Transforming the nature and scope of new product development

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Transforming the nature and scope of new product development

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Abstract
Purpose – Over the last several decades, product development efforts have seen unacceptably high new product failure rates. One important factor is the presence of competitors who can interfere with marketing strategy and force changes that sap resources and reduce success. As industries try to improve their success, line extensions, i.e. developing products similar but different to successful products, have become more common. Simultaneously, industries have reacted by refining the new product development (NPD) process to make it more reliable and accurate. The refined development techniques are so helpful in refining product benefits with which firms are familiar that they reinforce the pressure to extend the line. The result is overcrowded markets where destructive competition destroys profitability. A "blue ocean" strategy promises to change the destructive cycle of market crowding. Originally the framework focused on overall market strategy. However, it has a direct application to NPD. Revising the NPD process to incorporate a blue ocean viewpoint before the idea generation stage may reduce the failure rate and create breakthrough products that are not easily emulated. This paper aims to address this issue.
Design/methodology/approach – The paper reviews the NPD literature as well as work implementing a blue ocean strategy. It delineates the tools developed for applying blue ocean concepts to strategy. The paper then applies a blue ocean approach to the NPD process with the objective of developing new products and services that are unhindered by competitive offerings. Implementing a blue ocean strategy involves four main actions and may be focused on six targets. The paper integrates the elements into a strategic opportunity product development matrix which may help practitioners. Moreover, it identifies at which stage of the new product development process blue ocean concepts should be introduced.
Findings – The paper reveals that there are no unvarnished panaceas in product development. Applying a blue ocean strategy to avoid competition early in the product life cycle promises to reduce dangerous competition to allow the product to succeed. However, the gains will probably not extend indefinitely. It requires constant improvement and application of the concepts to gain a measure of sustainability. If firms are successful early, they may be able to defend gains in some areas to retain profitability, while seeking new blue oceans.
Practical implications – Blue ocean applied to marketing strategy has seen large gains in success. Integrating efforts to find uncluttered market space holds the promise of increased success. It will also refine the NPD process.
Originality/value – Blue ocean strategy has not been applied to the new product development process in the literature. The paper integrates the concepts of the strategy with the elements of product development. The result is a new approach toward success products and product introductions.

Keywords New product development, Product development, Blue ocean strategy, New product failure rates, Market crowding, Corporate strategy

Paper type Conceptual paper

An executive summary for managers and executive readers can be found at the end of this article.

Introduction

In 1976, Shelby Hunt commented on the nature and scope of marketing and in so doing, transformed how both business and non-business organizations market themselves and their product offers (Hunt, 1976). Hunt's examination changed how marketing was understood and broadened its scope to include a host of activities, services, and products that had not previously been viewed in marketing terms. As a result, non-profit organizations, government entities, political parties and society as a whole have benefited. Similarly, Theodore Levitt's (1960) classic article dealing with marketing myopia alerted marketers to the dangers of focusing too much on current customers, technologies, and competitors. Both articles can help product developers and brand managers to avoid the inevitable traps that are logical extensions of industry practice. Arguably, new product development could benefit from such an examination that refines its understanding, broadens its scope, and alerts marketers to relevant factors that can affect its success.

Current new product development

New product development is a well-studied process, is the lifeblood of numerous firms, and represents the best hope for future growth. Over the years, it has been refined with attention paid to the consumer (Herstatt and von Hippel, 1992; Hoffman *et al.*, 2010; Fuchs *et al.*, 2010), the development process (Cooper, 2009; Füller, 2010; Hoyer *et al.*, 2010; Sandmeier *et al.*, 2010), the nature of the product (Decker and Scholz, 2010), the channel (Lan *et al.*, 2007), the nature of the marketing venue (Füller *et al.*, 2009; Arakji and

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Lang, 2007), and the source of the product concept (Wyld, 2010). Despite the evidence of attempts at continuous improvement, the need for change still exists.

One symptom of the need for change is the persistent level of new product failure. Very little historical data on product failure rates exists in the literature. Some, which in 2010 are ancient references, cite failure rates of 40-45 percent (Griffin, 1997), 33 percent (Booz, Allen & Hamilton, 1965), 80 percent (O'Meara, 1961), or 89 percent (Schorr, 1961). The most recent reference states the failure rate for consumer packaged goods at 49 percent (Barczak *et al.*, 2009). During the last millennium, new product developers lamented the unacceptably high failure rates for new product introductions. Some sources claim the rate is as high as 95 percent (Schlossberg, 1990). Although recent references have not supplied metrics, they have concentrated on "improving" the process (Hlavacek *et al.*, 2009). Still others cite the crowded competitive space and attribute failure to the clutter in the market place (Redmond, 1995). The data reflects the risks and costs of new product development. Even the costs in a single industry can be staggering: a conservative estimate places the cost of failed product R&D in the electronics industry at more than $20bn per year (Clugston, 1995). Those results prompted organizations and researchers to refine the new product development (NPD) processes. Researchers have explored the causes of new product failures and the literature reports significant attempts at reducing the risk inherent in new product introductions (Sarin and Kapur, 1990). Despite extensive work, new product failure rates appear to be increasing in consumer product categories (Redmond, 1995) with staggering economic and opportunity costs. One attempt to improve the NPD success rate focused on leveraging the brand equity of existing products. Others concentrated on increasing the accuracy of the process by employing new development techniques.

Line extensions: leveraging brand equity

Companies have sought to reduce their risk in introducing new products in various ways. Since firms learn from their successes, leveraging the success of an existing brand name has become a favorite. New product developers have refined the practice to include two separate areas (Farquhar, 1989). The first, a line extension, introduces a new product in the same product category as the parent. The second, a category extension, introduces a new product in a different product category.

