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The Process of Capturing Innovation

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Abstract

Due to the sheer number of market analysis tools available, no standard strategic planning methodology has been consistently adopted. Businesses can quickly lose focus and become guilty of instilling 'form-over-substance' as they implement tools they don't completely understand, or which they execute without understanding the relevance of the steps they are taking, nor where these steps fall within the overall strategic planning process. This paper addresses these shortcomings by defining an overarching process framework for leveraging innovative tools and techniques to develop strategies that result in competitive advantage. A highlight of the paper is a series of work flow diagrams that have been gradually decomposed into increasing levels of detail. They describe in complex terms a strategic planning process asserted to capture innovation. The result is a framework of detailed processes that businesses can use to capture innovative market strategies. Within this framework some key market analysis tools have been integrated to promote effective decision making. Altman's Z-scores, Pareto's rule, Trend analysis, SWOT analysis, environmental analysis, Ansoff's matrix, PUV charts, customer value matrices, Gaussian life cycle curves, inflection analysis graphs, and several forms of slope analysis curves are relied on to estimate future market conditions. Sixteen figures have been incorporated into this paper to demonstrate how to use the recommended market analysis tools. The functions indicated in the work flow diagrams can be treated as a knowledge map used to store the information required for an organization's innovation strategies. Organizing the information behind these strategies allows us to capture the innovation built into them.

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Introduction

Given the abundance of research on the topic, it is clear businesses are deeply committed to reinventing their 'innovative selves.' By instilling more innovation into their operations, these businesses hope to create the ability to learn organizationally, rapidly, and systematically, to create the next set of innovative products and services ahead of their competitors. There are many, in fact too many, tools that researchers have developed to help businesses develop institutional views of emerging markets so they can define strategies that will give them competitive advantage. Due to the sheer number of these tools, however, no standard methodology has emerged. Businesses can quickly lose focus and become guilty of instilling 'form-over-substance' as they implement tools they don't completely understand, or which they execute without understanding the relevance of the steps taken, nor where the steps fall within the overall strategic planning process. This paper addresses these shortcomings by defining an overarching process for leveraging innovative tools and techniques to develop strategies that result in competitive advantage.

We begin with the top-level view of the process as indicated in Figure 1. The process in the figure can be thought of as a knowledge map for innovative processes. While this paper identifies a large number of the tools researchers have defined to create innovative strategy, it does not attempt to address them all. Rather, it solicits some key processes and organizes them into a multi-level knowledge map depicted in the figure that is further decomposed below. Businesses tied to particular tools can incorporate such tools into the appropriate location of the knowledge map, and tailor these findings to suit their specific needs. Each box in Figure 1 is decomposed and becomes the subject of another entire figure in the sections below.

