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The role of system dynamics in achieving breakthrough thinking in entrenched marketing teams.

Lessons from a case study in the pharmaceutical OTC industry

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Extended abstract

Breakthrough solutions can be reached although the client organisation is entrenched in their way of looking at their brand. This paper describes how model conceptualisation, resource structure mapping and model parameter quantification have enabled a project team to challenge the client's 'view of the world' and create consensus and excitement around the new recommended strategy. In particular, it has shown how stock and flow diagrams provided new ways to visualise critical challenges posed by the industry, segment the market, and support research designed to quantify value creation from the identified strategic initiatives. Based on a real case, this paper summarises lessons learned and provides an actionable framework to guide consultants and practitioners achieving breakthrough thinking in entrenched marketing teams. Additionally, it represents evidence that the value created through System Dynamics engagements goes beyond the insights that can be achieved through model simulation.

Project background

One challenge facing business leaders is to understand and drive performance into the future, so boosting long-term profits. To tackle this challenge effectively, leaders need to answer three questions. Why is our business performance following its current path? Where will our current strategy and policies lead? And how can we improve our strategy and policies to achieve better performance in the future?

Interestingly, most often business leaders and marketing teams will have answered such questions at one point during the management of their brand, but rarely will have challenged such answers and their underlying assumptions since then, despite changed market conditions.

A brand's current performance is driven by the choices its management has made in the past. Equally, its future performance will be driven by the choices management makes today about how the brand will sustain its current customer base and where

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it will source new customers for growth. Despite this basic fact, it is not uncommon for marketing teams to become entrenched with their past choices and become unable to achieve the mindset shift required to make the right choices for the future.

This is the situation we found when at the end of 2002 we engaged in a project aimed at addressing exactly these two issues (sustain customer base and source growth) for a leading pharmaceutical over-the-counter (OTC) brand, which we will refer to as 'Pillola' in this paper to protect our client's confidentiality.

Pillola is a leading OTC drug in a mature market, with intense competition from both branded and generic products and limited opportunities for differentiation, where building the customer base is by no means straightforward. With a stable market share for a decade, the Pillola team was facing the challenge of moving away from their current strategy and find a more effective way to compete to earn the choices of current and new consumers alike.

In order to address these challenges, we commissioned customized market research to establish a deep consumer understanding, and applied the system dynamics methodology using our proprietary *Competing for Choice*[2] framework**.**

In this paper we summarize how system dynamics helped in this process, and describe some of the insights that were generated at each step.

Key challenges for the project

Having developed into a $400 million business in its main market since its launch in 1984, Pillola is a success story by anyone's standards. Even so, by late 2002, all was not well. Stagnation in the market meant intensifying competition among both branded and generic products. Pillola's market share had stuck at 12–14 percent for a decade, despite product advantages and the launch of a new faster-acting formulation in 1998.

Management attention focused mainly on luring consumers away from Pillola's main branded competitor. With this in mind, the company ran commercials claiming that Pillola was more effective than its competitor, and worked faster.

Yet Pillola's market share refused to budge. It didn't fall, but neither did it rise. Was the strategy wrong? Or was it an execution issue? The brand marketing team started to wonder whether there were any more opportunities left for Pillola. What would it take to get growth going again? Might the company's historically strong product focus be constraining its ability to explore and respond to growth opportunities based on consumer needs?

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[2] *Competing for Choice: Developing winning brand strategies,* Vola Press, 2003.

It was clear that the traditional approach – compiling masses of the usual data and conducting the same old analyses – wasn't likely to yield the new insights and solutions that would be needed. It was also clear that the current management team, which had articulated and executed the current strategy, found it difficult to agree and deliver on a new brand strategy and positioning, and was in need of help from outside to move on from this stall situation.

So, working with the Pillola team, we set out to leverage our 'Competing for Choice' approach and frameworks. We began by asking a few key questions:

- **Is there a new way of looking at the consumers and the market?** Can we understand and quantify the dynamics of how consumers choose and churn between brands in the market over their lifetime and as the market evolves?