In the 1960s, introducing a product extension was a carefully considered decision. Companies were afraid that the unanticipated shortcomings of a line extension would damage the sales of the parent. Thus, Coca-Cola reduced its risk when in 1963 it introduced a diet cola named Tab. Essentially the product was Coca-Cola with an artificial sweetener. Sensitive to consumer reactions to taste, the company saw the potential for problems. Branding the product Diet Coke or Diet Coca-Cola carried risks. The fear was that consumers would not like the taste of the sugar-free "Coke", and reduce their consumption of the original. Only in 1982 after 19 years of Tab's successful performance did the company feel secure enough to introduce a branded Diet Coke. The decision was responsible and entirely correct. Coca-Cola Corporation's most valuable asset is its brand name and failure to protect it would have been irresponsible. Coca-Cola's careful approach reduced the risk of damaging the parent brand and validated the concept of line extension. History proved them correct. The new formula proved to be so well accepted that one year after Diet Coke was introduced, it surpassed the sales of its sibling, Tab. Research has shown that line extensions reduce the risk inherent in product introductions by allowing consumers to form expectations about the new product (Kim and Sullivan, 1998) and by leveraging the positive expectations about the parent brand (Keller and Aaker, 1992; Martin *et al.*, 2005). Over time, critics of consumer products have lamented the proliferation of line extensions. However, the basis for their popularity is the increased chance of success and reduction of the potential for loss.

In the soft drink industry, Coke's successful extensions have resulted in remarkable product proliferation. In fact, around the world there are over 30 different versions of Coke and Diet Coke. They encompass versions with and without sugar or with or without caffeine. They include new flavors like vanilla, lime, raspberry, and cherry and even include a version with added vitamins. Not to be outdone, Pepsi followed suit and introduced its own extensive lineup of parallel line extensions that cover and clutter the market.

The result of these introductions was tantamount to an industry stampede. Competitors focused on increasingly smaller segments offering a unique small benefit to offer something new. For commodity products with little to differentiate them, consumers usually respond with variety seeking behavior. Thus the brand extensions make some sense by offering an alternative that is different and not owned by a competitor. However, since some of the extensions are easy to copy, one byproduct of line extensions is an increasingly crowded competitive space. Moreover, the proliferation of a series of line extensions may dilute brand equity. One more effect is to shift the attention away from consumers who do not want the selection of product offerings but desire something else. These consumers may comprise a viable market segment not served by others and untouched by the brand extension process.

Refining marketing metrics and development techniques

As product developers have developed their own craft, they have introduced a variety of refinements. They involve techniques aimed at the accuracy of information, like voice of the customer research (Brandt, 2008) and careful segmentation and product differentiation. Other refinements concentrate on making the NPD process itself more robust. Even today not every product is a success and careful product development and market testing is the rule. One consumer marketing example is Pepsi-Cola's 2001 development of its ill-fated coffee flavored cola (Bevnet, 2001). It had a catchy brand name – Pepsi-Kona, reflecting Kona coffee from Hawaii and sounding a bit like the parent beverage, Pepsi-Cola. The brand concept tried to take advantage of Starbuck's increasing success in revitalizing the lagging coffee drinking market. Among its target audience, i.e. adults, the brand seemed to have the potential to earn market share. Its sugar-free, diet version even boasted a taste indistinguishable with the sugar-sweetened parent, a rare accomplishment and potential strategic advantage. Pepsi's marketing staff is professional and they employ tested marketing metrics and techniques including the stage-gate process to conduct products through new product development (Cooper, 2009). In essence, the stage-gate process is a refined version of the new product development process. It conducts developers from ideas to prototypes to final products ready for release, and builds in failure points to weed out products with problems. Specifically, it starts at the discovery stage then proceeds in turn to scoping, building the business case, development, testing and validation, and finally launch. There is an additional stage, post-launch review. The stage-gate process inserts an evaluation between each stage that serves as a barrier to progress. Only if the project overcomes the gate obstacle, can the project move forward. Thus, the gates prevent projects that fail to "open" them from proceeding along to launch. As a result, new product developers can reduce their losses.

The stage-gate development process has reduced new product failure rates. Using the metrics, Pepsi Kona did not complete marketing testing successfully and clearly did not exceed the threshold for a successful introduction. Ironically, tools like the stage-gate process may reinforce the pressure to extend product lines. They yield quantifiable metrics that can make decision making easy. In contrast totally new to the world products have few or no close analogs that may help forecast their acceptance. Their metrics can only be estimated.

The dashboard trap

As the marketing and product development professions have matured, their tools have become more sophisticated. Combinations of metrics, called marketing dashboards have been developed to increase efficiency and help guide decision-making (Pauwels *et al.*, 2009). Dashboards are customized by individual companies to measure what management feels are the most important operational measures. Significantly, they have been linked to firm performance (O'Sullivan *et al.*, 2009; Miller and Cioffi, 2004). Using appropriate dashboards, marketers can make intelligent decisions and monitor the results of those decisions. The metrics are so widely used that managers in a given industry are likely to develop similar dashboards and use them to guide their competitive actions. Companies can monitor their dashboards to sense competitive initiatives, changes in consumer preferences, and other factors. In some cases, the metrics help sense events with enough speed to enable an equally speedy response.

However, when competitors use similar groups of metrics there can be a similarity in competitive tactics that can lead to countervailing reactions that stifle innovation and reduce success. That situation can be termed the "dashboard trap". In fairness, the concentration on metrics has saved costly mistakes. The result of the competition is an increasing tempo of moves and countermoves that kill off the weaker entrants and leave the survivors no option but to continue competing. The ever sharpening internal industry focus creates a marketing myopia that blinds competitors to escape routes from the destructive competition. New product development that maintains the focus within the industry segment offers no hope of escape. If market growth slows, profits may decline or disappear and the competitive carnage can be dramatic. In that case, the only escape may be to abandon ship with no lifeboat.

Environmental factors and competition

Product failure can be viewed as failure to build sufficient brand equity to succeed. Brand equity in turn is built on the consumer's perception of the brand, its company and its competitors. As the competitive playing field becomes more crowded, it becomes more difficult to gain the consumer's attention to create a favorable impression. One strategy to build brand equity is to reduce the clutter so that consumers can concentrate on a brand.

Most research on new product failures has focused on a firm's activities in specific projects. However, recent literature proposes that new product outcomes are influenced by macro-level or environmental factors (Redmond, 1995). Environmental factors can explain why competent firms in one industry consistently experience higher failure rates than those of other competent firms that operate in a different industry. For example, when two different industries, consumer packaged goods marketing and industrial marketing are compared, one finds that failure rates for new packaged are consistently higher than those for new industrial products (Redmond, 1995; Barczak *et al.*, 2009).

