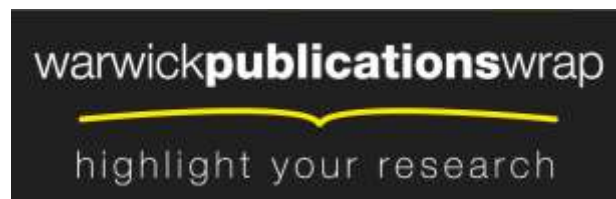
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**Portraying Managerial Dynamic Capabilities: A Case Study in the
Fast-moving Consumer Goods Industry**

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Abstract

This paper presents a case study describing the managerial dynamic capabilities of a firm in the highly competitive fast-moving consumer goods industry and their effects in the performance of the firm and the industry. Managerial dynamic capabilities are processes of managerial decision-making, extending throughout the firm, to determine which particular resources managers identify as strategically important and how they build them. The case study, which was developed with a management team during a period of one year, involved a detailed analysis of the resources perceived strategically relevant and the operating policies aimed at maintaining an adequate balance of the set of key resources. In other words, this paper describes what Winter (2003) defines as ‘how we earn our living now’ or ‘zero-level’ capabilities.

KEYWORDS: DYNAMIC MANAGERIAL CAPABILITIES, RESOURCE ACCUMULATION PROCESSES

INTRODUCTION

Resource-based strategy researchers have suggested that dynamic capabilities are a source of heterogeneity in firm performance (Grant, 1991; Teece, Pisano, and Shuen, 1997; Eisenhardt and Martin, 2000; Adner and Helfat, 2003). Dynamic managerial capabilities are the collective skills possessed by managers to build, integrate, configure and re-configure resources and competences (Teece et al, 1997; Eisenhardt and Martin, 2000; Adner and Helfat, 2003). This paper presents a description of the dynamic capabilities of a management team in the fast-moving consumer goods industry using case study methodology (Eisenhardt, 1989). The case study illustrates how the combination of capabilities, described here in behavioral terms, and cognition determine the dynamic behavior of the firms in this industry.

This paper contributes to the wide literature on managerial capabilities through a detailed description of the decision-making processes, from a behavioral and cognitive perspective, and their effects on the dynamics of firms and industry. Additionally to a behavioral view, this paper presents an analysis of capabilities in terms of the process of managing a system of resources (Dierickx and Cool, 1989; Black and Boal, 1989; Miller and Shamsie, 1996; Heene and Sanchez, 1997). This paper also contributes to the concept of knowledge as skilled processes of leveraging resources, where knowledge (here is presented as a set of operating policies) reflects the managers ability to cognize their experience (Spender, 1996).

The paper is structured in four parts. First, I describe this behavioral view linking the process of managerial decision-making to the dynamic performance of the firm. Then I

present the case study describing the existing managerial dynamic capabilities and their connection with the dynamic behavior of the firms and industry. I finish with some conclusions.

KEY CONCEPTS OF A BEHAVIORAL VIEW OF MANAGERIAL DYNAMIC CAPABILITIES

Firms as systems of resources comprise not just a few stand-alone strategic resources but rather a network of interconnected resources (Miller and Shamsie, 1996; Black and Boal, 1994; Dierickx and Cool, 1989). Firms as open systems not only acquire resources from their environments but also lose resources either to competitors or through attrition in a set of dynamic interactions with their environments. Therefore, firm survival is based on the managerial capability to acquire and maintain resources from an environment consisting of rival firms, which compete for shared resources or own the resources required for surviving and prospering. External environments, thus, are not completely exogenous but are created by firms and their decisions. Consequently, firms have to fit into patterns of resource exchanges with other firms forming adaptive systems embedded in feedback processes (March and Simon, 1958; Levinthal and Myatt, 1994).

In rival adaptive systems the dynamic behavior of firms as well as their competitive advantage can be characterized as ‘dynamically contingent’ because each individual firm’s performance depends on other firms’ dynamic behavior. Consequently, it is difficult for managers to achieve a sustainable performance through the alignment of the

structure (internal resources) to the environment (external resources) due to the dynamic complexity of the environment and management limited cognition (Walsh, 1995; Stubbart, 1989; Fahey and Narayanan, 1989; Schoemaker, 1990; Priem, 1994). Moreover, the origins of competitive advantage may lie in identifying and responding to environmental signals even before observing performance-oriented pay-offs (Cockburn; Henderson, and Stern, 2000). Hence, management decisions to control the system of resources are a fundamental variable to achieve sustainable performance since they determine the configuration of the strategically relevant resources in dynamically complex environments.

A key concept in this view, thus, is that firms can be conceptualized as a set of interdependencies among resources forming a unified system that comprises a network of interconnected internal and external resources rather than stand-alone strategic resources. While not all resources of the system may be strategically relevant under certain circumstances, all of them are responsible for the performance of the firm over time. Moreover, some resources may only have value as part of a system (Miller and Shamsie, 1996). To conclude, firms as open systems of resources are closely interrelated with their environments. And the managerial capability to acquire and maintain a well-balanced set of resources determines the performance and competitive advantage of the firm.

Managerial decision-making in resource systems

Managerial decision-making in resource system can be viewed as a process of converting information into action (Walsh, 1995), which is defined here as resource

management. Resource management is represented as purposive adjustment of resources (asset stocks) through goal-seeking information feedback (Morecroft, 2002). Resource management decisions lead to corrective actions intended to close observed gaps between desired and actual resources. Thus, the focus of resource management is the control of resource accumulation processes (Dierickx and Cool, 1989)

Defining and monitoring the gaps (shortages or excesses) in a firm's portfolio of resources is essentially an information processing activity. Such information processing is imperfect, judgmental and behavioral – subject to the practical constraints of bounded rationality (Morecroft, 1985). Every manager has available a large number of information sources to gauge the firm's resources. But each manager selects and uses only a small fraction of all available information. Through this behavioral decision-making process, managers collectively build and configure the set of strategically relevant resources for competing in the industry. Here desired resource levels are operating goals linked to the overall strategy. In a well-designed firm, the achievement of local resource goals leads to successful implementation of strategy achieving a competitive advantage.

However, management has a limited capacity to understand complex systems (Simon, 1997). Management simplifies complexity using metaphors and mental representations to handle strategic problems (Huff, 1990). Managerial mental representations or knowledge structures concerning the system of resources are not direct imprints of reality but a result of complex selection, sorting, manipulation and conversion processes shaped by experience and existing knowledge (Walsh, 1995; Eden and Spender, 1998).

