

## Driving Product Development with Customer Needs Value Genesis

The challenge of identifying market opportunities for new product development, and successfully leveraging resources to capitalize on these opportunities is a critical element in the success of the modern, market-driven firm. In today's hyper-competitive environment, it is not enough for market-driven firms to focus only on end-customer needs, they must look at the entire stakeholder value chain. The integration and infusion of key stakeholder needs into the product development process allows organizations to more effectively leverage their development resources while increasing the probability of discrete project success – ultimately translating these discrete wins into overall firm success.

### Introduction

The race to identify opportunities for profitable new product development in large, multi-division organizations is often slowed by the hurdles of intra-team communication, opportunity assessment, customer needs understanding, technology and strategy alignment, and platform technology development. The lynchpin holding all of these elements together is a proper understanding and effective communication of stakeholder-based needs that drive each element.

Current research in product development techniques firmly embraces the notion of focusing the process on the customer, from business strategy development to prototype testing and needs analysis.<sup>1</sup> The customer provides a point of balance in the development of new products, simultaneously validating market and design decisions, while empowering the satisfaction of unique customer needs – thus differentiating new products from their competitors.

Stakeholders, while encompassing customers in the traditional sense, also include people who will ultimately share in the product's use and implementations, through the entire value chain for delivery of the product. For example, the stakeholders in the development of a new surgical tool include all of those who would have an impact on the adoption and proliferation of the device. Stakeholders in the clinical environment include surgeons, support staff, technicians, nursing personnel, and hospital administrators – not to mention the patients themselves. Stakeholders and key influencers beyond the clinical environment include payers (insurers), channel partners and regulatory agencies. All of these stakeholders play a role in the adoption rate of the product and in its ultimate success.

The implication here is that companies must account for the views of all stakeholders involved in order to successfully develop and market a new product. Companies must actively seek out and understand what their “customers” really want in the broadest sense of that word. Professor Glen Urban of the MIT Sloan School of Management supports this concept saying, “As customer power grows, innovative companies are moving beyond traditional push marketing and customer relationship management to become full proponents of the customer agenda.”<sup>2</sup>

Stakeholders provide necessary feedback in effective phase-gate product development processes, allowing strategic business units to make key product line decisions on a go/no-go basis, thus optimizing investment in projects with higher probabilities of success. Maximizing the value out of the product development cycle requires judicious pruning of projects with a low-probability of success early in order to funnel capital and resources into projects that have the potential to return higher multiples on the initial investment. How to repeatedly and

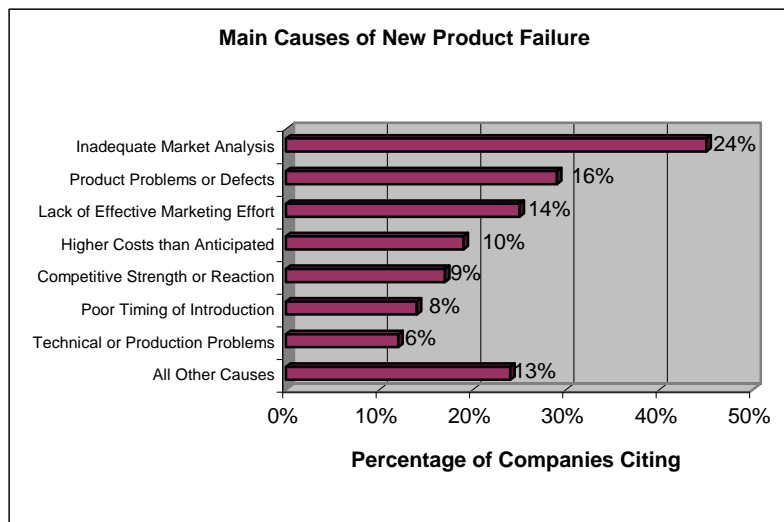
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methodically identify product opportunities, and capitalize on open “white space” in the marketplace remains a key challenge to growing a product portfolio.

Our experience at Product Genesis convinces us that profitable, return-on-innovation-driven product development hinges upon the ability to align cross-functional business goals in the design of integrated, stakeholder driven products that provide increased market value by identifying and exceeding current needs throughout the value chain. The most successful new product plans add value for all stakeholders in the delivery of the product through a well understood needs and value driven framework. Value Genesis provides this framework, capable of aligning both market and development efforts through a customer-and-stakeholder-centric approach to product development. The result is the identification of high-value product opportunities, and execution roadmaps for product success.

### Challenge

The challenge facing today’s product development initiative is to deliver, with the highest probability, a product that will win in the marketplace. The implication is that product development is, or should be, focused on what will provide the most value in any specific “marketplace” – in other words, the collective stakeholders. A key measure of a product’s success is the return that product provides on its initial investment. Organizations strive to maximize this return – the ratio of dollars returned to dollars invested, on a probabilistic basis. So why then do so few products actually attain this lofty goal?



