

A “Hierarchy of Truth”

Pavi Gupta • Mick Hedberg • Vittorio Raimondi • David Exelby

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Introduction

Reconciling contradicting facts by instituting a “hierarchy of truth” to bust myths, J&J leveraged data and intuition by applying control systems engineering techniques and deep qualitative insights in its Vision Care franchise. Given market structure complexity, learnings apply across CPG/regulated categories.

Balancing the Local and the Global

Organizations with global operations and a presence in several regions can build a competitive advantage by leveraging their global scale to support cross-country initiatives. However, one of the main challenges is to recognize important local differences in both market structures and priorities. It is essential to avoid oversimplifying reality and reaching conclusions that will either lead to weak plans or will not be bought into by local management. At the same time, it is critical to have a standard framework and approach, to enable transferability of learnings and to have an ability to benchmark across markets to uncover growth opportunities.

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As a global company, Johnson & Johnson Vision Care (JJVC) is committed to improving and restoring sight for patients worldwide. Since debuting the world’s first disposable soft contact lens in 1987, it has been helping patients see better through their world-leading ACUVUE® Brand Contact Lenses. As the world’s leading maker of contact lenses, the company has strong aspirations to grow new wearers to drive category development versus winning share, or competing in certain channels or lens types.

The global contact lens category has seen healthy growth in revenues in the past five years. However, the revenue growth has been driven by premiumization – driven by price increases as well as upgrade, rather than wearer growth. The global revenue growth is driven by higher priced Daily Disposable lenses, which are preferred for their convenience and have been growing much faster than Reusable Lenses. Moreover, the growth rate for higher priced specialty lenses (to correct Astigmatism and Multi-Focal) has also been significantly higher than regular spherical lenses. However, overall category penetration (i.e. the number of wearers for contact lenses) has been stagnant. For building a long-term sustainable category, wearer growth is

critical.

Bringing the Focus Back to Wearers

In the past, JJVC focused on measuring and tracking revenue growth while looking primarily at share performance to identify growth opportunities. Further, the business was driven locally with key markets treated as separate silos, relying on different assumptions and methodologies lacking clear unifying principles to drive confidence in findings. Having different definitions/segmentation approaches across markets led to an inconsistent approach to defining and sizing opportunities.

The company did not have a standardized methodology to track the wearer progression. In addition, there was an over reliance on claimed data versus triangulation with other 'sources of truth,' which led to fluctuations and inconsistencies in estimating penetration levels over time periods. Past efforts were also focused on estimating stocks (behavior-based consumer segments) only and assumed simplified linear flows (movements between stocks), missing the nuances of category growth drivers that have significant implications for strategy.

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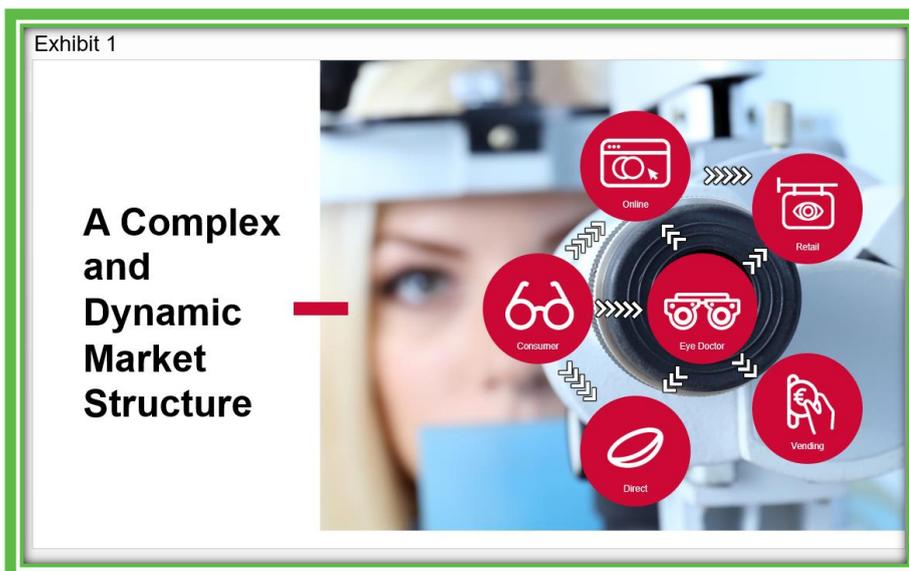
Accounting for Market Structure