In other words, mental models affect what managers see, and two managers with different mental models can observe the same industry or even the same firm, and conceptualize not only the resource system differently but also suggest different relevant resources to achieve competitive advantage.

To summarize, dynamic managerial capabilities are firm wide managerial decision-making process involving dynamic resource management policies to build resources perceived strategic. Firm performance stems from the resulting set of strategic resources, but is contingent on actions of rivals resulting from their dynamic capabilities to building resources and their perception of the set of strategic resources.

MANAGERIAL CAPABILITIES IN THE FAST-MOVING CONSUMER GOODS INDUSTRY

The case study consists of a characterization of a strategic problem, the decision-making processes employed to overcome the problem, and a stylized set of statistical information to illustrate the managerial decision-making processes. To develop the case study, I had maintained workshops and individual meetings with a team of senior managers of a firm in the highly competitive fast-moving consumer goods industry (FMCG) during a year. While the period of analysis covered the beginning of the liquid soap product (month 0 till month 72 in each figure), the workshops and individual meetings occurred in the last 12 months of the soap market (month 60 to 72). These meetings revealed their decision-making processes ranging from the conceptualization of the set of strategically relevant resources to the operating policies used to build those

resources as well as a characterization of competitors' responses. This section is divided into an overview of the market to understand the competitive pressures on the management team of the focal firm, and a detailed description of the decision-making processes, which are illustrated using statistical information.

Market overview

The dynamics of the product analyzed in this case study has many similarities to the competitive process that has been occurring in the soap market in the UK– a synthetic example¹. For many years, bar soaps have been the product leader in the personal care market, but washing habits have changed over the years. With consumers taking showers more regularly, they have been changing their preferences for liquid washing products over bar soaps. 'Imperial Leather', had been the leader in the bar soap market for 50 years, as it exploited a brand familiar to the majority of British adults since childhood. However, Imperial Leather started losing some of its relevance when 'Dove' bar soap appeared in 1992. Dove bar reached the number one position in the bar soap sector by 1997 with a new proposition: skin moisturizing. But it was not only the effect of Dove that affected Imperial Leather; consumers have also been building very different expectations and requirements in personal care because, as consumers experienced novel products offering value added benefits, most consumers started considering bar soap outmoded.

Thus, in addition to Dove, the personal washing category grew with the arrival of shower gels and bath foams offering a better experience than soap bars. The shower gels and bath foams segments had been the domain of 'Radox', a well-known foaming

bath brand in the UK since the 1950s. Radox achieved the leadership in shower gels with its specially designed plastic bottle to hang on the shower tap and their value adding strategy through therapeutic elements based on herbal ingredients. In the midst of these strong brands, Imperial Leather was also competing against private label (Own-label) products, which had been a strong and vibrant category since the major retailers had also been interested in bathroom products. Figure 1 portrays a resource-based view² of the soap market at the time that Imperial Leather started facing the pressure from Dove, Own-label products and Radox. Customers of Imperial Leather could switch between Imperial Leather, Dove and Own-label brands in bar soap, as the flows in figure 1 represent. The switching process is controlled by prices because consumers perceived most bar soaps have similar characteristics. However, the outflows from Imperial Leather, Own-label and Dove show the substitution process of bar soaps for shower gels, which was described by the management team in a rather pessimistic way. The use of an outflow ending into a cloud conveys the idea that customers who moved to shower gels could not be brought back to bar soaps.

INSERT FIGURE 1 HERE

Since the volume of Imperial Leather had been declining for a long period due to the substitution process towards shower gels and Dove, the management team responsible for Imperial Leather launched an innovative liquid soap for handwashing (month 0 in figure 2) to retain its customers. The new product accelerated the decline of the bar soap market segment. While the new liquid soap was aimed at stopping the substitution process to shower gels, its main objective was not to compete in the shower gels market.

INSERT FIGURE 2 HERE

Initially, Imperial Leather was quite successful, as figure 3 shows, because its competitors did not match Imperial Leather's new product until they could observe the success of the product and were able to produce their own versions of the product. The growth rate of Imperial Leather's new product started to decline when competitors' matched Imperial Leather's new product. Dove needed eighteen months and Own-labels thirty-six months (see figure 3) to start competing effectively with Imperial Leather. Meanwhile Imperial Leather aggressively tried to establish a first-mover advantage in the liquid soap market.

INSERT FIGURE 3 HERE

Once the product innovation was matched by Dove and Own-label, a resource-based view of the soap market (see figure 4) shows the increasing complexity in managing each product. For example, the manager responsible for liquid soap had to attract bar soap consumers, as well as to avoid losing them to other liquid soaps. Therefore, managing a market becomes almost an act of juggling because managers have to balance multiple forces that can erode the resources. In this situation, the chances that wrong policies can destroy value are very high. In the following sections, I describe the dynamic capabilities that Imperial Leather's managers used for managing this situation.

INSERT FIGURE 4 HERE

Managerial capabilities of Imperial Leather

This section presents the decision-making processes related to the management of the resources at Imperial Leather. Two distinct actors manage the competitive actions of the focal firm: marketing and sales managers. The marketing manager main responsibility is the management of the customers through pricing and advertising decisions. The sales manager main responsibility is to negotiate the margin offered to the trade channel and allocate the space of display shelf in retailers.

In most realistic situations requiring decisions, the complexity of the dynamics of the resource system prevents managers from not only determining but also achieving an optimal strategy. Unable to optimize, managers exercise control through heuristics which may seem to be locally rational but globally uncertain (Morecroft, 1983; Morecroft, 1985; Sterman, 1987). Thus, the decision rules discussed in this section reflect in a stylized way the prevailing mental models used for selecting what resources control and the heuristics used for managing them (Amit and Schoemaker, 1993).

Marketing Manager

Marketing competitive actions are intended to influence consumers' buying patterns through price discounts and advertising. In Imperial Leather, quarterly comparisons of the actual market volume with the previous quarter volume determine the marketing plan for the following quarter. The size of the differences between past and present volume determines the magnitude of the competitive response for the following quarter.

A simple representation of this process is shown by the function presented in figure 5. The shape of the function captures the idea that marginal differences between actual and past volumes are insignificant for the managers of the firm. However, large negative differences result in more intense marketing actions such as bigger price discounts, and large positive differences result in less intense marketing actions in order to maximize operating cash flows.