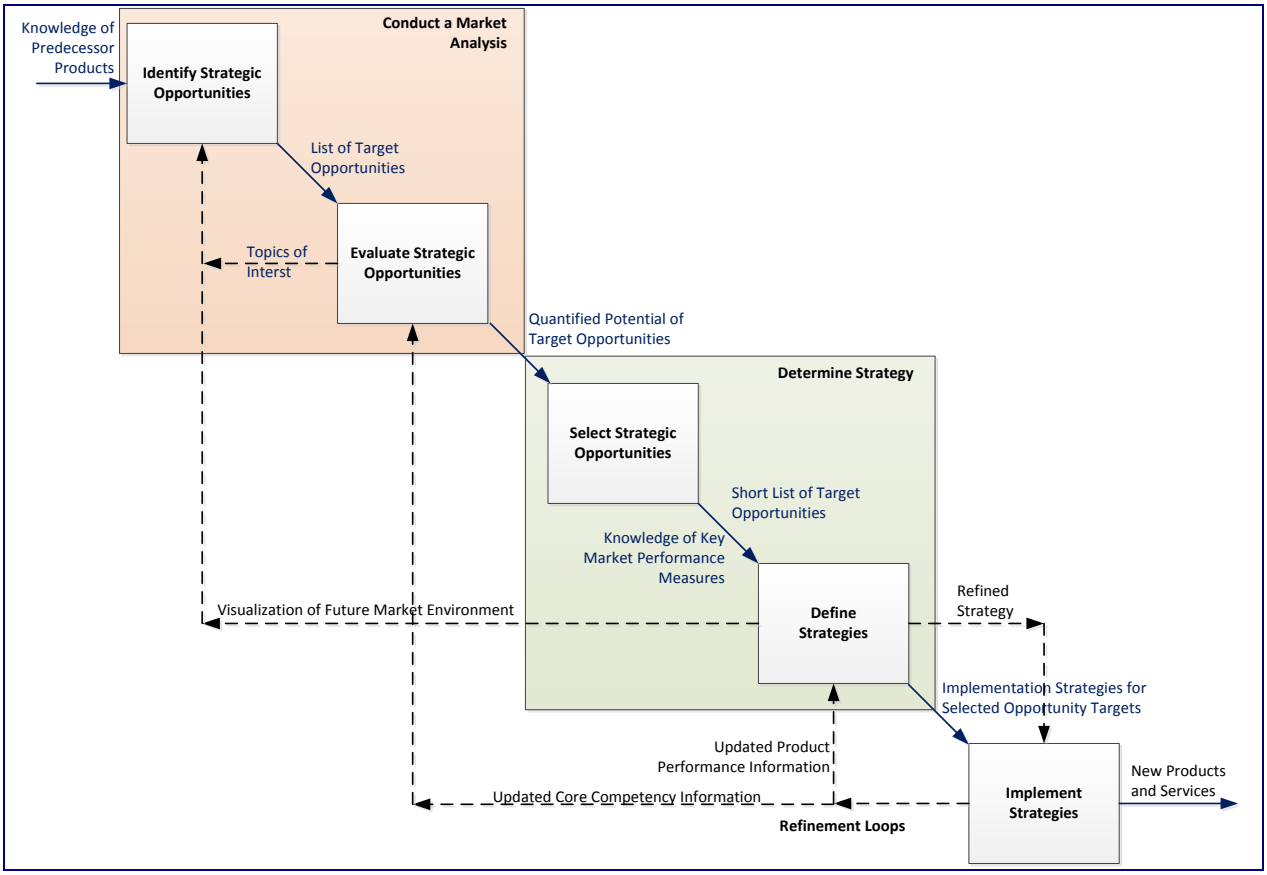

Figure 1. The process of capturing innovation. The picture defines the activities and data flows required to create and capture innovative strategies. Each box in the figure is decomposed below and is the subject of a dedicated, more detailed, flow diagram.

From the very highest of process views, we note that businesses need to conduct a market analysis, determine strategy, and implement these strategies. While this revelation may not warrant awarding a Noble prize, it is a good starting point from a knowledge management perspective. At the next level, still depicted in Figure 1, we note that businesses need to identify, evaluate, and select strategic opportunities, then define the specific strategies that leverage their current market positions. Implementing the defined strategies will result in new products or services that will posture these businesses for competitive advantage in future market environments. The refinement loop indicated in the figure allows for each defined strategy to be

updated as market conditions change. The remaining sections of this paper are dedicated to describing each of the boxes in Figure 1 in more detail.

Identifying Strategic Opportunities

In this section we seek to create an institutional view of emerging markets so strategic opportunities can be identified. The *Identify Strategic Opportunity* process is defined in Figure 2.