While entrepreneurs have created new markets some of which are currently in the early stages of the product life cycle, most markets are established and maturing. In many established markets, supply is overtaking demand and competition is increasingly a battle for market share (Trombetta, 2009). Market share competition reduces profits and the potential for growth.

One empirical finding is that using line extensions is a common technique that food companies use to achieve sales growth. Redmond (1995) notes that consistent focus on line extensions creates market clutter. Clutter makes it difficult to achieve significant differentiation, to attract a viable market segment, and to thrive. Thus, crowded market space generates the equivalent of natural selection in which only the strongest brands survive. In contrast, industrial marketers face a much less cluttered field of competition and introduce relatively few new products. In the industrial marketing case, opportunities for differentiation and segmentation increase the chances for success.

Gaining room to compete – value innovation

Recognizing the effects of market crowding is important for new product developers. However, implementing strategies to overcome those effects is arguably more important. Groundbreaking research by Kim and Maubourge (2005, 2007, 2009) proposed several strategies for avoiding the negative aspects of competition by seeking value innovation. Instead of following the straightjacket of traditional industry rules, the creators of blue oceans rejected their competitors as their benchmark. Their actions made competition irrelevant by creating a leap in value for both buyers and the company – value innovation (Kim and Mauborgne, 1997). This perspective offers the hope of escaping destructive competitive market space for a new environment with more opportunities.

Blue oceans – red oceans

The perspective, blue ocean strategy, has not been reported in connection with new product development in the literature. Instead, it is focused on company strategy. This is ironic, since it inherently affects the nature and scope of product and service offerings and appears to be directly applicable to NPD. Blue oceans differ from the traditional red oceans in which most competitors operate. Red oceans are the result of blood-letting competition that figuratively stains the water red. Red ocean strategy is based on competitive positioning and market players following the competition. Three major elements typify this strategy. The first is competing on the same factors as the rest of the industry. The second is accepting existing industry boundaries and rules. The third is a focus on exploiting existing demand (Trombetta, 2009; Kim and Maubourge, 2005, 2007). In essence, lured by nearby targets, the firm is incarcerated within its industry.

In contrast, blue oceans are uncrowded market spaces in which marketers can escape from destructive competition. They are based on the premise that the competitive game can be changed and the result can be the value innovation that Kim and Mauborgne describe. Value innovation is also comprised of three elements. The first is to reconstruct the elements of value. That is tantamount to new product and service development. The second element challenges industry operating rules and prompts competitors to look across the industry boundaries to new opportunities, instead of employing NPD in the old competitive space. The third element creates new demand from non-customers, new revenue streams or other sources. The results convey considerable freedom but require breaking away from familiar and successful patterns.

Using blue ocean strategy – the strategy canvas and the four actions framework

The heart of applying blue ocean strategy is analyzing the relationship of the company to its customers and its industry. Firms provide value to grow and compete. Providing the right value to the right customers in ways competitors cannot duplicate is one key to success. Blue ocean proponents advise creating a strategy canvas, a graphical depiction of three factors: the industry factors of competition (the *x*-axis), the relative level of the factors that a competitor supplies compared to the industry (the *y*-axis), and the competitor's strategic profile (the line that connects the factors).

One example of its use is in the women's clothing industry. Unlike department stores or discount retailers like Wal-Mart, fashion retailers offer stylish clothing at high prices targeted to young women with disposable income. They depend on substantial advertising and offer convenient access in the form of location and access to parking. Clothing Vault (CV), a fashion retailer based in California, recognized the crowded market and sought to find new competitive space. It started by looking at non-customers, fashion-conscious girls with limited budgets. CV learned that the target audience, girls without much disposable income who want a fashionable wardrobe, get one by borrowing clothes from friends. That insight prompted a novel concept: clothing sharing. The first step was to chart the relative level of attributes supplied by firms in the industry. It created a strategy canvas for fashion retailers shown in Figure 1. In relative terms, price (high price), advertising, and convenient access are offered in higher quantities than assortment.

Careful research uncovered more about the non-customer. The new social networking trend seems common to the age group known as the Millennials, including both customers and non-customers. Thus, websites such as MySpace, Facebook, and SecondLife were very familiar and of importance to the segment. It was clear that such social networks are an important means of communication, creating word of mouth and supplanting traditional advertising. In addition, research also uncovered the most relevant definition of convenience: easy location of the right style and the right size. Retail stores are arranged to maximize the visibility of specific styles that are grouped together. Physically searching through clothing racks is less convenient than reading through a list using a computer. The canvas makes it possible to take one or more of four basic actions that can be used to create a value innovation. The four actions are eliminate, reduce, raise, and create, and are detailed in Figure 2. The factors are similar to product attributes like cost, convenience, new versus used, accessible parking, and anything else that is relevant.

Companies have used the canvas to assess where they stand versus competitors and in relation to consumer desires. By adjusting the levels of the factors they provide, they can often satisfy customers who are currently being served by others. By surveying potential customers and current non-customers, CV gained insight into what level of each attribute the non-customers desired.

- The primary attribute they desired was affordability in the form of low cost.
- Ambience was not important and a warehouse atmosphere that delivered "fashion at a fraction" – low cost clothes with the full measure of style – would be acceptable.
- Convenient location, at or near a local mall, was not necessary; non-customers would go out of their way to save.
- Service, while valued, was not worth paying for. Instead, the ideal of being able to find the exact size and style in a short time was important.
- The target audience did not really value assortment. It seemed important but they just wanted to find the items that they wanted.
- Parking was identified as important but not highly important. Subjects who were used to shopping at malls with parking lots tended to assume that it would be provided.
- Social networks played an important role in the daily lives of the subjects. They became almost a substitute for e-mail. In fact, posting pictures on social network pages has reduced the need to attach a picture to an e-mail. Instead of sending it to a friend, the friend could use the social network page and just find it.
- The final attribute, selection convenience, was rated as important. Making it easy to find the right garment would be highly valued.

Figure 3 depicts the differences between Clothing Vault (CV) and the rest of the industry. The *y*-axis scale reflects the original differences in Figure 1, but the absolute values offered by CV and the rest of the industry compresses the scale. By saving on several expensive elements including advertising and substituting several inexpensive attributes including social networking, CV has achieve significant cost advantages while serving its target audience very well.