- **Is there a new way of looking at the business?** Can we identify where to apply various management levers to different consumer segments in the short and long term, and quantify their precise impact on Pillola's performance?

- **Is there a new way of organizing intelligence?** Can performance comprehension be improved by means of continuous and actionable intelligence? And can this intelligence be leveraged to develop a sustainable competitive advantage?

System dynamics proved to be a very useful approach to answer all of the above questions. At the end of the project, we were in fact able to identify three key lessons on how both the system dynamics theoretical framework and its practical applications can prove key to success.

One lesson was learned at each one of the three main phases of our consulting engagement, which were: drafting a resource based brand architecture, commissioning market research to populate it, developing a system dynamic model to articulate strategy. The lessons learned have been ordered accordingly in the following sections.

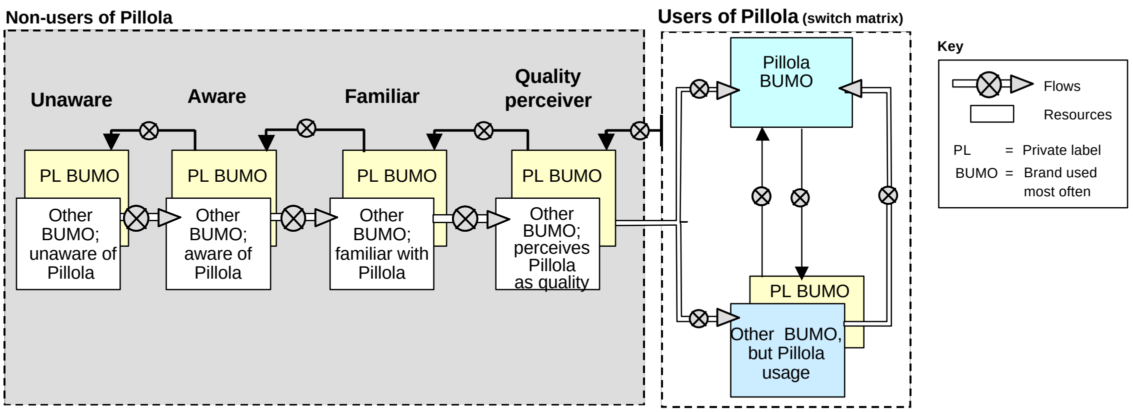
Lesson one: seek understanding and consensus on the key issues by developing a resource based architecture of the brand

A deep understanding of consumers and the way they choose and churn between brands is a prerequisite for a company trying to identify new opportunities, particularly in a mature market. To avoid the 'more of the same' problem and enable new insights to be uncovered, research and data queries must be rooted in a solid structural understanding of the business.

The starting point was to map a resource based business architecture for Pillola in a way that was at the same time robust, easy to communicate and understand, and sufficiently detailed to for a backbone of a system dynamics model and yield real insights once populated with data. The Pillola architecture illustrated in Exhibit 1 is a consumer choice chain: consumers move in a sequence of steps up the chain to Pillola usage on the right, or flow back down the chain when they cease to be users of the brand.

Exhibit 1 Pillola's brand architecture

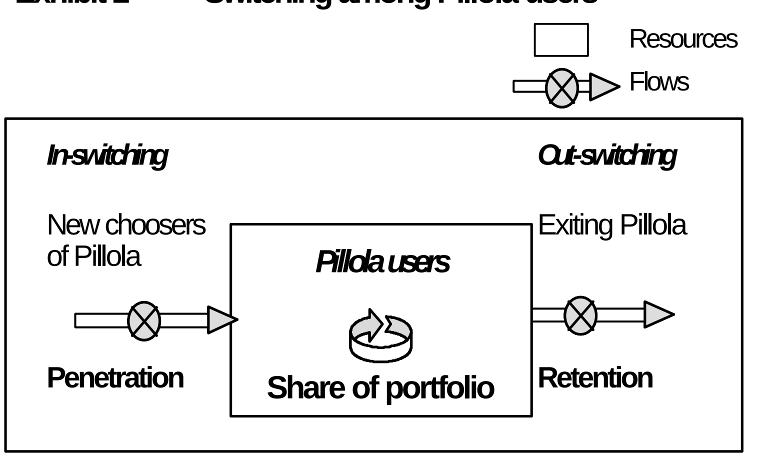
Mutually exclusive populations (one person can reside in only one box)



Source: Choice and churn research, 2002; weighted sample population n = 5,241. Vanguard analysis.