Robert G. Cooper, *Winning at New Products*, 2001<sup>3</sup>

Robert Cooper, in his book *Winning at New Products*, states:

Another common mistake is to assume that because a product may be adequate in the eyes of the designers or R&D department, the customers will see it the same way. As one manager interviewed in the study put it, ‘The very important lesson we learned was to determine the requirements of the marketplace through market surveys, and then to *interpret* that need to our engineers for product development.’<sup>3</sup>

This statement is furthered in Mr. Cooper’s research of product failures within corporate organizations, as exhibited in the table above. The most frequently cited reason for product failure was inadequate market analysis. This analysis included the identification of customer and stakeholder needs, as well as the understanding of competitive market positioning resulting in the direct failure of a product. Here, a thorough

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market and stakeholder analysis ideally includes a look at the vested interests of all groups ‘touching’ the product along its path to market success.

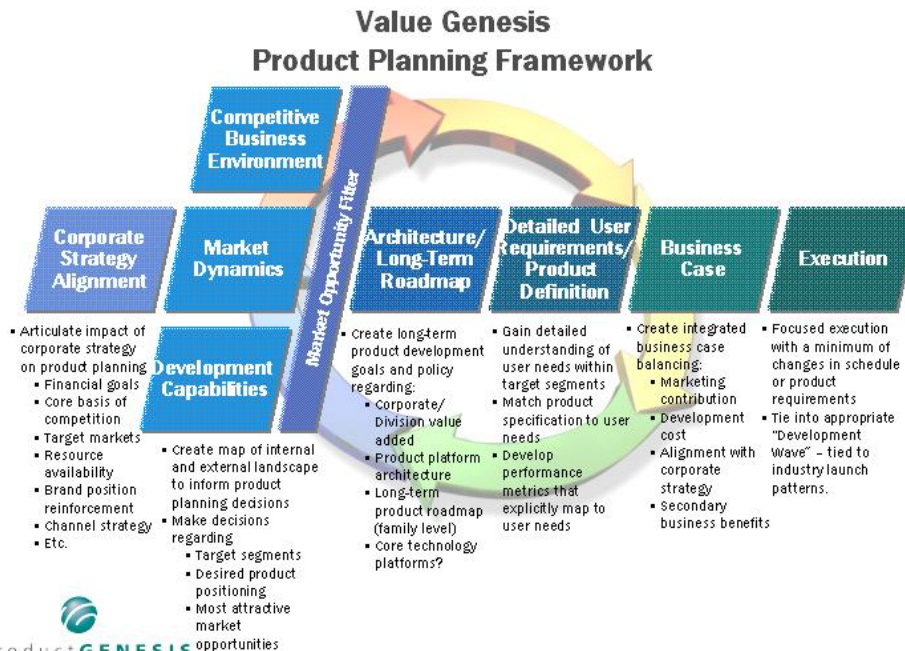
The key issue raised by studies of product failure is how to identify both market and product opportunities, and tactically capitalize on these through an effective product development roadmap. The works of professors Glen Urban, Abbie Griffin and John Hauser of the MIT Sloan School of Management and University of Illinois, advocate the use of techniques like *Voice of the Customer* to infuse customer needs into the product development cycle, leveraging their input to guide the direction of product development.<sup>4</sup> Further supporting the use of a broad, customer-centric approach is the success that techniques like “lead-user” analysis have had at identifying new product opportunity at companies like 3M.<sup>5</sup> Additionally, techniques such as Quality Function Deployment (QFD) make specific use of customer needs as an input to product development tools such as the House of Quality.<sup>6</sup>

What studies such as these, and our experience at Product Genesis imply is that focusing the product development process directly on both the needs defined by the customer and the broader needs of stakeholders can give an organization an advantage in the marketplace by producing clearly differentiated and successful products. Moreover, a persistent feedback cycle, incorporating feedback from customers and stakeholders, allows an organization to more accurately focus resources on initiative that are likely to win in the marketplace.

### Solution

The Value Genesis Framework addresses the question of how to maximize the return on new product development through effective product portfolio planning. Leveraging previous work in the Innovation, Portfolio or Opportunity Genesis phases - or entering into it independently - Value Genesis provides a framework for future product delivery through the detailed analysis of current and future corporate competencies and overall business drivers, as seen through the lens of all stakeholders in the product value chain.

Value Genesis prospers through a cross-functional team approach, enlisted to develop a comprehensive understanding of the current strategic drivers in the marketplace. By aligning corporate strategy through all layers of the corporation that bear on the product development process, communication barriers are explicitly torn down, enabling richer exchange of ideas and promoting deeper interactions.