The six paths framework

Blue ocean strategists provide a tool to create new market space: the six paths framework (Kim and Maubourge, 2009). Instead of competing within a given market space, firms and product developers are encouraged to compete across them. The six paths refer to the six boundaries that constrain competition. They are:

1 alternatives within industries;
2 strategic groups of customers;

Figure 1 The strategy canvas for fashion retailers

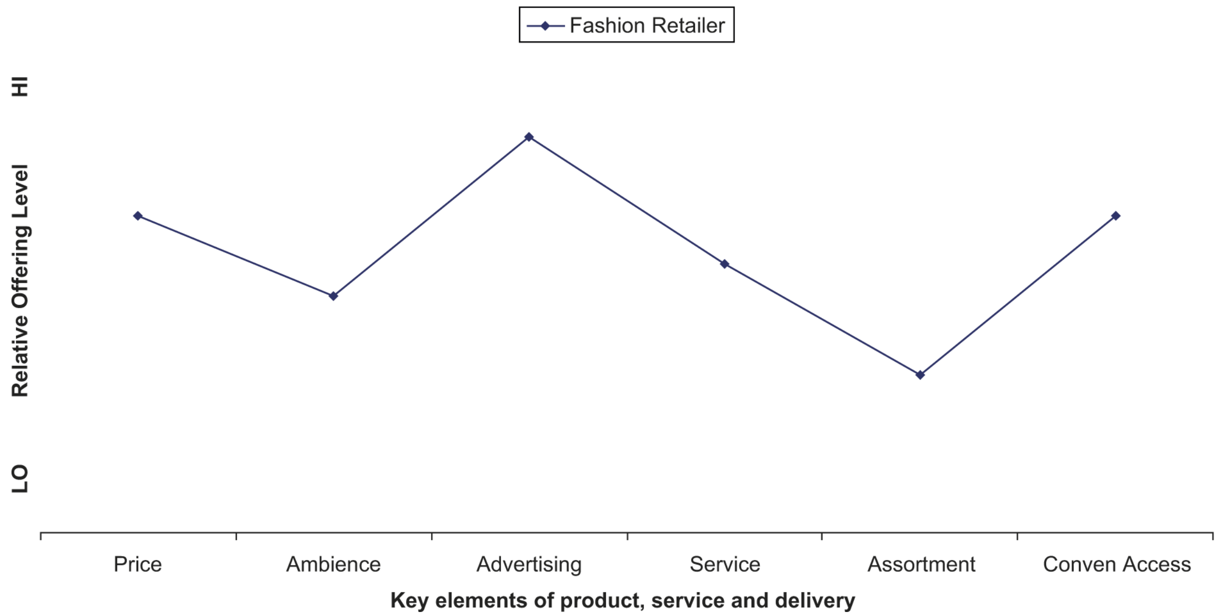


Figure 2 Four actions for creating a value innovation (Kim and Mauborgne, 2009)

Eliminate	**Reduce**
Which of the factors that the industry takes for granted should be *eliminated*?	Which factors should be *reduced well below* the industry's standard?
Raise	**Create**
Which factors should be *raised well above* the industry's standard?	Which factors should be *created* that the industry has never offered?

Source: Kim and Mauborgne (2009)

Figure 3 Strategy canvas for Clothing Vault

3 buyers (as distinct from purchasers, deciders and users);
4 scope of product and services (including complements);
5 function-emotional orientation (the balance between functionality and emotional connection); and
6 time (the logical extension of a trend).

Figure 4 depicts the paths. Together, they present marketers with six distinct opportunities to develop new offerings and escape to uncluttered markets. Each one allows new product developers to create a value innovation that will satisfy customers and be insulated from competition. One can apply the four actions framework to each path to create new offerings. In each case, considering these paths opens new possibilities for competition and new opportunities for blue oceans.

In most cases, marketers are challenged to focus on the customer and determine what values are missing. Blue ocean strategy is a change in approach that forces developers to look beyond their tested methods of discovering product opportunities. Some of the best methods carry a bias bred of past success. Even the tested technique of listening to the voice of the customer (VOC) (Brandt, 2008; Cooper and Edgett, 2008) carries with it the danger of functional fixedness that focuses too closely on the current consumer. VOC techniques work; marketers do get a deeper understanding of customer wants, needs, and challenges. That may also be a problem. In the typical red ocean competitive arena, focus on customers and successful solutions to their needs led to the clutter of line extensions. Focusing on groups like non-customers, underserved strategic groups or other targets may be more successful. Each path deserves its own explication.

Examples of the paths

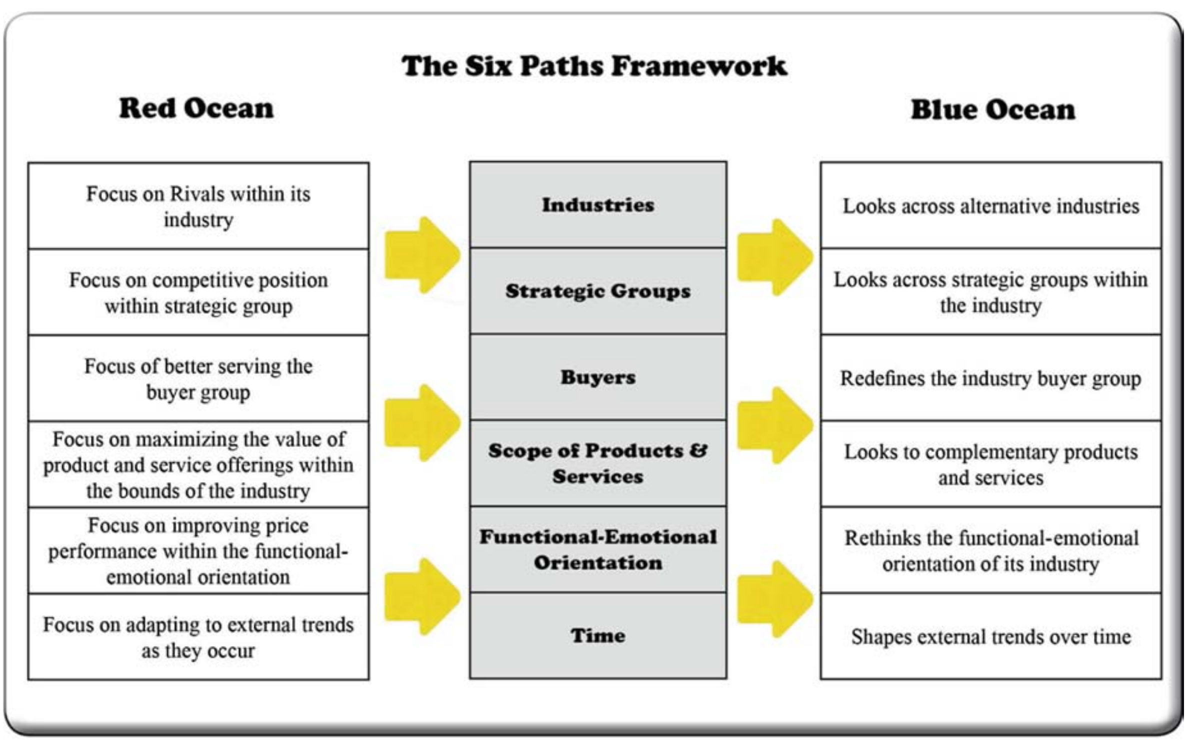
Path 1: focus on rivals within industries