INSERT FIGURE 5

The non-linear shape of the management response function described in figure 5 is consistent with previous research on behavioral decision-making research where subjects responded to changes in the level of a variable rather than on its final expected level (Kahneman and Tversky, 1979). When subjects respond to certain stimuli, the past and present contexts of their experience define a reference point, and stimuli are perceived positively or negatively in relation to this reference point. While strategic goals are very important, in the short term managers review their actual performance with respect to past performance and act based on differences with respect to previous performance.

The usage of past period volumes as reference points for decision-making indicates two processes. First, the adjustment of the reference point is intrinsically defined by the periodicity of performance reviews; for example, since Imperial Leather has quarterly reviews of performance, it updates its reference point on a quarterly basis. Second, managerial decision-making follows an anchor and adjustment goal setting process

(Lant, 1992), where the target market share – the anchor – adjusts over time based on actual market performance – the adjustment.

Consequently, the market performance response function, which reflects the comparison between actual and past volume performance, determines the intensity of the price discounts, as responses to changes in their market volume. Figure 6 shows the effect of this decision-making process on price and volume. Figure 6 shows three different periods. The first nine months shows a stable pattern in terms of price and volume. After month nine, managers started to increase prices expecting to improve revenues but, as the volume decreased dramatically, it began offering short-term promotions followed by normal price periods during the next nine months to sustain its market volume. Then, they tried to maintain its price stable for another nine months (months 18 to 27) expecting to have a stable volume, but the volume kept decreasing. By month 27 the decline became considerable and it decided to reduce its price drastically until they could observe a positive reaction in volume.

INSERT FIGURE 6 HERE

Interestingly, this characterization of pricing shows the lack of attention of Imperial Leather managers to the actions of competitors in the market. In this stylized characterization of managerial decision-making, the price setting process is endogenous and depends on maintaining past volumes. Prices will only change if sales volume falls dramatically in the short term (but if sales volume falls continuously and at a small rate over a long period, the price will not change).

Even though Imperial Leather managers did not explicitly consider competitors' prices in their decisions, the strong competition existing in this market is clearly illustrated by the price ratio between Imperial Leather and Dove in figure 7. Figure 7 shows the evolution of the price ratio between the prices of Imperial Leather and Dove. The close evolution of the price ratio, which had been moving around one for most of the period analyzed in this case study, indicate an interesting issue in the market. Since consumers responded quickly to price promotions (see figure 6), none of the firms could maintain price differentials for a period long enough for gaining market share without being matched by the competitor (which reacted as their market shares declined). Any discrepancy was rapidly reduced by both competitors.

INSERT FIGURE 7 HERE

In the new market segment, Imperial Leather tried to pull the adoption of liquid soap by reducing the price drastically with respect to competitors in order to achieve a first-mover advantage in the new market and attract bar soap users. Figure 8 presents a comparison between the price ratio existing in the bar soap market – a stable market – and the price ratio of the liquid soap handwashing market – the new market created by Imperial Leather's innovation. Figure 8 clearly shows how Dove matched the prices offered by Imperial Leather as soon as Dove had a similar product, which occurred in month 18. However, Imperial Leather was very interested in the development and sustainability of its participation in the new market, so it attempted to maintain a better relative value than Dove liquid soaps by keeping a price well-below Dove's liquid soap price (line 2 in figure 8).

INSERT FIGURE 8

The allocation of advertising is determined by the long-term perspective of the product in the market. Since the advertising budget is limited, the marketing manager allocated it to the product that he believed would give a better return. Figure 9 shows how Imperial Leather withdrew its advertising support for bar soap (line 2) as the product volume decline – and its revenues – (line 1), and switched the advertising investment (line 4) to promote liquid soap (line 3). While it is financially rational, and widely approved, process the allocation of funds to the most profitable option, it also has to be recognized that it creates a vicious cycle. Moreover, the vicious cycle is intensified when the funds are used for developing a competing product.

INSERT FIGURE 9

Sales Manager

The attention of the sales manager was directed to sustain a key resource in fast-moving consumer goods industry: the share of display shelf. The display shelf is a fiercely contested resource in the fast-moving consumer goods industry. While a bigger store size, which allows an increased number of items carried by stores, reduce competition for shelf space, the proliferation of products makes retailer shelf space increasingly scarce and improves the bargaining positioning of retailers (Messinger and Narasimhan, 1995). One the one hand, the task of the sales manager is to maintain an important share of display shelf at the lowest cost because it can affect not only daily sales but also the effectiveness of future advertising campaigns. On the other hand, retailers' management teams try to maximize the income received for the space allocated by

assigning the highest possible proportion to the highest profitable option, either manufacturer products or their own products. The main parameter influencing the allocation is the market share and the relative trade margin offered of branded products.

The sales manager decision-making processes can be described as a reinforcing feedback process (Sterman, 2000). The sales manager simply expects that higher market share (a relative measure of other key resource: consumers) helps him to obtain a higher share of display. Higher share of display improves the visibility of the brand increasing the effectiveness of advertising campaigns. Effective advertising campaigns help to augment market share and the subsequent allocation of share of display grows even more.

However, two effects reduce the strength or even stop the reinforcing process. First, a retailer does not allocate 100% of the available shelf (for a specific market) to only one brand, even though the brand may be the market leader, because it gives too much bargaining power to the manufacturer. Second, lower trade margins, which the market leader may try to enforce as it increases its bargaining power, can disengage even more the relationship between the share of display shelf allocated and market share.

To summarize, the sales manager uses the trade margin to negotiate with retailers the share of display shelf. The sales manager believes that the existing reinforcing process between market share and share of display shelf provides an important bargaining power over trade margins. However, retailers are not prepared to lose their bargaining power. This tension between manufacturers and retailers drives the appearance of

private label products – Own-labels products – in the FMCG industry (Markides and Geroski, 2004).

While share of display shelf is a key resource, Imperial Leather did not have established any performance measure of this resource. Therefore, we observed the distribution of the products in a supermarket for one year. Figure 10 displays the shelf allocated at month 60 and month 72. Each rectangle in figure 10 indicates a physical unit allocated to a brand and type of product. Imperial Leather had most of the display shelf, and its share was allocated mostly to bar soap in month 60. By month 72, Imperial Leather had lost a third of its space to Dove, and two thirds of its remaining space was allocated to liquid soap. This re-distribution of shelf space reflected the changes that were occurring in the market.