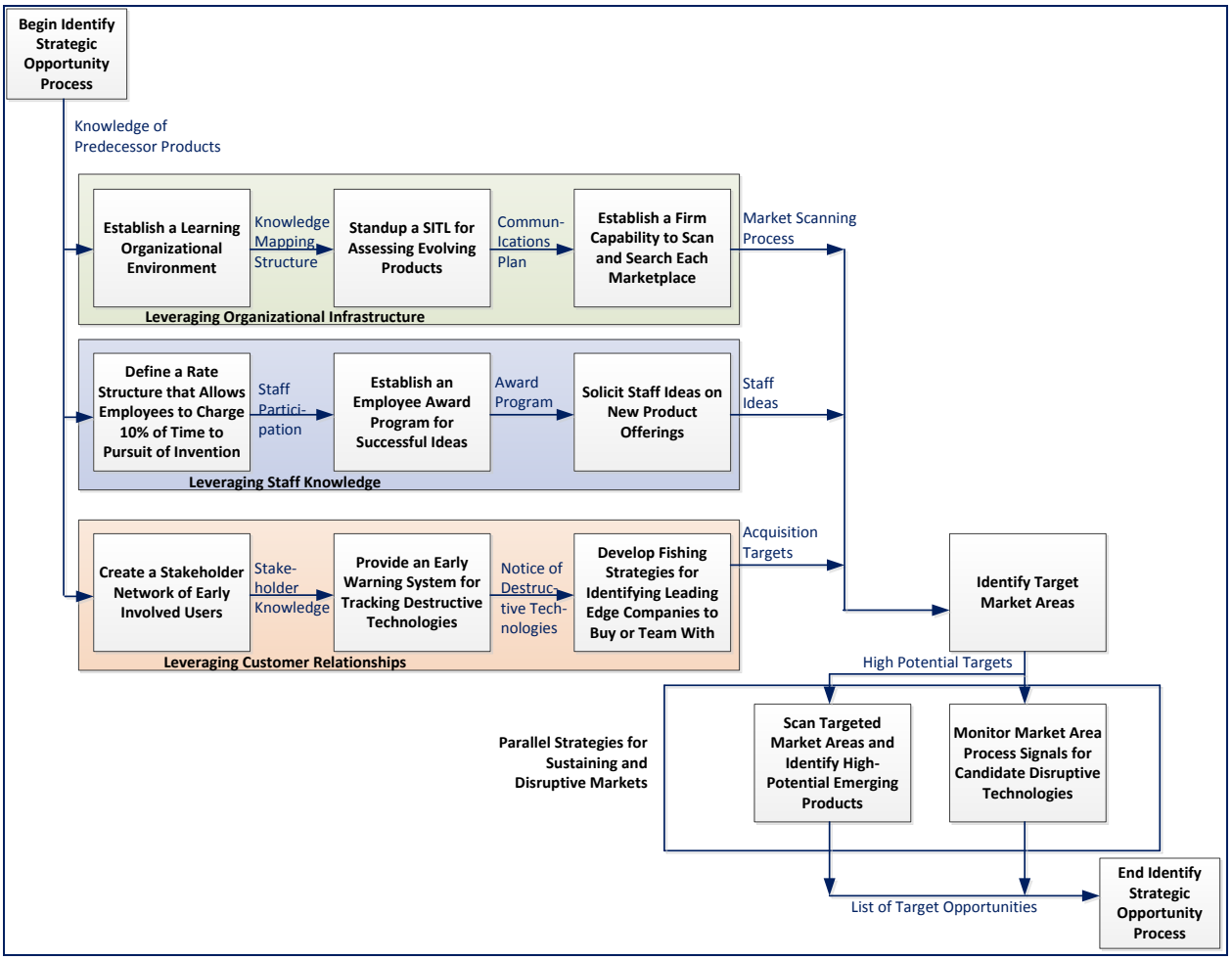

Figure 2. The process of identifying strategic opportunities. The figure defines the activities to conduct for leveraging organizational infrastructure, staff knowledge, and customer relationships to identify strategic opportunities.

Strategy is said to be the conduct of a chain of operational activities geared toward obtaining a different position in the market place (Porter, 1985). Establishing a learning organization with a modern structure and horizontal communications will ensure collaboration between staff

members as strategies are defined. Given that many innovative projects today involve the application of technology, capturing innovation in our strategic planning process may require standing up a Systems Integration and Test Lab (SITL). A SITL would establish a lab environment where the latest technologies and products could be tested and evaluated. This investigative environment would encourage scanning, acquiring, assembling, integrating, and testing any potential innovation products picked up from monitoring market area process signals. The following steps can be taken to monitor the market place and identify competitive strategies that may be worth implementing upon further evaluation:

- Establishing a firm capability to scan and search the market environment to intercept process signals regarding the potential emergence of disruptive technologies
- Developing fishing strategies for identifying smaller, smart, leading edge companies to buy or team with
- Creating a stakeholder network of early involved active users in evolving markets that provide an early warning system for tracking disruptive market influences
- Choosing which innovation initiatives rate commitment of resources
- Selecting the opportunity targets that have the best probability of developing a competitive market position
- Consider taking the drastic step of spinning off subsidiaries in an attempt to create a new market entrant and encourage entrepreneurial alertness
- Decentralizing seed funding for new ideas so discontinuous innovation initiatives can also be funded. (Bessant, 2005, p. 195).