We were interested in accounting for the consumers who *weren't* current Pillola users: those who were using other branded or private-label products. These consumers might be at any of the stages preceding Pillola usage, from 'unaware' to 'quality perceiver'. Among Pillola users, we also wanted to differentiate between people who used the new, faster acting formulation and people who used the rest of the Pillola product family, as well as portfolio users who chose other branded or private-label products in conjunction with Pillola.

Exhibit 2 Switching among Pillola users



From this structure emerged three basic areas of focus for Pillola (Exhibit 2). The first was to gain customers by increasing market penetration: in other words, persuading non-users of Pillola to become users. The second was to increase share of portfolio usage: to boost the exclusive usage of Pillola among consumers who currently use it in conjunction with other similar medications. The third was to retain current users: to ensure that Pillola users stay with the brand and don't defect to a competing brand or private label.

The brand marketing team had never been able to articulate the brand challenges so clearly and, maybe even more importantly, felt that for the first time it had found a powerful way to visualise, discuss and agree on how to deal with such challenges.

Lesson two: be fact-based and consumer-focussed by commissioning market research informed by the chosen brand architecture

After designing the brand architecture, we commissioned research to help us understand three aspects in particular: the **levels** (how many people resided where in the architecture); the **flows** (how long they have resided there and where they came from); and the **drivers** (the factors driving change or stability within the flows).

The importance of a strong and clear consumer focus for a company pursuing growth can't be over-emphasized. This applies regardless of industry or sector; consider the case of Tesco, which spent decades at number two or three in the UK grocery business. In the early 1990s, it turned to customer research to help it understand the reasons for its lackluster performance. The research showed that customers felt Tesco was preoccupied with being like Sainsbury's, the leading supermarket, rather than with serving its customers.

This revelation marked a turning point for Tesco, which decided to become a customer-led business. It shifted away from benchmarking and focused instead on customer wants and excellence in execution. The result speaks for itself: Tesco is now the top UK supermarket. As chief executive Terry Leahy put it, "The irony was that when we stopped trying to overtake Sainsbury's and concentrated on the customers, we ended up overtaking it."[3]

Similarly, through market research we were able to gain insights at this very early stage of the project, when the system dynamic model was still on paper.

For instance, when we populated Pillola's architecture with data (Exhibit 3), it became clear that Pillola didn't suffer from any lack of awareness, therefore awareness advertising was not going to produce the necessary results. There was significant private label usage in the market, an area previously considered as unimportant by the marketing team. There was a large 'quality reserve' made up of people who used other branded products and who perceived Pillola as offering good quality, but didn't use it. Why was that? Who were these people – all 26.1

[3] *Sunday Times*, 16 November 2003.