The first example used to illustrate the four actions framework, The Clothing Vault, follows Path 1: it is instructive to exemplify several and then note the key elements in the rest. The first three paths explicitly deal with consumers, either non-customers, underserved strategic groups of customers, or the chain of customers. Path 4 deals with the scope of products and services. The fifth deals with establishing an emotional link between products and customers. The sixth path deals with trends that signal new opportunities.

Path 2: focus on competitive position within strategic groups

In many industries there are important customer clusters that form strategic groups. The realities of market segmentation mean that it is likely that some strategic groups may be underserved. The key to creating new market space is understanding why buyers switch from one group to another (Trombetta, 2009). One example can be found in the fitness industry. The strategy canvas for the industry initially revealed two major clusters of alternatives. One was the traditional health club sector, typified by professional exercise equipment, high price, trained instructors, somewhat inconvenient locations, lengthy work-out times as well as a gender-integrated clientele. The other sector comprised home exercise programs. Home exercise featured lower price, few amenities, no workout equipment or instructors and no other clients. Working out with others is motivating and home exercise programs did not provide that motivation.

Figure 4 The six paths framework



Source: After Kim and Mauborgne (2007)

If one analyzed strategic clusters, one segment emerged as a non-customer of fitness clubs: middle-aged women. Many were uncomfortable working out along side muscular men, found the complex professional equipment to be intimidating, and viewed the price as high. This segment adopted home exercise because the traditional fitness clubs did not offer what they needed. Applying blue ocean strategy, one could address the needs of this segment by the four actions framework. In fact, one company, Curves, created a new alternative by reducing some features like complexity, price, workout time and the presence of male clients. Curves is targeted at women. By tailoring the equipment to the needs of women, providing female instructors and providing a place where women could exercise together at a reasonable price, it met the needs of this strategic cluster. The Curves experience is a 30-minute workout designed to meet the needs of women. Since its inception, Curves has enjoyed remarkable success and has over four million members. It owns the women's exercise market (Curves, 2010).

Path 3: focus on better serving the buyer group

Blue ocean strategy may be a new construct but some action paths have a long history. The classic example of IBM versus Burroughs illustrates the importance of redefining the industry buying group. In the 1950s when mainframe computers were gigantic in size and weak in capacity, Burroughs embarked on what it thought was a winning strategy. It involved the user, programmers, maintenance personnel, data entry clerks and anyone else who was involved in using computers. Many innovations for the time, like punch card machines and readers and magnetic tape, were solutions to user needs. Despite its focus on making computers easier to use and more effective, it lost market share to a rival. IBM focused on a different buyer group, i.e. the financial officer charged with buying a computer. By offering leasing instead of purchase, IBM avoided two problems:

1. the high acquisition cost; and
2. quick obsolescence.

By leasing, users saved money and were not tied to obsolescent technology. Finance officers flocked to IBM's offerings. So by redefining the buyer, IBM created an uncluttered market space that it dominated for years.

Path 4: across complementary offerings

Trombetta (2009) notes that few products and services are used in a vacuum; instead they gain or lose value in the context of other services and products. Just as diesel engine automobiles need service stations that sell diesel fuel to be useful, other products need complementary products or services to maximize their value. Product developers should think about the process consumers use to consume the product. Trombetta (2009) also offers the example of the Belgian cinema industry in the mid-1980s. The industry suffered diminishing demand for three decades as alternatives such as videos and DVDs, cable and satellite TV provided entertainment with higher convenience, choice and cost savings. The alternatives were so powerful that the interval between cinema release and DVD production shrunk progressively. The result was shrinking profit margins.

Typically, Belgian movie theatre operators waged a competitive war that cost money. One way to reduce empty theatre seats was to divide the space into smaller screens each showing a different movie. The multiplex concept, a theatre complex with more than three screens, seemed a way to economize. The unintended consequence was that differences between the small multiplex screen and the living room shrank. In facing this situation, Kinepolis Group, which resulted from the merger of two smaller theatre chains in 1997, analyzed the industry (Kim and Mauborgne, 1997; Wolthius, 1994).

One part of the analysis was the customer experience in going to the cinema. Parents had to find babysitters then drive to the city theatre location and find parking. The theatre itself was small, cramped and often had an inferior sound system. After the movie, parents had to drive home and had no time to enjoy the evening.

Kinepolis used the four actions framework to revamp their theatres. They eliminated city locations by moving to the suburbs. That raised parking ease. They also raised the level of comfortable seating and the cinema experience. They reduced advertising to save costs. Finally, they created babysitting services and after-movie meal options. The result was stunning success by reinventing the cinema experience.