INSERT FIGURE 10

Manufacturing Manager

The manufacturing manager had a very important strategic dilemma: how to manage the allocation of manufacturing resources between the old and new product without inventory shortages or duplicating manufacturing capacity because liquid soap requires a different manufacturing process than bar soap. The management of Imperial Leather considered, when it launched the liquid soap, that a product requiring new manufacturing facilities would reduce the ability of competitors to react. Dove needed eighteen months to launch its own liquid soap, and Own-labels took thirty-six months before being able to compete in liquid soap.

The decision-making process for the adjustment of manufacturing capacity is driven by the evolution of the market size. On the one hand, the adjustment of bar soap manufacturing capacity can be described as an anchor and adjustment process, the anchor is the long-term average volume and the adjustment (using a very conservative approach) is the actual sales for the bar soap. On the other hand, the process for adjusting liquid soap manufacturing capacity reflects the managerial expectations on the new product, as the rationale used to expand liquid soap manufacturing capacity consists of a simple extrapolation of the past growth rate.

For most firms competing in the FMCG industry, economies of scale are achieved under high market shares. Economies of scale are embedded in a reinforcing feedback loop: bigger sales implies higher economies of scale which mean lesser costs, and decreasing costs implies lower prices reinforcing the growth of the market share. However, the same process can also generate a spiraling downward process. When sales falls, costs per unit increases due to a lower output for the existing manufacturing capacity and other non-manufacturing fixed costs. Unless the firm has a very flexible manufacturing process in place and low non-manufacturing fixed costs (or easily adjustable), the management of a company will need to reduce its gross margin in order to maintain their actual sales eroding its profitability. Figure 11 shows the evolution of the bar soap price, where Imperial Leather was losing its established economies of scale, and the liquid soap price, where Imperial Leather was gaining economies of scale. While the marketing manager controls the short-term pricing movements, the costs of goods sold determine the ability for maintaining the price level on the long-term, as well

as its evolution over time. In bar soap, the marketing manager was able to reduce the price for the first forty-five months but he was forced to follow an ascending price path from month 45 (+ 4%), albeit punctuated with short-term promotions, because of the increasing costs of goods sold – see line 1. On the other hand, liquid soap followed a descending price path – see line 2. For the first eighteen months the price was voluntarily reduced to attract consumers into liquid soap. After month 18, economies of scale allowed the marketing manager to establish a descending price path (- 18%) to control the growth of competitors in the new market.

INSERT FIGURE 11

A managerial view of the system of resources comprising the FMCG industry and its dynamics

Managers in the FMCG industry compete fiercely for sustaining their market participation. The graphical representation of the system of resources presented in figure 12 provides a basis for discussing the origin the aggressive competitive behavior. The dynamics of the industry plays out in the following way. In the long term, the size of the customer base drives manufacturing capacity and the level of economies of scale. Then the level of manufacturing capacity determines the level of cost of goods sold, which is influenced by the economies of scale achieved. Lower costs imply the ability to set up low prices or have cash for advertising. Low prices or high advertising expenditure increases the value of the product attracting even more customers. The dynamics of this part of the system of resource reinforces its success leading to even better performance (loop R1). The strength of the reinforcing process is controlled by the target market share. The level of achievement of the target market share and the

effort of competitors for achieving their own targets determine the gross margin that managers need to trade in order to achieve its expected market share. Competitors try to reduce this reinforcing process by increasing the attractiveness of their products reducing prices or matching the characteristics of competing products.

An additional effect determined by increasing sales volumes is the increasing bargaining power of the manufacturers of branded product with respect to the retailers for the share of the display shelf. More customers imply more share of display shelf because higher market share represents higher income to the retailer, and higher share of display shelf implies higher sales to the manufacturer (loop R2). Therefore, display shelf is a hardly contested resource in the FMCG industry. Display shelf is a major influence in the effectiveness of price promotions and advertising. Companies in the FMCG industry use the trade margin as a tool for negotiating with retailers the allocation of display shelf. The bargaining power of retailers can reduce the strength of the expected reinforcing process between customers and display shelf. In that sense, retailers also use private label products – Own-label – for controlling the strength of this reinforcing process.

In the short-term, however, the process of price setting is a balancing process determined by the quarterly performance of the market (loop B1). Marketing managers regulate its short-term performance using promotions to create peaks of short-term demand for the products and maintain their market volumes stable over time.

INSERT FIGURE 12

To this point, I have explained in detail the dynamic capabilities observed in a firm competing in the highly demanding FMCG industry and how these capabilities determine the dynamic performance of the firm and the industry. However, the outcome of differential dynamic capabilities is heterogeneous performance between competing firms. Figure 13 shows the evolution of the performance of both Imperial Leather and Dove in terms of total sales (bar and liquid soaps). Interestingly, the mental models, as well as the zero-level capabilities, used by Imperial Leather management team determine superior performance when it is compared with its closest rival, as the launch of liquid soap and its bold marketing actions to promote liquid soap allowed Imperial Leather to sustain its sales.

INSERT FIGURE 13

CONCLUSIONS

In this paper, dynamic capabilities are firm-wide managerial decision-making processes involving the creative conceptualization of strategically relevant resources and dynamic resource management policies to build those resources. Firm performance stems from the resulting set of strategic resources, but is also contingent on the actions of rivals whose resource building depends on their own unique dynamic capabilities. The interaction between competing visions and idiosyncratic operating policies of rival firms leads to complexity and variety in firm performance.

While the rules for riches is to occupy a favored and relatively uncontested place in the ecology of behaviors (Winter, 2003), many firms in multiple industries compete in highly contested places with not only commoditized products but also commoditized competitive behavior (for example, the use of best practices and industry experts). However, heterogeneous performance derives from doing well, as we observed in this paper, what Winter (2003) defined how-we-earn-a-living-now or zero-level capabilities. These capabilities keeps organizations earning its living by producing and selling the same (or incremental innovations of the same) product, on the same scale and to the same customer population over time (Winter, 2003). This paper described these zero-level capabilities for a successful firm in the highly competitive fast-moving consumer goods industry.

Whether an organization has a certain capability is often a matter of degree (Winter, 2000). In the context of initial learning of a capability, there is no an automatic answer to the question of when an organization should be expected to stop its learning efforts and affirm that the desired capability has been achieved (Winter, 2000). In many cases managers do not have a clear understanding of what their capabilities are, not even their zero-level capabilities. Their capabilities can only emerge from painstakingly qualitative-quantitative analysis such as the processes described in this paper.