Complicating any approach to understanding vision care markets is the fact that they vary across the world in terms of the degree of regulation and maturity. This results in complex market structures that are often characterized as hybrids of consumer packaged goods (CPG) and prescription pharma models (see Exhibit 1). And surprisingly, considering the very personal and often long term usage of contact lens, there is very little brand recognition: users will remember what type of contact lens they used, whether daily or weekly, disposable or reusable, conventional, etc., but struggle to recall their compliance to the directions as well as the

recollection of the brand they used, with a bias towards larger brands.

This gets even more complicated when it comes to recollecting changes in behaviors: a detailed understanding of starts/switch/lapse/restarts on product as well as compliance and persistency. Claimed data often fails to deliver these types of metrics, but

what made this even more of a challenge is the lack of consistency of market structures under several dimensions:



- **Regulation** – some markets require prescription to purchase contact lenses, with important implications on category and brand choices, as well as channel. In some other markets regulations are much less stringent or enforced
- **Stakeholders** – related to the above, the importance of the prescribing specialist varies tremendously, and in some markets PL and online is where consumers get their lenses
- **Fashion** – in some markets, especially Asian, contact lenses are used for beauty, irrespective of corrective use
- **Coverage** – very difficult to get market estimates, coverage differences, timing mismatches, effect of inventory loading vs. actual purchasing, grey imports and online sales from local manufacturers

Reconciling Multiple ‘Sources of Truth’

With these challenges in mind, in 2016-17 JJVC embarked on a major new study across its top six Vision Care markets. Beyond the need to bring more fact-based clarity on the dynamics of its main markets, the study was designed to create alignment on the way markets think of and talk about their challenges. The ultimate goal was to establish global truths able to inform and create consensus on global and local initiatives and their priorities. In addition to investment in new consumer research (U&A survey), the study required testing new approaches that would address two main challenges:

- First, the need to align on a way to summarize and visualize markets’ structures in a way that would allow for both recognition of local differences and identification of commonalities – the creation of a shared model. Teams sharing common mental models together with formal observation of the real world provide the opportunity for double loop learning¹ that Senge, in his famous publication *The Fifth Discipline*, identifies as a key discipline of the learning organization.²
- Second, the need to create economically correct summaries (i.e. mathematically consistent estimates of the consumer base) that explain behavior all the way through to shipped product units and revenues. Previous attempts showed that pure ‘recall’ based questioning approaches could not address the many challenges posed by this complex structure.

A key challenge for studies of this type is that there are multiple ‘sources of truth,’ from secondary data sources like Internal Sales, Industry Trends, to ongoing primary research from consumption or purchase panels as well as ad-hoc surveys to estimate claimed consumption