Path 5: functional emotional orientation

Path 5 seeks improved price performance within the functional emotional orientation toward the product. Starbuck's Coffee serves as a relevant example. During a period of declining per capita consumption of coffee in the USA, Starbuck's challenged the price/quality tradeoff of brewed coffee (Ponte, 2002). Retail sales had decreased steadily as a result of increasing health consciousness. Specifically, US per capita consumption fell from 3.12 cups per day in 1962 to 1.63 in 1998 (US Department of Agriculture, 2002). Starbuck's answer was to introduce a measure of theatre into coffee consumption. It named its employees baristas, made the steps in the brewing process intricate and visible, and selected sophisticated names for its sizes like Grande and Venti. Customers became part of the experience, witnessing their specific order "constructed" just for them. As a result, the company eclipsed competitors by increasing the hedonic benefits of its beverages. It introduced special coffee blends, flavors, and recipes that transformed the ordinary dollar cup of coffee available almost instantly into a pleasurable experience that was worth waiting and paying for. Starbuck's differentiated itself and in the process created a mini-monopoly, free from competitors. Arguably, its sustained competitive advantage could be duplicated by others. However, it gained both space and time to compete.

Path 6: focus on adapting to external trends

Typically, product developers are highly sensitive to external trends. They monitor their customers, competitors and even sources of supply. Improvements in materials developed in other industries may affect the value proposition of existing products. Even in this one area, developers are faced with complicated choices. Incorporating an innovation in plastics into a consumer good may create a Rubik's cube-like succession of decisions and changes. Still, the changes may yield a better competitive position. The key question to ask is what the industry would look like if the trend reached its logical conclusion (Kim and Mauborgne, 2007).

One example of adapting to external trends is the popular music industry (Trombetta, 2009). Over time, consumers became upset that the music they bought in retail stores was of low value. Albums and CDs contained ten or more music cuts but only one or two songs were worth listening to.

Developments in home recording equipment allowed consumers to copy a piece of music instead of buying it, costing the industry money and creating the phrase "music piracy". The trend started in the 1960s and accelerated as recording devices grew even more sophisticated. Much of the sharing was face-to-face between friends. In 1999, Napster gave music piracy a quantum leap by enabling free peer-to-peer music file sharing over the internet. It was easy to use and tapped into consumer discontent. By 2001, it had 26 million users and represented a catastrophic challenge to the music industry.

The music industry responded by defending its traditional business model. It used legal methods to stop Napster and hoped to stamp out the trend. It refused to address the perceived value problem or provide new experiences for its customers. During this time, Apple Computer recognized that the industry's actions did not solve the problem and that the trend would not go away. Many consumers felt cheated and viewed music piracy as justified.

In 2001 Apple introduced the iPod, a device that made listening to music easy and could have been the device to foster even more piracy. Exploiting the trend, it developed a means to download music legally and inexpensively, i.e. the i-Tunes store. The i-Tunes store solved the low perceived value issue: consumers can download a single song, at a reasonable retail price, without being forced to pay for a whole album. As a result, in 2008, Apple became the number one music retailer in the USA, surpassing long time leader, Wal-Mart.

Applying blue ocean strategy to new product development

The first tool, the strategy canvas, would help with ordinary new product development since it focuses on product attributes, the competition, and consumer preferences. However, using the strategy canvas alone will not provide uncluttered market space. Firms that remain within their original industry boundaries may gain temporary competitive advantage from their insights. Inevitably, competitors will initiate changes and erase the advantage.

NPD teams seeking new product ideas may find it valuable to apply six paths analysis before they develop any ideas. By studying market conditions including consumer preferences and the actions of competitors, they may be able to select targets that will avoid competition. Thus, applying blue ocean concepts early in the process promises the potential of a lower product failure rate. The value of the approach is enhanced by the fact that the six paths cover all the possible options. They provide a palette of strategic choices that can be used in a variety of situations. Most important, they free teams from the destructive market share battles and cannibalistic line extension trap. To accomplish this change, companies must supply structures that encourage this approach along with resources and reward systems that free managers from the old industry focus. Used for product development, the six paths could lead to a distinct product assortment, aimed at different segments and industries, and transform functional products into emotional-experiential ones. The product portfolios might be unlike those in use today. It must be emphasized that traditional product development techniques still have their place in insuring a successful outcome. They, in combination with picking the right targets will offer a measure of value that should not be ignored.

Beyond the stage-gate process

Whether it is performed explicitly or implicitly, new product development rests on the foundation of the 5C's: customers, competitors, company skills, collaboration, and context. Product development teams consider these factors in choosing target audiences, protecting themselves against visible competitors, and capitalizing on their strengths. Including these factors makes the NPD process systematic and, as far as it goes, comprehensive. However, one focus missing from the process seems to be the goal of achieving uncrowded market space. Blue ocean strategy has shown its value in numerous industries. If the NPD process focused on satisfying customers in a way that avoided competitive challenges, the resulting products and services might have a higher probability of success. The success would be more persistent allowing the first movers to satisfy customers, build brand equity, and buttress their gains against competitive attacks that might come later.

Incorporating a blue ocean perspective into the new product development process would yield the possibility of increasing the success of product introduction and long-term success. It could be depicted by an enhanced model, which could be termed the strategic opportunity product development model. The model, depicted in Figure 5, involves an explicit market analysis activity before the discovery stage of the existing stage-gate model. The analysis would be more than market assessment, which really focuses on the numbers or needs of consumers. It would explicitly analyze competitors and their products. It would plumb the true voice of the customer to generate new product and service offerings that might transcend current competitors. Since, in total, the six paths encompass the range of actions that could lead to a blue ocean solution, they provide a comprehensive framework to guide action. Each of the pathways allows product developers to choose the appropriate combination of the four actions to create a product relatively free from competitors. To illustrate, the combination of four actions and six pathways is labeled the strategic opportunity product development matrix.

The extended model provides a measure of competitive avoidance. By navigating the competitive landscape using the foresight it provides, product developers can evaluate opportunities more strategically. Instead of aiming for the low hanging fruit defined by their current strengths and level of resources, marketers can assess new product opportunities with an extended view that focuses on robust strategic advantages. They can avoid otherwise promising product ideas whose benefits are too easy to duplicate.