I believe that without detailed descriptive processes is not possible to achieve double-loop learning processes (Argyris, 1985) since it is very difficult to alter mental models that are not even understood. The case study showed the results of intensive work with

a management team of a company in the FMCG industry. The result of the project was a detailed model of the evolution of the market in terms of the resources implied, as well as specific values for the variables controlling the development of key resources. The approach employed (a system dynamics model – Sterman, 2000) was very successful in the company, as its managers understood the implication of their resource building strategies in the face of competition using different scenarios.

Moreover, only well-understood dynamic managerial capabilities can provide tangible superior performance. In that sense, dynamic managerial capabilities are affected by four factors. First, dynamic capabilities are high-performance routines shaped by organizational factors, such as management experience or firm traditions, operating inside the firm (Teece et al., 1997). Second, dynamic capabilities are constrained by the intrinsic characteristics of the system of resources, such as interconnectedness or time diseconomies (Dierickx and Cool, 1989). Third, dynamic capabilities result from the heuristics that managers used for coping with the complexity of the environment and time pressure (Morecroft, 1985; Amit and Schoemaker, 1993). Finally, the quality of a firm's strategy implementation cannot be evaluated independent of the broader competitive context within which a firm is operating (Barney and Zajac, 1994). A reckless or cunning rival can spoil an otherwise well-conceived and well-executed strategy. So analyses of dynamic capabilities and firm performance have also to be situational (Teece et al., 1997; Levinthal and Myatt, 1994).

Finally, this paper offers a practical interpretation of heterogeneous managerial dynamic capabilities. Heterogeneity exists at an operational level in the routines and information

sources used in managerial decisions to build and develop these key strategic resources. Such cognitive and behavioral differences, when investigated with modeling and simulation, can help explain and anticipate performance differences between rival firms.

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FOOTNOTES

1. The names of the company, competitors and products are disguised for confidential purposes. The synthetic example presented here is based on a similar event in other market segment of the FMCG industry and is provided to clarify grounded yet imaginary nature of the presentation. The paper does not pretend to provide an explanation of either the managerial decision making processes or the competitive movements occurred in the soap market, the synthetic example used to illustrate the real case study.

The sources for the synthetic example are “How Carex Cleaned Up in the Liquid Soap Market” (BDH Advertising, Advertising Effectiveness Awards 1997, IPA), “Radox” (<http://www.superbrands.org>), “Dove” (<http://www.superbrands.org>) and “Soap, Bath and Shower Products” (Mintel International Group Limited, Market Report 2004)

2. The graphical representation of a resource as a box is based on the ‘bathtub’ metaphor suggested by Dierickx and Cool (1989), where resources are defined as asset stocks whose level is determined by accumulation processes managed by either managerial policies or operational relationships (which are represented using flows).

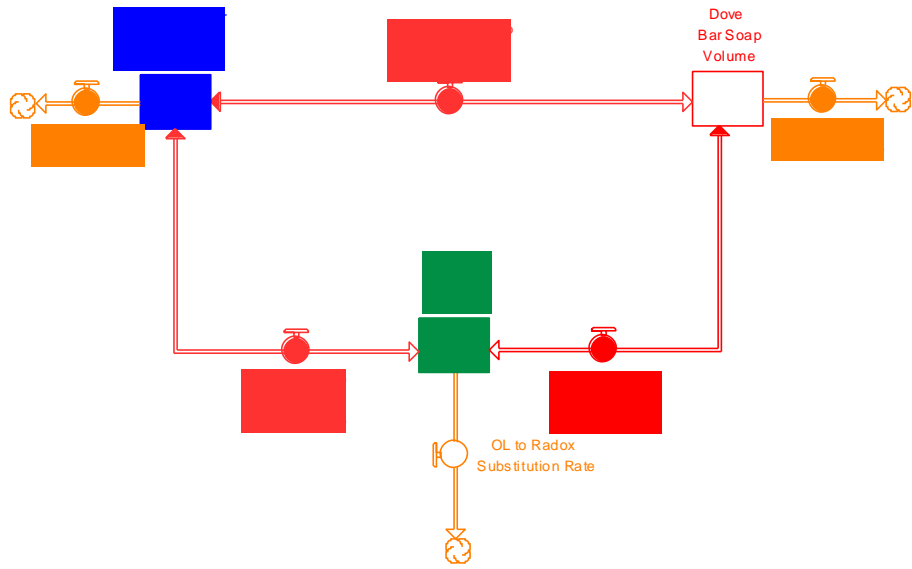


Figure 1. A resource-based representation of the bar soap market

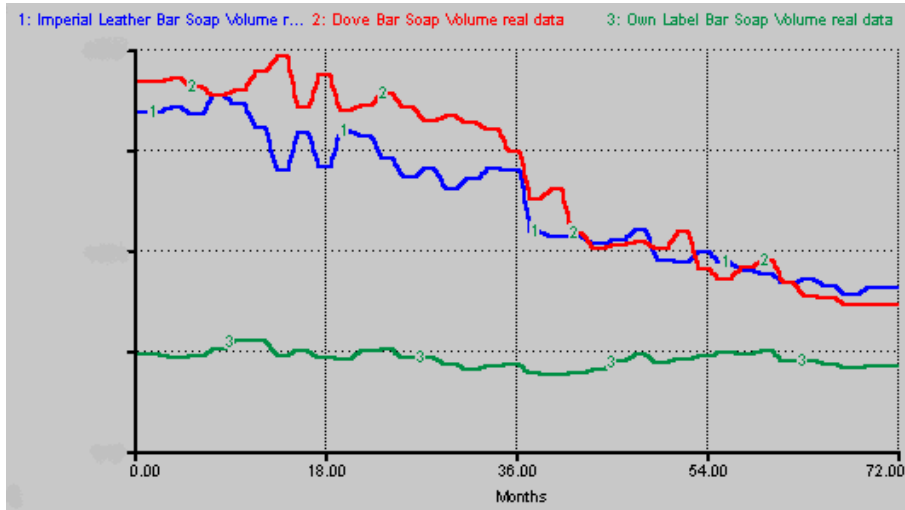


Figure 2. The evolution of the bar soap market (in volume) after Imperial Leather's innovation