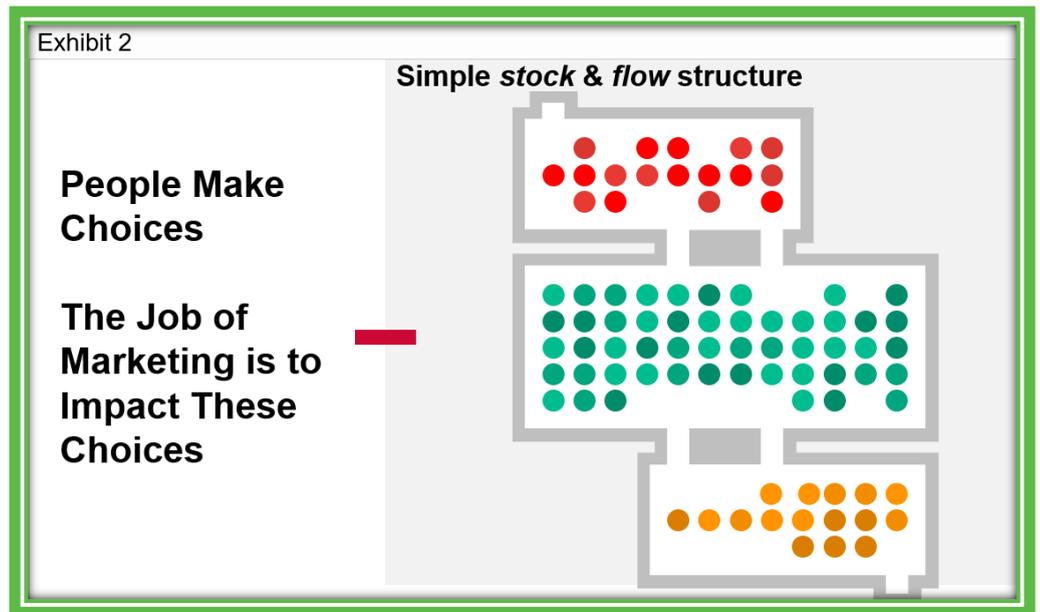
It was necessary to build a hierarchy of truth across the different sources, defining the best available dataset for different types of questions.

¹ Sterman, J. (1994) Learning in and about complex systems. *System Dynamics Review* 10 (2-3) 291-330

² Senge, P.M. (1990) *The Fifth Discipline, The art and practice of learning organization*. NY. Currency Doubleday 30.

and disposition. Sometimes, the data across these diverse sources is inconsistent and indicates contradictory trends.

Each of these data sets have varying scope, with different time periods, geographical coverage, and consumption metrics. Thus, it was necessary to build a hierarchy of the truth across the different sources, defining the best available dataset for different types of questions.



Leveraging System Dynamics Methodology

While previous attempts had failed to deliver the global perspective and actionability that the business required, this effort sought to provide an approach that would maximize actionability. This was accomplished by bringing the focus back to consumer flows while establishing a common approach and methodology across markets that would provide a truly global perspective (see Exhibit 2). The engineering-based discipline of System Dynamics³ provided the techniques and processes needed to accomplish the task. Systems modelling approaches have been deployed across a wide variety of public policy and business challenges including strategic marketing.⁴

Past efforts at JJVC took a siloed approach to analyzing markets. It was assumed that, since market structures were so different, markets should be analyzed differently as well. This led to a host of different methods for visualizing and segmenting the consumer base across markets, limiting consistency, and thus, actionability. One of the core components of the System Dynamics methodology is the exercise of defining a hypothetical market structure at the outset. To achieve this, we launched a series of collaborative conversations across markets, driving critical conversations about how each market works. The findings from this process allowed us to identify the commonalities and differences across markets. The hypothetical market structure that came out of these discussions represented a compromise between actionability and complexity and became the starting point for a dynamic model of the contact lens market. This was to become the Wearer Growth Lever Model (Wearer GLM).

³ Sterman, J. D. (2000) *Business Dynamics: Systems thinking and modeling for a complex world*. McGraw Hill

⁴ V Raimondi et al (2011) From a snapshot to a movie - Pushing the boundaries of marketing ROI. ESOMAR 2011

The Wearer Growth Lever Model represented a compromise between actionability and complexity, and became the starting point for a dynamic model of the contact lens market.