The goal is to get implemented strategies into the market place early enough to pick up weak market signals, and deeply enough to shape what emerges in the marketplace.

Pareto's Rule

To help identify which opportunities to invest resources on, we can seek help from Pareto's Rule. As applied to business operations, Pareto's Rule asserts that 20 percent of a business's effort generates 80 percent of its results (Hafner, 2001). In any given population or data set which is related by a common effect, a relatively few members of the population account for the bulk of the effects (Nugent, 2003). Understanding this phenomenon is essential so companies can identify their key business drivers and focus mitigating responses on them (Nugent, 2003). To increase profits, for example, Pareto's rule predicts that 20 percent of a business's customers generate 80 percent of its profits. Focusing operating strategies on the vital few (top 20 %) will optimize the return on operating investments (Nugent, 2003). To reduce costs, a business can identify the key cost drivers (top 20%) that are responsible for most (top 80%) of the required resources (Hafner, 2001). If the items responsible for the most costs are not top profit generators, then shifting services and resources away from these items will have optimal effect. Similarly, businesses engage in market segmentation by identifying groups with shared characteristics, and then aggregating these groups into larger market segments. If these segments are rank ordered by profit, then investments to the most profitable markets can be increased to improve overall profitability (Hafner, 2001). As just indicated, Pareto's rule can help identify which strategies will offer the best opportunity to optimize a company's return on investments.

Ansoff's Matrix

To portray alternative corporate growth strategies, Ansoff (1957) presented a matrix that focused on a company's present and potential products, and their present and potential market areas, as delineated by the customers they target. By considering ways to grow via existing

products and new products, and in existing markets and new markets, there are four possible product-market combinations, or growth strategies. Figure 3 depicts the Ansoff's Matrix.

	Existing Products	New Products
Existing Markets	**Market Penetration**	**Product Development**
New Markets	**Market Development**	**Diversification**

Figure 3. Ansoff's Matrix. The figure shows that four possible growth strategies evolve from the opportunity to develop new products and expand into new markets.

The four growth strategies recognized in Ansoff's matrix include:

1. Market Penetration – where a business seeks to achieve growth with existing products in their current market segments, aiming to increase its market share.
2. Market Development – where a business seeks growth by expanding its existing products to target new market segments.
3. Product Development – where a business develops new products targeted for its existing market segments.
4. Diversification – where a business grows by diversifying into new businesses by developing new products for new markets. This approach results in the highest risk levels.

Applying Ansoff's Matrix to expand products into new or existing markets will help businesses categorize the type of growth strategy they are employing, so they can assess their risks by

noting the typical risks associated with that growth strategy. When businesses take an existing product into a new market, for example, they are attempting a *market development* growth strategy. Market development options include the pursuit of additional market segments as defined by customer groupings, or expanding into new geographical regions. According to an Ansoff analysis, the development of new markets for products will be a good strategy if the core competencies are related more to the specific product, than to experience within a specific market segment. Applying Ansoff's analysis approach enable businesses to assess the type of growth strategy they are going to employ, and investigate the corresponding risks that are inherent in that type of growth strategy.

Evaluating Strategic Opportunities

Continuing the elaboration of a process defining how to gain and sustain competitive advantage, we describe how to evaluate strategic opportunities in the market place. Figure 4 depicts the *Evaluate Strategic Opportunity* process. Subsections below address the tools indicated in the figure, and how to use the tools to create the *Schumpter Creative Destruction* phenomenon.

Tools for Evaluating Competitive Advantage

The Life Cycle Model, Inflection Point Analysis, the Unit Price/Unit Cost, and State, Gap and Trend Analysis models are all interrelated methodologies that involve conducting trending analyses to gain insight into future market conditions so demand for product lines can be estimated. The Gaussian Life Cycle Analysis curve recognizes that as industries grow and contract, the businesses in these industries will experience changes in their relationships and leverage points with suppliers, customers, competitors, employees, and sponsors (Nugent, 2003). As such, the Life Cycle Analysis allows the strength of the market to be forecasted over time so businesses can plan how to leverage future market environments.