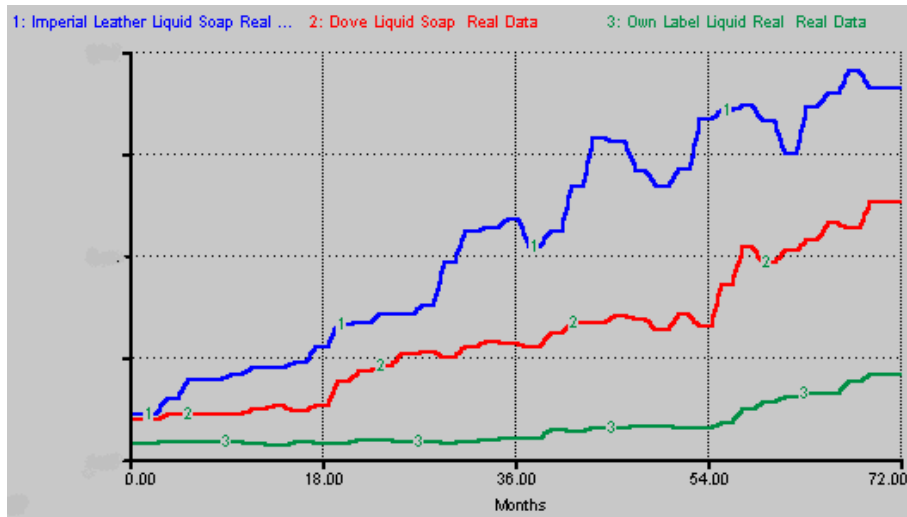


Figure 3. Liquid soap sales volume by brand: Imperial Leather, Dove and Own-label

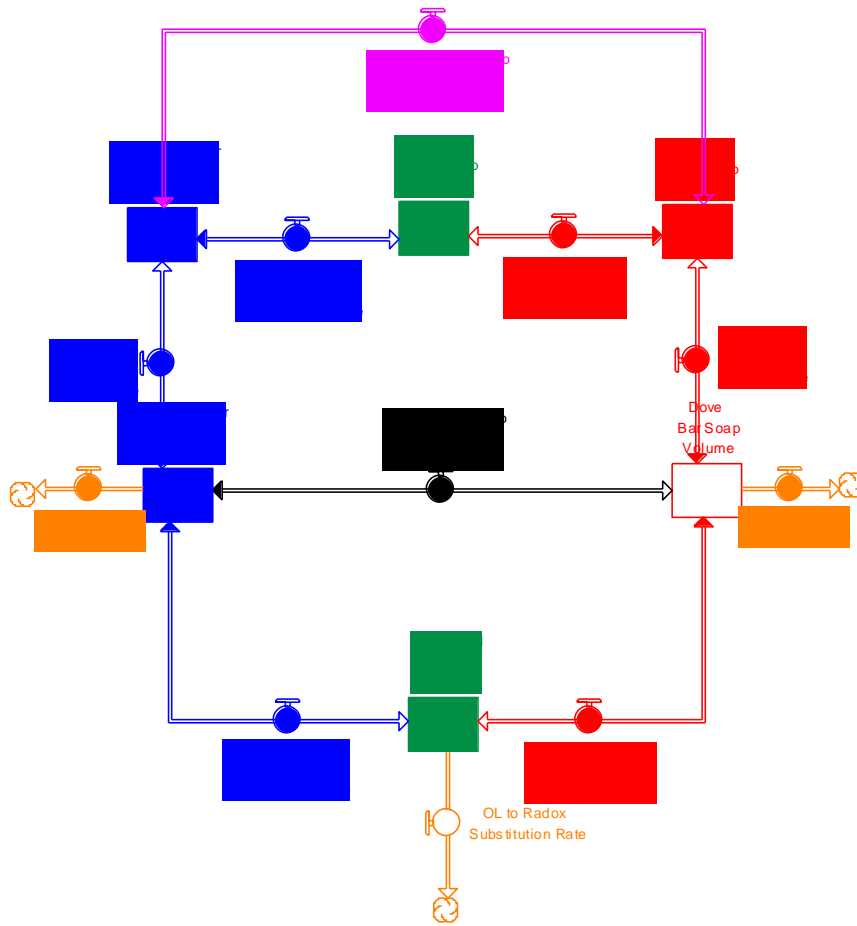


Figure 4. A resource-based view of the soap market after Imperial Leather's innovation

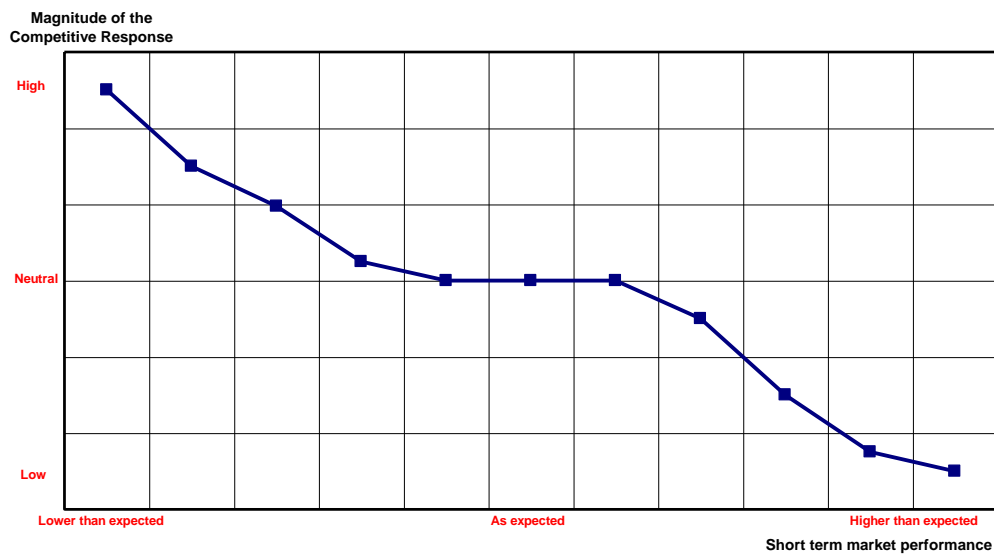


Figure 5. Function representing the strength of competitive response as result of the short-term market performance