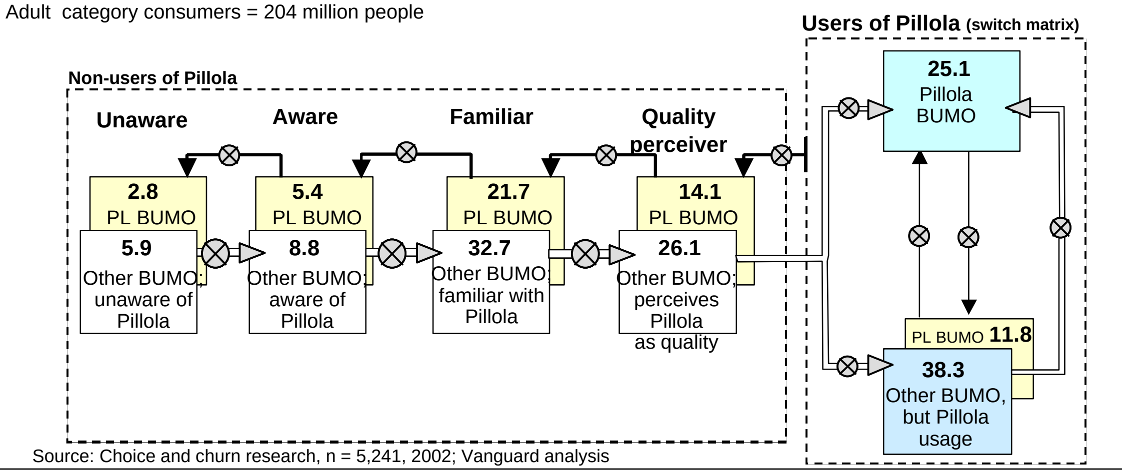
million of them? What would it take to prompt some of them to use Pillola? In addition, there were many consumers who used Pillola, but had another brand as the brand they used most often (BUMO). This extensive portfolio usage posed a similar set of questions.

Exhibit 3 **Consumer residency in Pillola's brand architecture**

Million people

All resource populations; General population projection

Adult category consumers = 204 million people

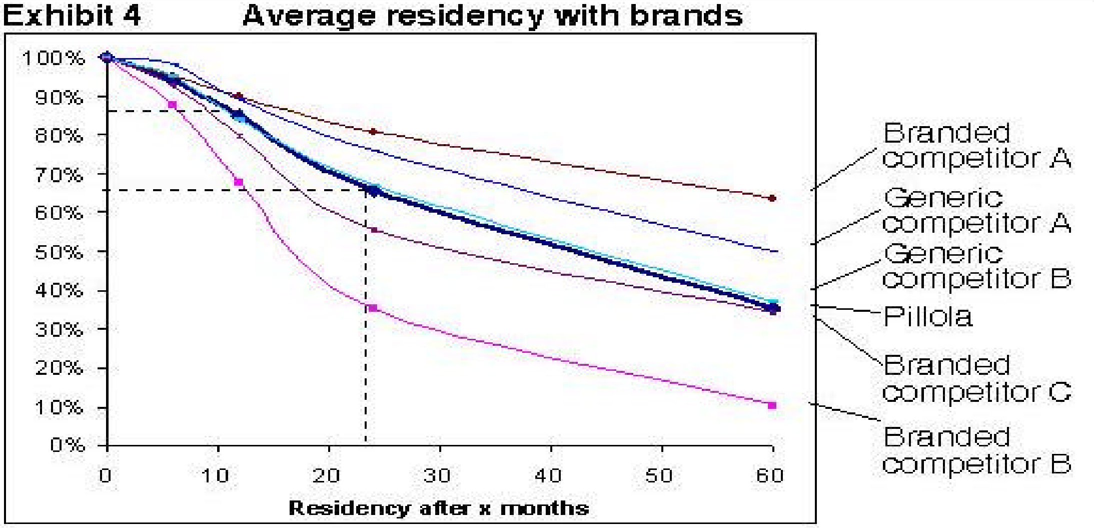


Source: Choice and churn research, n = 5,241, 2002; Vanguard analysis

A better understanding of the drivers of the key flows from such customer stocks appeared now to be critical. Though Pillola's market appeared mature and stable on the surface, close examination of customer flows revealed that in reality the market was highly dynamic, with consumers frequently switching between brands for a variety of reasons. Despite being a life-long category, the average residency, or time a customer spent as a user of Pillola, was just short of three years (Exhibit 4).