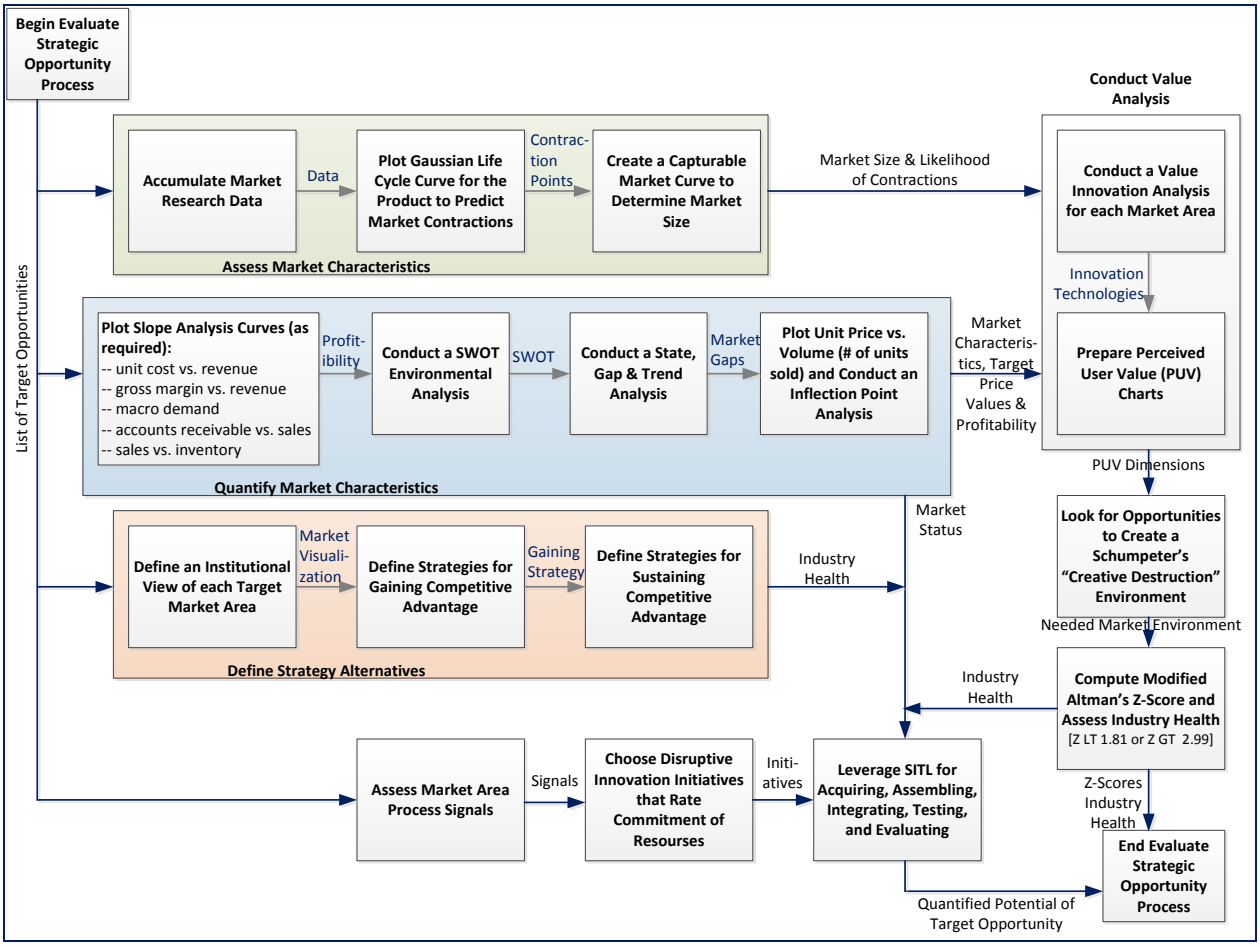

Figure 4. The process of evaluating strategic opportunities. The figure defines the activities for assessing and qualifying market opportunities, and defining a set of strategic alternatives. Slope analysis curves, SWOT environmental analyses, and market gap and inflection point analyses are used to develop a complete sense of the target market areas so each can be visualized as specific strategies are evaluated.

An inflection point analysis is conducted by graphing the relationship between the unit price that goods are sold for, and the sales volume (e.g., the number of units sold) that results. When conducting an inflection point analysis the number of units sold will start to slowly increase as the unit costs are reduced, that is until a point is reached where the number of units sold increases significantly as the price of goods are further reduced. That point is the inflection point. Commencing at the inflection point the forecasted unit sales volume grows more rapidly

in proportion to price decreases (Nugent, 2003). The benefit of this analysis is it allows businesses to assess whether and when it makes sense to cut a product's sales price.