The strategic opportunity product development matrix/four paths – six actions

The idea of adding a blue ocean related stage to the traditional product development model is easy enough to express. Mapping how it would operate takes a some explication. Marketers may find the simple device of combining the six paths along with the four actions into a matrix (see Figure 6) helpful in clarifying appropriate responses to particular competitive situations. One of the examples used above for Curves illustrates how to use the matrix. Curves' management approached the blue ocean decision in several stages. First, it found an underserved

Figure 5 The strategic opportunity new product development model

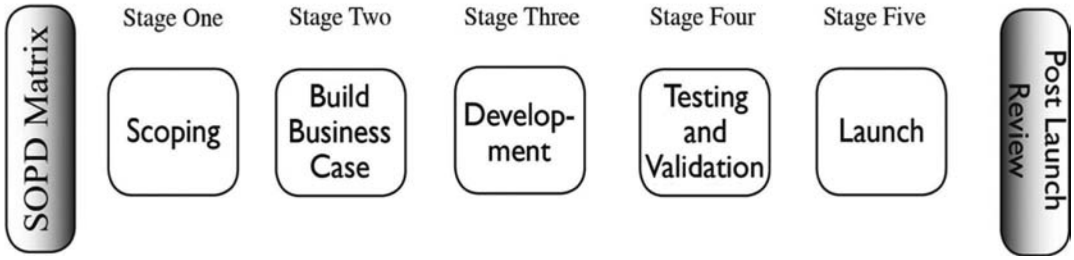
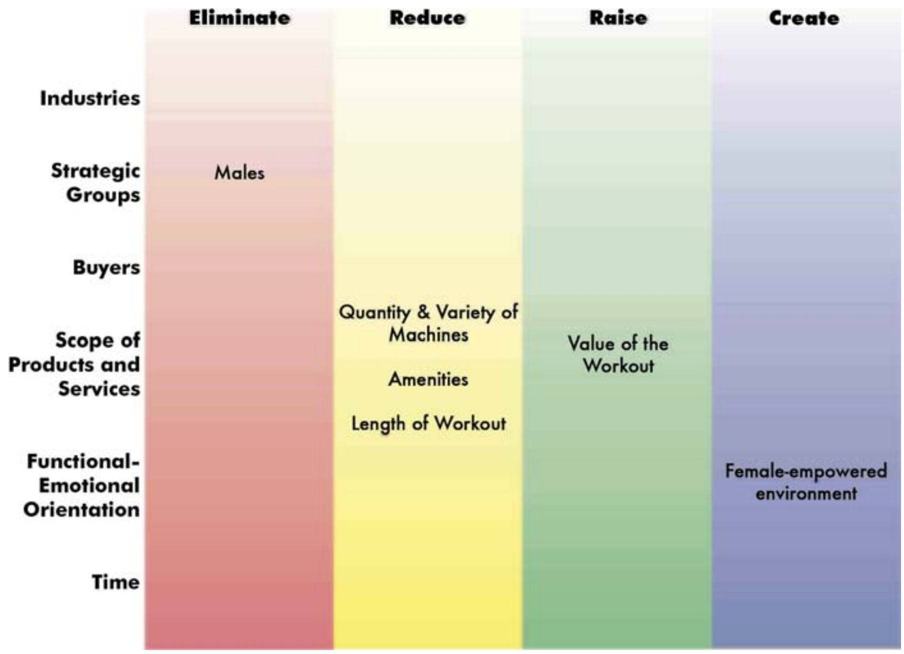


Figure 6 The strategic opportunity product development matrix



pocket of consumers, women, as it scanned the strategic groups within the industry. Second, a deeper investigation revealed the product and service elements that did not serve the target consumers. The third stage involved identifying exactly what elements needed to be eliminated, reduced, raised, or created. Finally, management needed to deliver the new product and market it.

It is noteworthy that the matrix does not have "boxes" in the form of the lines typical of spreadsheets. When marketers scan for and find blue ocean opportunities in one of the paths, the resulting four actions may have connections to different paths. When Curves found women who were underserved, and eliminated, or more properly excluded, males from the product, its actions focused within the strategic group path. However, reducing the quantity and variety of machines, amenities and the length of the workout, could be considered linked to the scope of products and services path. By doing so, it raised the value of the workout. Similarly, creating the female empowered environment seems linked to a positive emotional connection.

Thus, marketers have a tool that can help craft a product, service or product/service bundle that can help them avoid the consequences of competition.

Summary

The paper reviews existing literature and proposes a single modification to the new product development process. While some companies, including those cited above, use the enhanced model, the marketing literature reports little use among firms that generate new products and services. For those firms that have not adopted the blue ocean perspective, adopting one is not impossible. As shown by the examples that are in the literature, adopting a blue ocean perspective offers the possibility of avoiding the competitive morass seen in numerous industries. Competing in uncluttered market space offers the great advantage of being able to execute plans without having to react defensively to actions of others. Even if competitors' moves do not block a company's actions completely, they may create obstacles that sap resources and impede success.

Implications for product developers

Finding competitive market space provides a measure of sustainable competitive advantage because it provides an arena for companies to implement their new product development strategies unhindered by the actions of competitors. Instead of diversions caused by reacting to competitive measures, companies can implement their product strategies as intended with a higher potential for success.

In addition, competitive market space offers opportunities for first mover advantages. As developers move into uncluttered market space they can gain their customers' focused attention. This provides a chance to build brand equity in a near competitive vacuum. If firms are visionary enough to find a blue ocean, they may be imaginative enough to maintain their momentum even after emulation by competitors.

In any treatment of a new approach, there may be caveats. One unknown area is the level of sustainability of a blue ocean strategy. The literature is silent on the issue. First movers often operate with little distraction. However, eventually as more developers adopt the strategic opportunity new product development approach, the opportunities to find free competitive market space will diminish. Thus, it is important to adopt the approach early, maximize market position within the blue ocean enclave, and build defenses against competitive attacks. In reality, firms with blue ocean solutions need to be on guard continuously. Even Curves, which has enjoyed remarkable success, has slid a bit recently (Gibson, 2010; Leven, 2010).

One logical implication of applying blue ocean concepts early in the product development cycle to gain immediate advantages is to take a portfolio approach. Once an organization learns to implement steps toward uncluttered market space, it can focus on new products. If older successful products see their protective screen free of competitors crumble over time, the continuous addition of well-positioned products will allow the firm to thrive at the expense of competitors.

Another caveat is the power of emulation. The literature details some of the problems of first movers, namely their potential vulnerability to latecomers who identify flaws in execution and correct them. Finding blue ocean space is no substitute for professional implementation and execution. It may buy time and may allow accumulating resources to design and implement market defense strategies.