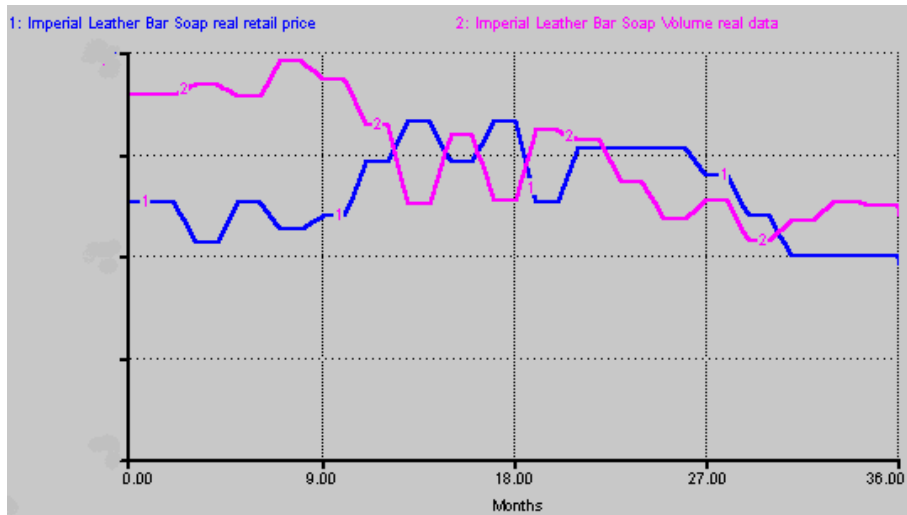


Figure 6. Interrelationship between price and volume performance for Imperial Leather bar soap

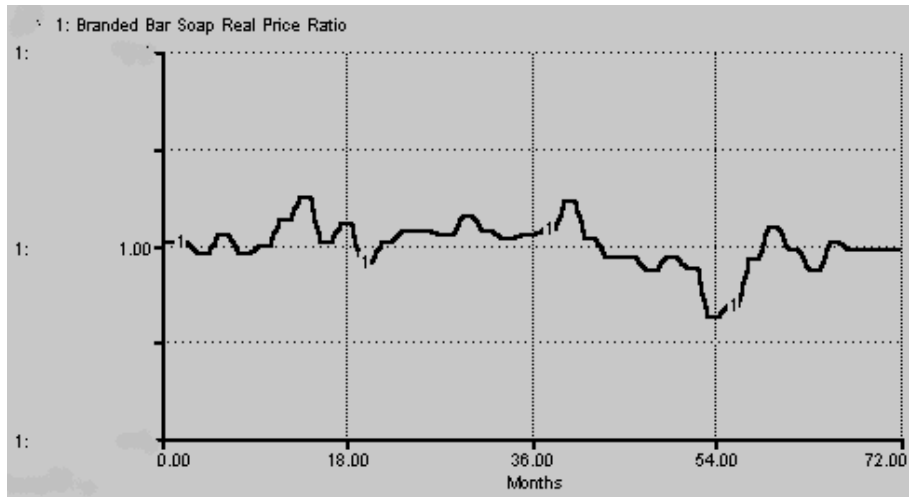


Figure 7. Price ratio between Imperial Leather and Dove in bar soap

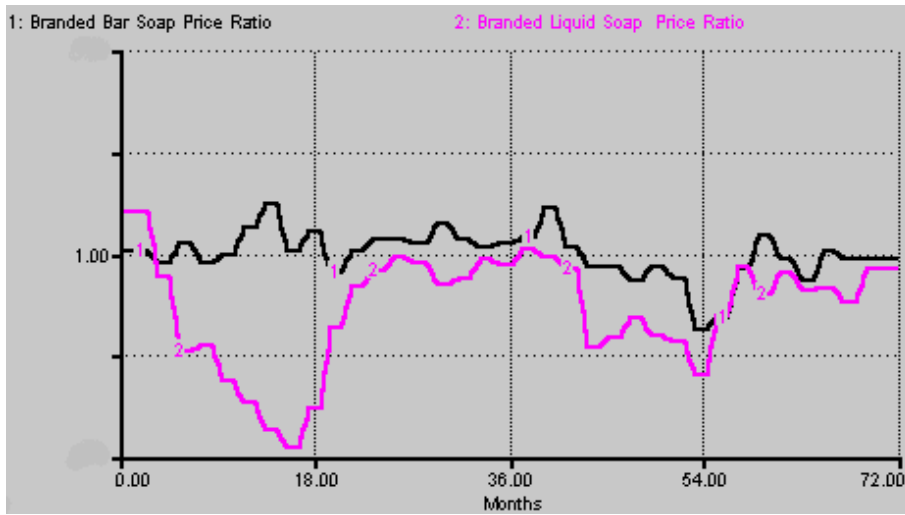


Figure 8. The evolution of the price ratio between Imperial Leather and Dove in bar and liquid soaps

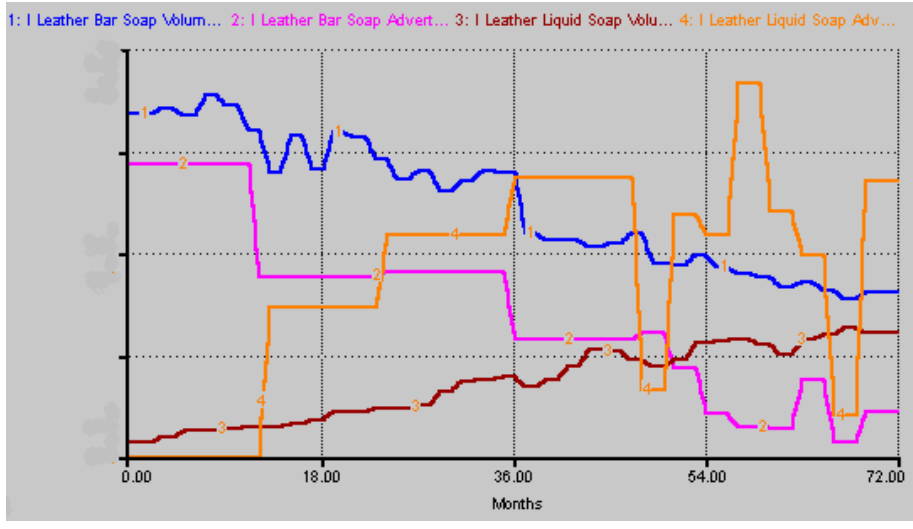


Figure 9. The evolution of volume and advertising investment for bar and liquid soaps made by Imperial Leather

Share of Display at month 60



Share of Display at month 72



REFERENCES

	Own-label Liquid Soap
	Own-label Bar Soap
	Dove Liquid Soap
	Dove Bar Soap
	Imperial Leather Liquid Soap
	Imperial Leather Bar Soap