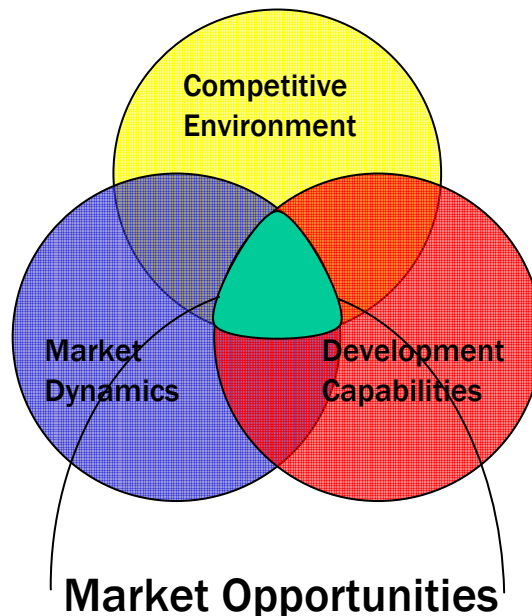
Aligning the product planning process directly with overall corporate strategy first requires a comprehensive understanding of corporate financial goals, competition, target markets, available resources, brand positioning, channel strategy and the risk profile of the company – all within the temporal framework of past outcomes, current metrics, and future goals. Specifically, the cross-functional team comes to an understanding of the key issues that face the business, division and team in the effort to develop the next generation of winning products.

The Strategic Alignment piece of Value Genesis serves as the foundation for understanding the landscape of key developmental, market and competitive issues that face the organization. Specifically, understanding the Market Dynamics at a high level includes the analysis of market flows geared towards an understanding of what is happening within the user base, and why. Moreover, the dynamics of the category are looked at for overall sales growth, profitability trends, and user segmentation trends. Additionally, competitive and channel dynamics are specifically mapped out to gain a detailed understanding of the value chain.

Further understanding of the overall market opportunity is gained through a look at the Competitive Business Environment - at both the discrete product level and the product portfolio level. This analysis includes investigation of the performance dynamics within the category: what is the basis of competition within the category, are there pockets of non-consumption in the user base, are there competitive alternatives from outside the category, as well as why and how the competitive dynamics are structured. Finally, an understanding of how specific user needs and segments impact specific product groups is also gained.

The Development Capabilities Analysis aims to understand internal processes and constraints that bear directly on future product development. This includes understanding key organizational structures bearing on the Product Development Process (PDP), the PDP itself, personnel capabilities (both internal and external), as well as technical capabilities – including Intellectual Property (IP), cycle-times and resource constraints. As a realistic assessment of the developmental process, this phase attempts to not only generate detailed knowledge of how products are developed in-house, but yields approaches to both capitalize on corporate strengths and augment potential weaknesses.

The synergies between the atmospheres in the competitive environment, the dynamics of the marketplace, and the developmental capabilities of the firm overlap to point to potential market opportunities.



The realm of opportunities exhibited in this overlap is further refined through a thorough analysis of both customer-based product requirements, and potential future product architectures. The understanding of the underlying architectural foundation upon which the new offering will be built is critical to refining the overall product strategy, as key product attributes can be augmented through a well-designed product platform, and efficiencies can be gained. The architectural roadmap development serves to take identified market opportunities, and approach them on both short and long-term bases, creating a platform investment that may be leveraged for current and future product development.

Specifically, the roadmap outlines key drivers to developing and maintaining a next-generation architecture, as well as detailing the basis for future competition. Issues such as modularity, flexibility, product extensions and evolutions are all considered during the creation of the roadmap, in order to capitalize on the most attractive market opportunities as detailed in previous segments of the process.

Throughout this framework, key stakeholders along the value chain are enrolled in the product development process to identify the key needs in the marketplace. Probing existing, potential and future customers for these needs provides a basis to successfully generate products that will satisfy evolving market desires. Ultimately, stakeholder based needs form the basis for product design requirements, upon which advanced concept designs are mapped to produce a next generation product. Product development tools like the House of Quality, QFD, KJ analysis, Kano analysis, cost-worth diagrams, and many others are used to assist in the development of a next generation product concept. The result of this process is a specific set of product requirements that meet stakeholder needs and build upon the previously identified, market-based architectures.

Leveraging previous work, the business case is the zenith of Value Genesis, providing detailed insight into an explicit mapping of new product development back to overall corporate strategy. As with any business plan of substance, issues of financial objectives, revenue and profit potentials, adjusted risk profiles, and return on innovation are addressed. As the final stage of the process, Value Genesis delivers an actionable, justifiable product development plan with short and long-term objectives based on the delivery of next generation and customer-needs based, high-value products to the marketplace.

## Conclusion

Identifying new product opportunities, successfully translating stakeholder feedback into product requirements, and moving a product from concept to mainstream success can tax even the most experienced firms. The basis of this activity ideally comes from a concerted effort to enlist stakeholders throughout the organization and within the external value chain to form a comprehensive view of the end-user marketplace. These stakeholders' needs form the basis for the technical requirements of the product, translated via tools such as the House of Quality, KJ analyses and cost-worth diagrams.<sup>7</sup>

The firm maximizes the potential for product development success by merging stakeholder needs with overall market dynamics, competitive environments and developmental capabilities to produce a new product. With an eye on Return on Innovation in these new product development initiatives, the firm is able to funnel investment dollars to projects that probabilistically result in the largest return.

Product Genesis' experience with innovative product development and deployment has allowed us to produce the Value Genesis framework to ensure the success and maximize the return on new product development initiatives. Using a comprehensive understanding of the firm, emerging technologies, the market in question, and key stakeholders of the product value chain, we are able to guide investment decisions to capitalize on innovation opportunities throughout the value chain, bringing successful, value-generating products to market.

## References

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