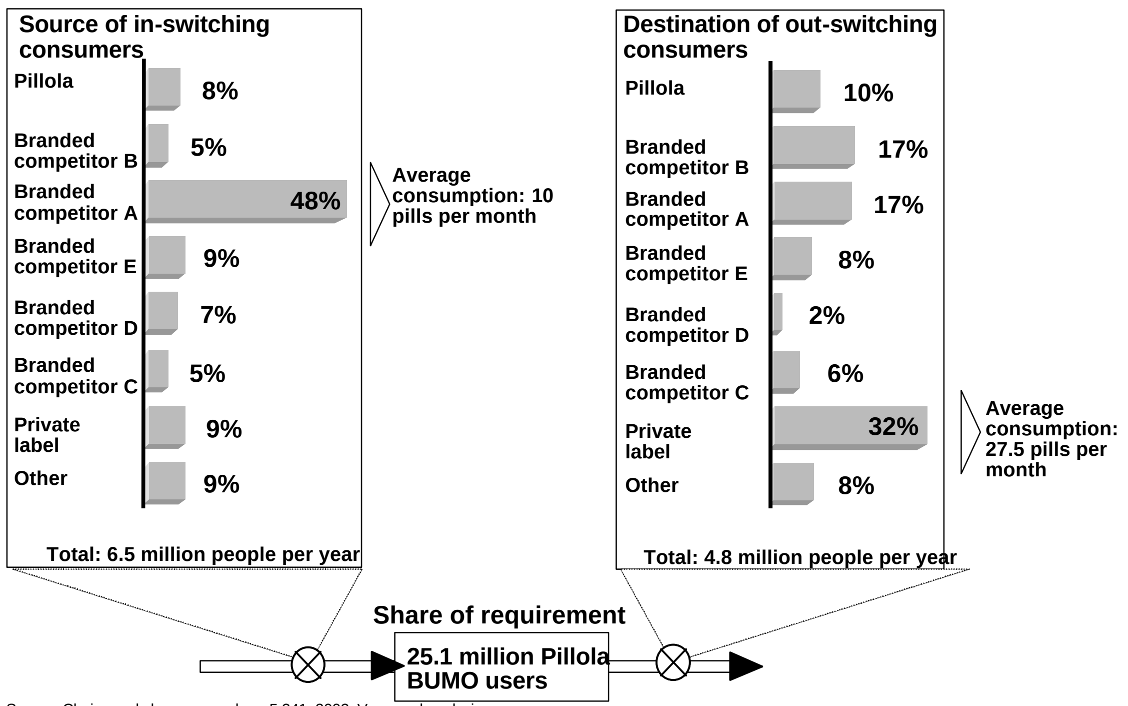
We were able to draw several conclusions from this analysis. First, 6.5 million

Exhibit 4 **Average residency with brands**



Source: Syndicated Tracking Study (June 2000 to May 2001) consumers a year switched into Pillola, and most of them came from its main branded competitor. This fact suggested that the team's current strategy was achieving its objective. However, 4.8 million consumers switched out from Pillola, typically going on to become users of private-label competing products. Worse, the consumption volume of the people switching into Pillola was considerably lower than that of the people switching out of Pillola into private labels (Exhibit 5). But nothing in the current strategy was articulated to address this key issue.

Exhibit 5 Consumer switching behavior
Annual switching to/from Pillola



Source: Choice and churn research, n=5,241, 2002; Vanguard analysis

As we look at the reasons for switching to and away from Pillola (flow drivers), we learned that they were, as we might have expected, quite distinct (Exhibit 6). The reason for switching to Pillola was most often efficacy. For those switching out of Pillola to other branded competitors, it tended to be safety and recommendations from physicians; for those switching to private label, it was price. In particular, physician recommendations, notably to 'household gatekeepers', emerged as an important driver of the flow into Pillola BUMO users, and became a focal point for its management team and sales force.

As this critical phase of the project was completed, we had established good foundations to articulate a sound and sustainable growth strategy.

Exhibit 6 Sample profiles of in- and out-switchers

Reason for switch	Switchers from Pillola to Brand B (103)	Switchers into Pillola from Brand B (345)	Switchers from Pillola to private label (182)	Switchers into Pillola from private label(59)
More effective	15.1	33.8	5.0	40.3
Longer lasting	9.1	14.3	0.9	5.1
Quicker	10.1	13.2	1.5	22.8
Recommended by friend / family	4.4	9.8	1.5	4.9
Safety (net)	16.9	8.1	1.1	3.4
Recommended by physician	18.5	6.6	1.3	9.5
Fewer pills to take	2.0	4.9	0.0	1.2

Source:Choice and churn market research 2002; Vanguard analysis

Lesson three: do not rely on static analysis, but use dynamic modelling to identify most valuable initiatives and articulate a robust strategy

We combined the market research intelligence with the existing research and data to extract maximum insight and build and calibrate a system dynamic model centred on the agreed Pillola's brand architecture.