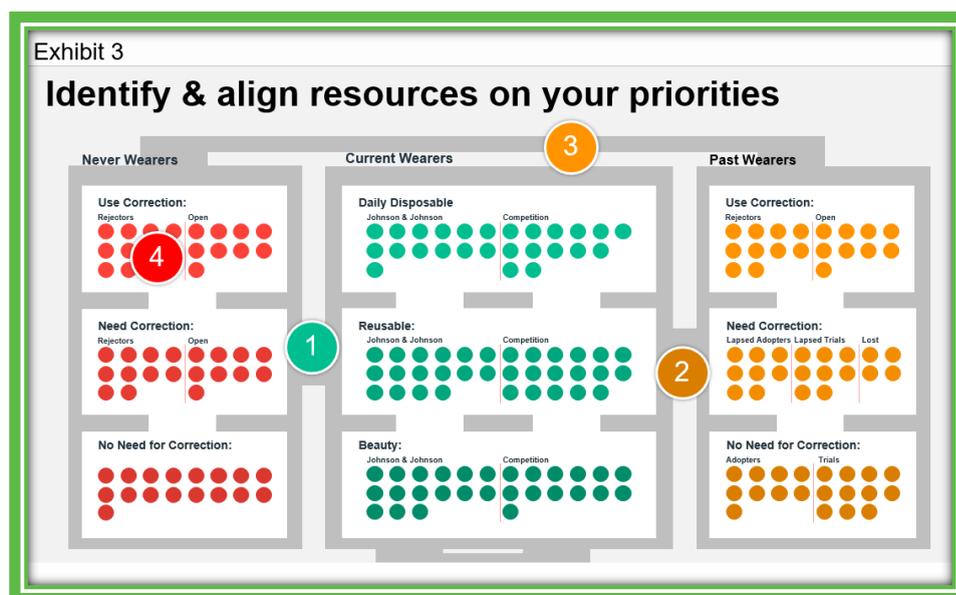
In the past, emphasis had been placed on static stocks (behaviorally-defined consumer segments). A critical element of this effort, however, was to place an equal emphasis on consumer flows (movements between stock segments). A core component in the success of this effort was the

underlying understanding that measuring changes in stock segments alone is not enough to support strategic actions. That is, the knowledge that contact lens wearers have increased or decreased is not enough . . . we need to understand how those changes occurred in order to develop a truly robust strategy. A deceleration of category entrants requires a very different strategy than an acceleration of category dropouts.

Studying the dynamics of consumer flows provides a new level of insight for informing decision-making. It allowed us to identify consumer migrations between different types of lenses (consumer switching) as well as the use of multiple different lens types (“repertoiring”) in non-prescription markets – dynamics that were previously unknown, or at the very least extremely difficult to quantify.

Further, the ability to quantify consumer flows allowed us to construct a dynamic model that could be used to re- project and explain historical trends in market performance. These models helped us to build organizational confidence and buy-in to the stock & flow architecture we had defined, providing the framework for insights and strategies that were both market-specific and globally-consistent. We could now quantify with high confidence the impact of various consumer flows and behavioral changes on our business.

The stress-tested model provided the platform for a series of sensitivity analyses across the top six contact lens markets which allowed us to identify the specific consumer flows that would have the greatest impact on growth in each market (see Exhibit 3). From this analysis we derived seven global truths, a few of which we are able to share as case studies of the types of insight this work was able to generate, and how these insights were able to drive action.



Establishing 'Global Truths' and Taking Action



Truth #1: There is a fresh cohort of consumers entering the category every year. In fact approximately 6% of vision corrected non-CL wearers enter the category every year. However, at the same time, almost equal number of existing wearers' lapse. In fact, as many as 11% of all wearers each year drop out from the category, leading to a huge leaky bucket situation.

In the UK, dropout is even higher (17%). From 2016-17, despite bringing more than 600,000 consumers into the contact lens market in the UK, there was a net decline in total wearers. This was driven by particularly high drop-out rates, a pattern which some have described as a “leaky bucket.” In an industry where many stakeholders, most notably Eye Care Professionals (ECPs), play a pivotal role in the dynamics of the category, these insights helped to build a rally cry for the category.