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Executive summary and implications for managers and executives

This summary has been provided to allow managers and executives a rapid appreciation of the content of the article. Those with a particular interest in the topic covered may then read the article in toto *to take advantage of the more comprehensive description of the research undertaken and its results to get the full benefit of the material present.*

The development of new products has long been recognized as vital to business growth. Awareness of its significance has driven efforts to enhance the process but further improvements are still necessary. Failure rates of new products remain alarmingly high and in some industries may even be increasing due to intense competition.

Companies are naturally striving to combat the risks with attempts to leverage brand equity being a popular strategy. Extending the brand in the same product category or different ones is a well-trodden path. The rationale is that consumers will have positive expectations about an extension based on their existing knowledge about the brand. However, some caution exists as firms worry that substandard extensions will tarnish the parent brand's reputation. For this reason, line extension is often preferred to extending into new categories.

Critics do not necessarily agree because markets can become swamped with line extensions. While these extensions might provide the variety that some consumers seek, the counter argument is that they can often be easy to copy. Furthermore, companies risk dilution of brand equity if extensions are churned out in abundance. Add to this the danger that a concentration on brand extensions might mean ignoring the unmet needs of consumers who seek something different altogether.

Certain organizations strive to improve the development process itself. Ensuring initiatives are based on accurate information is one aspect, while market segmentation and product differentiation are other focal areas. Scholars also point to Pepsi as an organization where new product development (NPD) has become more stringent. Among the techniques deployed is the "stage gate process" used at Pepsi. The process essentially involves evaluation at different points along the journey from idea discovery through prototyping to the finished product. Pepsi now boasts fewer new product failures because ongoing assessment means that problem projects are more likely to be identified before reaching the launch stage.

Another aspect of improving NPD is the creation of "marketing dashboards" to assess what are perceived as key operational measures. Leaders can customize dashboards to their firm's needs and are able to monitor the impact of decisions made. Use of dashboards also helps increase awareness of consumer trends and the competitive environment. Even though these metrics do prevent costly mistakes, their prevalence among industry rivals makes it difficult to gain any significant advantage.

Successfully introducing new products demands finding space in what's likely to be an overcrowded marketplace. External factors also determine the likelihood of success and their impact varies by industry. Supply exceeds demand in many markets and often only strong brands will prevail. The less intense playing field for industrial marketers does mean more scope to segment and differentiate.

Pitta and Pitta believe that overcoming crowding is imperative and propose strategies which identify "value innovation". Breakthrough research advocates "blue ocean strategy" as a means of finding a different space in which to operate. This approach incorporates three elements:

1. value reconstruction through the development of new products and services;
2. crossing recognized industry boundaries to identify new opportunities; and
3. creating new demand from "non-customers" or finding "new revenue streams or sources".

Providing value that rivals cannot duplicate will hopefully be the outcome of a strategy that alters how firms connect with their customers and industry.

Graphic representation via a "strategy canvas" is recommended to show:

- industry factors;
- how rivals perform on these factors compared to industry norms; and
- strategic profiles of competitors.

This approach was used successfully by California-based fashion retailer Clothing Vault (CV). The company identified non-customers in the shape of "fashion-conscious girls with limited budgets" who typically borrowed clothes from friends. The new idea of "clothing sharing" emerged from this knowledge, which allowed the company to:

- measure performance against competitors on several factors;
- identify attributes most important to potential customers;
- recognize the importance of social networks as communication media and;
- ascertain which elements of convenience appeal most.

Considerable saving on advertising and other outlays and the creation of a store layout has enable CV to better serve its target audience.

With regard to the factors, analysis reveals what action is best taken. Firms can eliminate, reduce or raise factors or create new ones. Proponents recommend applying this "four actions framework" to each of six paths that can help create new market spaces. The paths focus on:

1. Rivals within industries. The CV example follows this path.
2. Competitive position within strategic groups. Identifying underserved segments is the key here. The fitness industry's neglect of middle aged women provides perfect illustration. Curves is among companies to successfully exploit this void by tailoring exercise to women's need focusing on such as equipment, workout time and cost within a female-only environment.
3. Better serving the buying group. IBM adopted this path a few decades ago when offering business clients the chance to lease rather than purchase its computers. By helping users save money and avoid being tied to 'obsolescent technology', the organization dominated this newly created market space for years.
4. Across complimentary offerings. This is based on the realization that products function alongside other products or services. The example cited is the advent of multiplex cinemas in response to DVDs and home viewing. Belgian firm Kinepolis Group revamped the movie-going experience by identifying and addressing concerns. Moving to the suburbs, making parking easier, advertising less and introducing crèche services and dining options accordingly reflect the eliminate, raise, reduce and create dimensions of the four actions framework.
5. Functional emotional orientation. Starbuck's Coffee is a prime example here. Growing health consciousness negatively impacted on coffee consumption so the company transformed the humble beverage into a 'pleasurable experience' that is to some degree personalized. It differentiated its products by creating various blends and flavors that are exotically named.
6. Adapting to external trends. This path was followed by Apple in response to the music industry's problem of illegal downloading. Disillusioned consumers engaged in this activity because of the high cost of albums. By enabling people to download individual tracks of their choice, i-Tunes provided an inexpensive solution.

The authors recommend applying six paths analysis before developing any ideas. Failure becomes less likely because it enables all possible strategic options to be explored. Viable targets free from competition can be identified. Organizations must, however, provide the necessary resources and incentives. Those that do can serve different segments and industries with a portfolio of products which can be emotional and experiential and well as functional.

Using the blue ocean strategy together with appropriate blends of the four actions can help achieve first mover status and its associated rewards. Effectively operating in a "competitive vacuum" can strengthen brand equity, making the brand more able to defend its position when copycat products emerge. Nevertheless, the prospect remains that followers might capitalize by identifying and correcting any flaws that first movers failed to consider.

How sustainable a blue ocean strategy can prove is not yet clear. But Pitta and Pitta do warn against complacency and urge companies to remain alert. One suggestion is a "portfolio approach" whereby each successful step in identifying an "uncluttered market space" triggers attempts to find others so that "well positioned" products can be added regularly.

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