We used Pillola's brand architecture and market research data, to identify key flows and stimulate ideas on what initiatives would be most suitable to act on the selected flow. We then used the system dynamics model to quantify the potential value creation from each initiative.

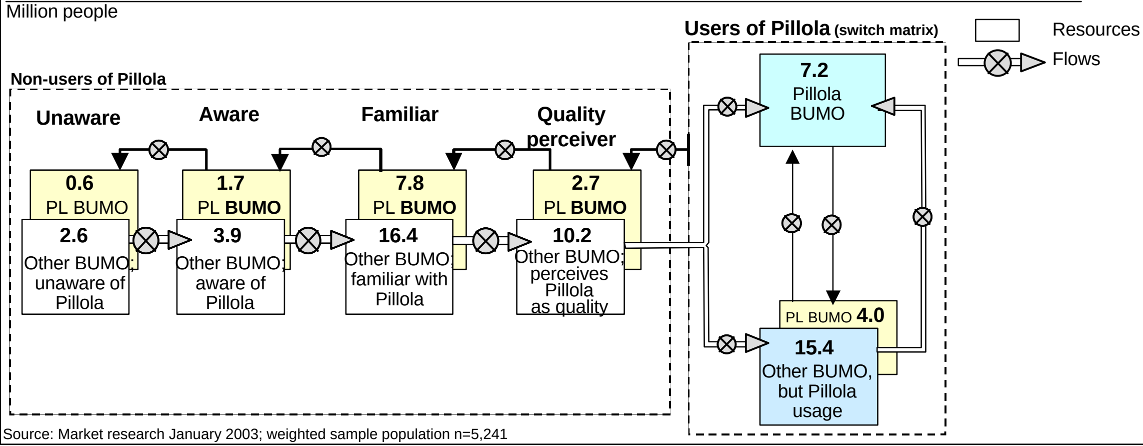
Through dynamic simulation we were then able to create a detailed picture of the precise value of different segments. This allowed the team to identify multiple opportunities with the potential to raise revenues by as much as $100 million over a period of three years. Some of these initiatives were quick wins; others were more complex, requiring investment and restructuring. Using system dynamics enable us to provide a robust estimate of the timing for the impact of each one of the initiatives, which allowed the management team to set performance targets.

With almost 5 million high-volume consumers switching out of Pillola every year, one way of growing the overall consumer base was to plug the leaks, or reduce the number of consumers defecting. Getting consumers into the franchise is not much use if they leave as fast as they are won; performance will stay flat, as Pillola's did. Once the team recognized the necessity of addressing outswitching, it developed a number of retention and loyalty initiatives to complement its efforts to keep winning new customers.

Once the brand architecture and data were in place, Pillola's performance could be analyzed in a range of different ways. By way of example, Exhibit 7 shows how one particular consumer segment slot into the brand architecture.