Dropouts can be identified at several stages of the contact lens journey, from initial entry into the market to later stages of use as eyesight begins to change. While previous literature suggests that ECPs are often unaware that their patients have lapsed from the category, research suggests that the most common concerns for lapsed wearers (discomfort and vision) could be addressed with existing technology so long as consumers are aware of the appropriate solutions - In fact, one study suggests that 77% of lapsed wearers could be successfully refitted. The same study, however, showed that only 29% of patients had received further fittings or trials of different lenses before dropping out.⁵

A communication campaign focused on retention throughout the wearer lifecycle has only just begun, but the UK may already be showing signs of retention improvement. Chart studies have shown around 75% retention after one year.^{6,7} However, there are emerging signs in the UK market that retention across the category has been improving with a 7% reduction in the <1 year dropout percentage.⁸



Truth #2: 40% of all category entrants in the past year were consumers who had previously lapsed from contact lenses. Of the 10 million people who started wearing contact lenses from 2016-17 across the top six contact lens markets, ~4M had worn contact lenses in the past. This nearly 40% rate not only highlighted the amount of churn that seems to occur across markets, but also highlighted a key opportunity for continued growth:

accelerate category re-entry. This story was especially clear in Japan, where the same dynamic was even more pronounced – from 2016-17 nearly 60% of all entrants into the category were not

⁵ Sully A, Veys J. Pay Attention to Retention. *CET 2 June 2017*. 26-30.

⁶ Sully, A., Young, G., & Hunt, C. (2016). Factors in the Success of New Contact Lens Wearers. *Cont Lens Anterior Eye*, 40.1, 15-24

⁷ Sully, A., Young, G., et al. (2017). Prospective Evaluation of New Contact Lens Wearer Retention Rates. *Eye & Contact Lens* (in press).

⁸ Data on file. Growth Incidence Study 2016 and 2017. Johnson & Johnson Vision Care 2018

new wearers, but were returning to the category after previously lapsing out.

The discovery of this trend presented a massive opportunity for the Japan business team, who leveraged these insights to build their strategic business plan. They identified potential ‘restarts’ as their key target audience for future growth. Additional qualitative work helped us identify that the key gap was due to a drop-off in motivation levels (as category barriers are low in Japan). The communication objective was to rekindle category motivation, and the business team used the power of linguistics to identify metaphors for “restarting.” Using the knowledge of these metaphors they leveraged advanced AI/Machine learning platforms to semiotically decode popular culture to identify potential communication platforms to build their campaign targeted towards re-entering the category. The insights from the wearer GLM provided the types of focused insights that are needed to harness the power of big data and AI, helping the marketing communications team create an innovative approach to appealing to this group.

It is early days in the campaign, and these long-term strategic initiatives inevitably will take some time to pull through but it is possible to track progress by focusing on metrics available across the market intelligence universe. Restarts in Japan have been tracked using the proprietary Incidence Survey and estimates point to an increase of around 14% in Johnson and Johnson restarts over the last 12 months compared to competitor rate of only 8%.



Truth #3: One in four new wearers exit in the first year.⁹ Of the ~6.2M people who entered the contact lens category in the top six markets from 2016-17, nearly 1.7M lapsed from the category within the same year. This highlighted the fact that there was significant room for growth through simply retaining people who had already decided to enter the market. Holding all other flow rates constant, including restarts and dropouts from

established wearers, cutting the new wearer drop-out rate from 1-in-4 to 1-in-8, would have driven a consumer growth rate that was ~40% higher (4.5% rather than 3.1%) from 2016-17.

Further research suggests that nearly half of all consumers who exit the category within the first year, actually do so within the first two months.¹⁰ These insights supported a targeted communication campaign to improve focus on helping people through their initial CL experience. One example was an “Educational Moments” campaign from the Johnson & Johnson Institute, which provided detailed recommendations for ECPs on how to enhance new wearer support, including an expanded focus on contact lens training for new wearers (only one in four wearers are satisfied with how they are taught to put on and remove lenses,¹¹ and follow-up calls with new wearers to ensure a positive experience.

⁹ Data on file. Growth Levers Study. Johnson & Johnson Vision Care 2018

¹⁰ Young, G., Veys, J., Pritchard, N., et al. (2002). A Multicenter Study of Lapsed Contact Lens Wearers. *Ophthal Physiol Opt* 2002, 22.6, 516-527, as cited in Sully, A. and Veys, J. (2017). Pay Attention to Retention. *CET 2 June 2017*, 26-30.