Figure 10. The evolution of share of display shelf in the soap market

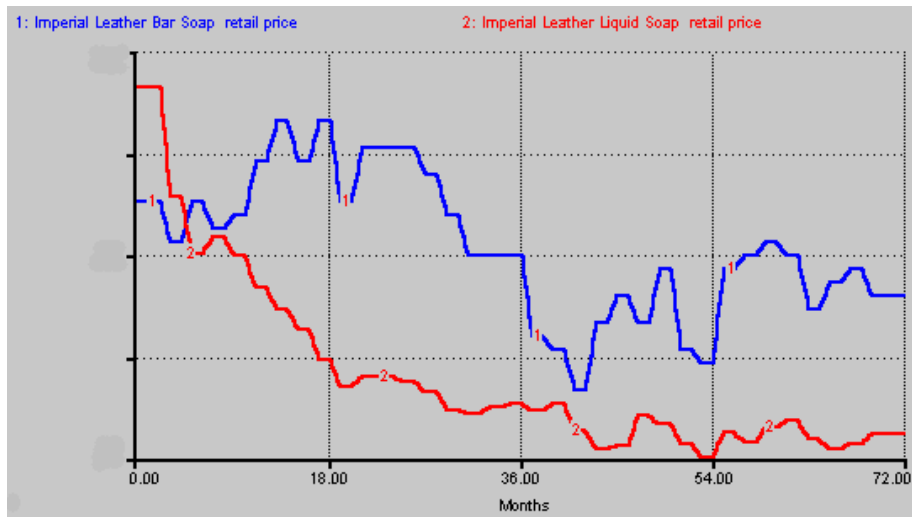


Figure 11. The evolution of Imperial Leather bar and liquid soap prices

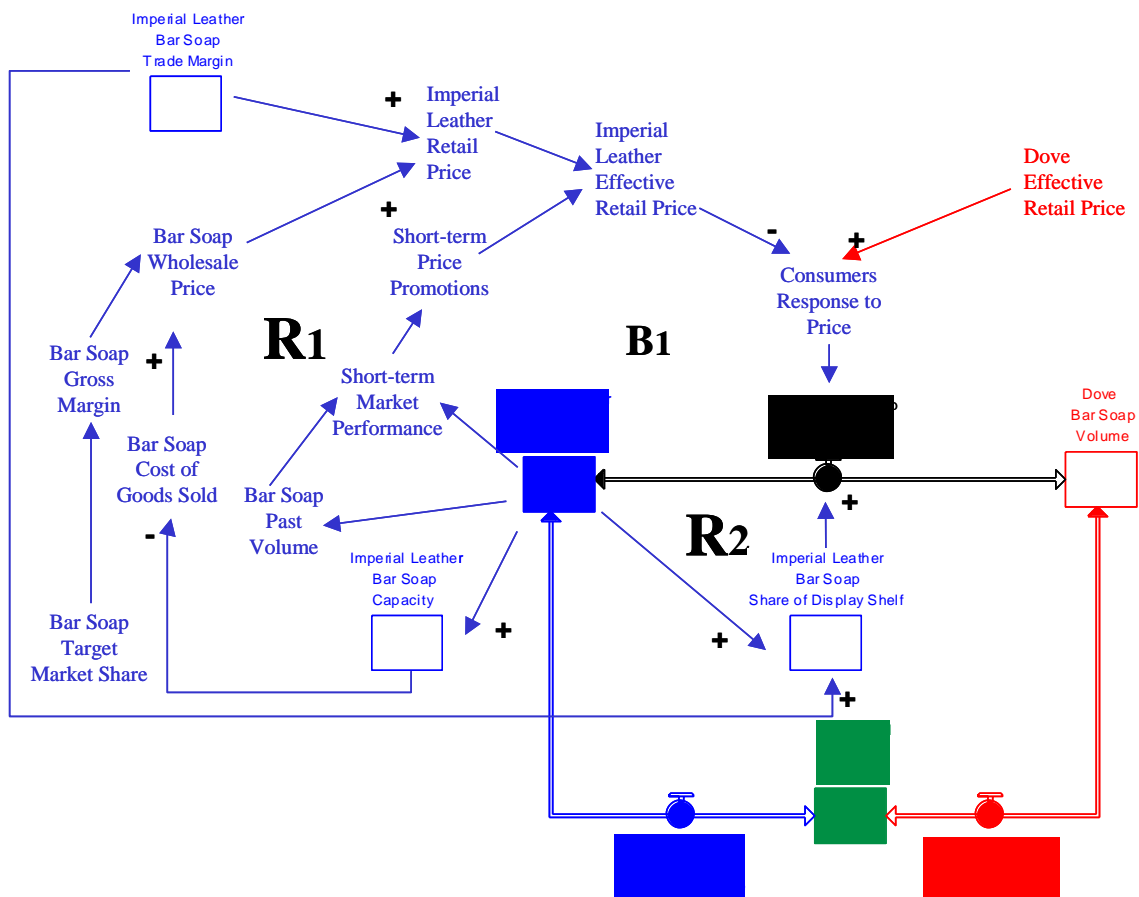


Figure 12. The system of strategic resources and its dynamics in the FMCG industry (as it was perceived by the managers of Imperial Leather)

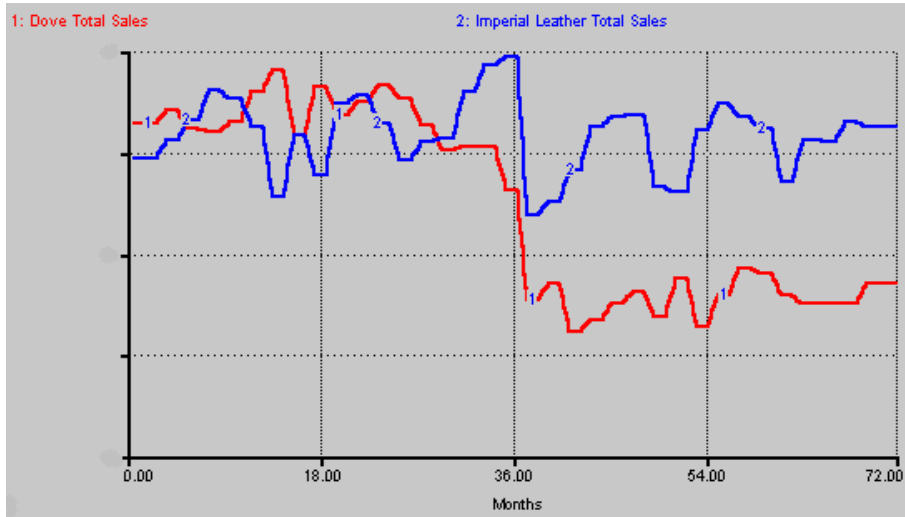


Figure 13. Heterogeneous performance measured in total sales between Imperial Leather and Dove