Exhibit 7 Chosen segment and Pillola

Million people

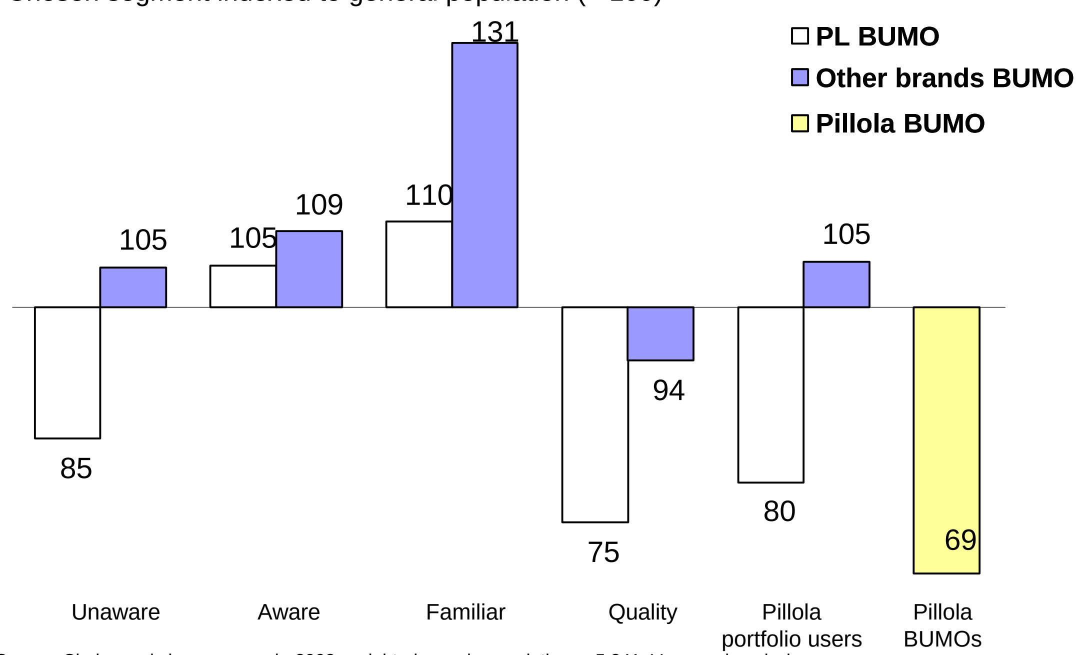


Source: Market research January 2003; weighted sample population n=5,241

Exhibit 8 compares perceptions of Pillola in the general population with those of a chosen consumer segment. With the exception of Pillola's faster acting formulation, generally perceived as stronger and faster, Pillola had problems attracting

Exhibit 8 Comparison of chosen segment and general population

Chosen segment indexed to general population (= 100)



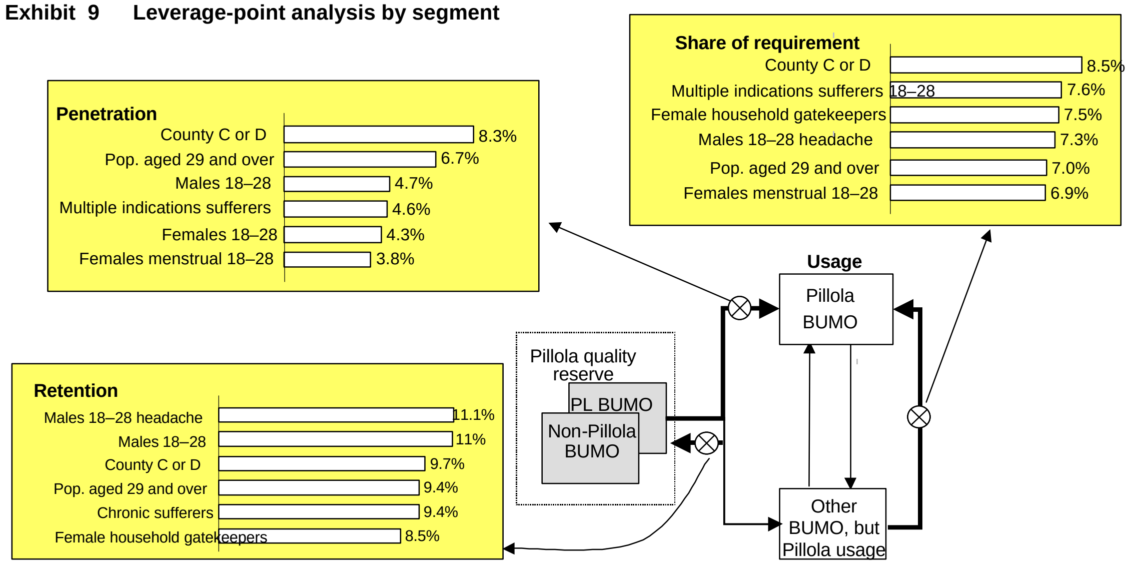
Source: Choice and churn research, 2002; weighted sample population n=5,241, Vanguard analysis

individuals from this segment to the franchise. Despite an over-index in awareness and familiarity, there was a significant under-index in quality perceptions.