¹¹ JJVC Data on file 2014. Training Wheels Research N=1,200 Quantitative interviews in China, Japan, RU and US with considerers, trialists & drop-outs (as cited in Educational Moments: Enhancing New Wearer Support. *Johnson & Johnson Medical Limited 2017.*)



Truth #4: The category has significant headroom to grow across all markets – consumers who wear vision correction but have never worn contact lenses are over 1.5 times the current wearer base.

For the first time, we managed to map non-CL wearers on their current disposition towards the category. Across the spectrum, 43% of consumers who have never worn contact lenses self-classified

as CL rejectors. In the past, all research efforts had ignored this segment, to focus on the low-hanging considers segment. However, since this study managed to quantify and size this segment, for the first time, there was a spotlight on rejectors. Subsequent research established a comprehensive benefits-barriers equation amongst these non-CL wearers and uncovered the role of emotional factors in creating entry barriers.

A lot of the barriers were simply driven by category myths, and JJVC built a viral campaign to address common myths and misconceptions. Some of these myths were very basic, the idea was to move non-CL wearers across the spectrum by addressing these myths head-on with a quirky and relatable campaign.

Early Signs of Impact

The discovery of fundamental truths has initiated initiatives across JJVC. The whole enterprise has now developed a shared mental model by which to design and execute programs. This Wearer GLM has provided a single unifying map with which all parts of the organization including external stakeholders can articulate their programs and explain past performance.

Indeed, the key forecast performance metric has become wearer growth for all stakeholders internally and externally. However, the Wearer GLM imposes stakeholders to articulate and create programs that necessarily focus on the addition of new naïve wearers, re-connection with lapsed wearers and/or the retaining hard-worn new wearers from the initial habit-forming period in the first 12 months through to its long-term wearers.

Adoption and buy-in by all parts of the enterprise with this new model is evident. For example, JJVC has always seen its professional education programs as critical to success. The Growth Lever approach has directed these education programs to help professionals understand the importance of minimizing dropouts from new users through a multi-faceted approach paying attention to comfort, vision, handling and convenience.¹² At the heart of this approach is recognizing that lens choice should be driven by patients' needs and that these change with time. One area has been in the increasingly importance of prebyopes (those typically 40 plus requiring a multifocal lens). Amongst this group, dropouts have been driven most often by vision failure but R&D efforts are making major strides in developing improved designs and coupled with professional excellence in the fitting process has helped capture and retain new wearers as well as prolong long-term wearers with new products reflecting their changing needs.

¹² J Veys. Accentuate the positive. *Optician* 2 June 2017 p13

A Shared Model

JJVC have been on a journey to transform how it understands and tracks the development of the vision care sector across its global markets. This in turn provides a powerful platform through which to develop strategic plans and tactical campaigns.

Unsurprisingly, the journey itself has delivered insight and learning for the marketing and insight teams within JJVC as well its research supplier partners. This has led to refinement of the quantitative surveys, revisiting and challenging long held views of the market dynamics.

The result has been to create a shared model, the Wearer Growth Lever Model (Wearer GLM) and this now provides the lingua franca for the enterprise. Populating these models with data was a challenge and interestingly not one that could be readily solved as a “big data” problem solely using technology and advanced computer science algorithms. Yes, there were multiple data sources but these were challenging to bridge and there was recognition that subject matter expert judgement can contribute valuable input to an aligned triangulated position.

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JJVC is now using the Wearer GLM to create side-by-side comparisons of category development and company performance for its core markets. This extends to strategic planning based around the core truths and having a single shared model for all markets has helped global teams assess balance of investments across these markets.

However, the journey is not complete with the Wearer GLM moving from the transformation phase to continuous improvement. This will lead to refinement of market research and also creating toolsets to empower all parts of the enterprise to readily undertake strategic forecasting and business case assessment with a single coherent global model.

The Authors

Pavi Gupta is Senior Director, Global Strategic Insights, Johnson & Johnson Vision, United States

Mick Hedberg is Project Director, Foresight Associates, United States

Vittorio Raimondi is Managing Director, Foresight Associates, United States

Dave Exelby is Advisory Partner, Foresight Associates, United Kingdom