Analysis of this kind allowed the brand marketing team to understand the reason for performance, whether the issue is market penetration (in-flow to Pillola), share of requirement (portfolio usage), or retention (out-flows from Pillola). They also realized how the answer to any problem would vary by segment, and over time.

To help the Pillola team decide where to prioritise, we used the brand architecture to conduct a leverage-point analysis. We did this by quantifying the incremental sales that would result from increasing Pillola's in-flows and reducing its out-flows by 2 percent across the architecture. As Exhibit 9 shows, value creation varied by segment, and also within each segment by penetration, share of requirement, and retention. Among young males, for example, addressing retention brought the highest leverage.

Exhibit 9 Leverage-point analysis by segment

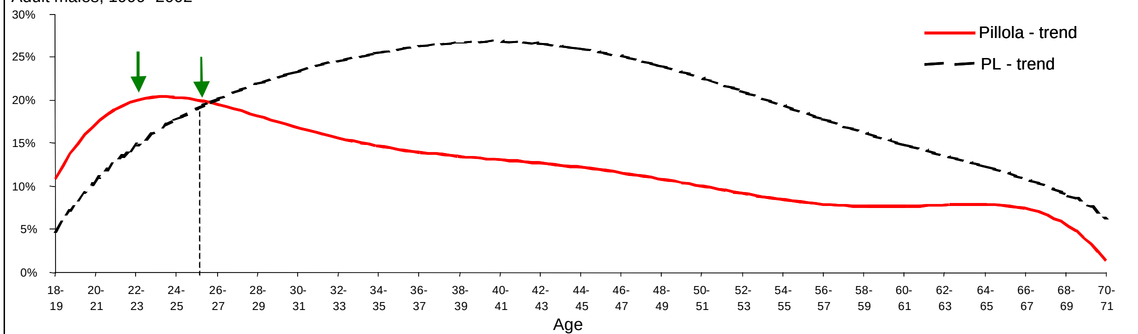


Source: Choice and churn research, n=5,241, 2002; Vanguard dynamic analysis

It emerged that Pillola was having problems attracting young men in their mid- to late twenties. Exhibit 10 shows that Pillola's share started to decline at this point, and continued to do so with advancing age. To counter this trend, Pillola recently launched a TV commercial targeted specifically at young men.

Exhibit 10 **Volume share by age cohort for private-label and Pillola within the same compound**

Adult males, 1999–2002



Source: Syndicated 2000–2002 averages polynomial trend; Vanguard analysis

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The analyses we conducted with Pillola helped the team to look at the business with new eyes. More than that, it contributed to a radical mindset shift from a product focus to a brand focus, or more precisely, a focus on a consumer-driven value proposition. This entails understanding the full set of problems that the consumer needs to solve, and responding to these needs. By adopting this new outlook, the team established a broader base for identifying and capturing growth opportunities in the future.

As performance comprehension is further refined over time through additional specialized research and constant updates, so managers' understanding of the brand architecture and the consumer stocks and flows within it grows richer. The benefits are profound. Managers know how to devise and execute more precisely targeted strategies and initiatives to grow and sustain their core business. And this excellence in execution frees them up to dedicate resources to exploring the bigger picture: innovation, market-shaping initiatives, and other broad growth options for the future. System dynamics once again proved its potential for playing a significant role in this process.

About the authors:

Lars Finskud is Director and founder of Vanguard Strategy. He has 14 years of experience in management consulting dedicated specifically to brand value creation and management. Previously, Lars worked as the Global Brand Specialist at McKinsey & Co. He is the author of *Competing for Choice*, published in 2003 by Vola Press.

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