A slope analysis involves graphing trends of key variables over time based on actual data, and then extrapolating the slopes into future periods so economic conditions can be forecasted. The Unit Price / Unit Cost form of the slope analysis curve calls for plotting actual unit price (e.g., revenues) and unit cost data for several reporting periods and then extrapolating each slope out into the future (Nugent, 2003). In cases where the revenue curve is degrading faster than the cost curve, there will be a point in the future where the extrapolated curves intersect. This intersection defines the point in time where costs begin to exceed revenues. This type of trending analysis can provide early warnings that either the business model needs to be changed, or the company should exit the market (Nugent, 2003).

In a State, Gap, and Trend Analysis (SG&TA) a business conceptually defines where it is in the competitive market place today, and then projects out to where the market will be in the future. Armed with this knowledge the business can plan a path forward from the current environment to the forecasted one as defined in the SG&TA (Nugent, 2003).

Strengths, Weaknesses, Opportunities and Threats (SWOT) Analysis

The SWOT analysis technique is one of the most commonly used strategic planning techniques in business today. By analyzing the proposed migration of products into other market areas, a business can identify the strengths, weaknesses, opportunities and threats of the action in three key strategic environments: (1) the internal environment; (2) the industry environment pertaining to the product; and (3) the macro (enterprise) environment. Analyzing the internal environment will make businesses aware of the strengths and weaknesses of their products relative to competitors. Applying the "can we do it better than our competitor?" test helps define

an understanding of the major issues identified with respect to extending said products into new market spaces. Knowing areas where a business's products are stronger than their competitors facilitates planning to leverage those strengths. On the other hand, knowing where their weaknesses are allows a business to plan mitigation approaches. Similarly, analyzing external environmental factors allows them to identify opportunities and threats due to external factors outside their control. Knowing the opportunities associated with expanding such products into other markets facilitates development of strategies to leverage favorable environmental factors and, finally, knowing the corresponding threats allow the business to identify and assess risks, and to apply risk mitigation procedures to manage the impacts of negative external environmental factors.

Environmental Analysis

Conducting an environmental analysis will identify possible opportunities and threats in a product's industry which, as a whole, are outside the control of the supplying company. The analysis assesses the external environment which may influence how a business operates, and will benefit it by bringing to light the following important trends:

- Economic Trends. An economic analysis identifies trends affecting the industry, such as changes in personal disposable income, interest rates, inflation, and unemployment rates.
- Political Trends. A political analysis identifies changes in the position politicians take on issues that can affect an industry. There is currently, for example, a shift towards greener policies in the developed world.
- Technological Trends. A technological analysis identifies changes in the application of technology that can affect an industry. A current example is a shift towards online

commercial transactions.

- Legal Trends. A legal analysis is closely linked to the political environment since politicians are the ones that make the laws, but also includes trends in court decisions, such as liability compensation.
- Social/Cultural Trends. A cultural analysis identifies trends in society's beliefs, behaviors, values and norms.
- Demographic Trends. A demographic analysis identifies trends in population growth at relevant ages for an industry, and the population location.

By completing an environmental analyses a business can determine factors, such as the ones indicated above, that will affect the growth of the industry as a whole, and the factors that are likely to have an impact on the growth prospects of products in that industry.

Using Market Analysis Tools for Problem Avoidance

When defining implementation strategies it is important to collect and assess any indicators from market analysis tools that predict poor market conditions, so such market environments can be avoided if possible. The following actions are recommended:

- Plot the Gaussian Life Cycle Curve to avoid consolidating markets. As indicated in Figure 5, the Gaussian Life Cycle curve predicts a market consolidation to occur at 5 percent (the market infant mortality condition), at 45 percent (the mid-life consolidation), and 90 percent (the old age condition), of its expected market capitalization (Nugent, 2003). If, early in a product's life cycle, a slight consolidation is noticed, then we can assume that the market capitalization at that time represents 5 percent of the total market, and we can compute the total market capitalization value anticipated for that market. By tracking the total market capitalization over time, we

can now estimate when the 45 and 90 percent consolidations are going to occur, and take the appropriate steps to mitigate exposure to these conditions.

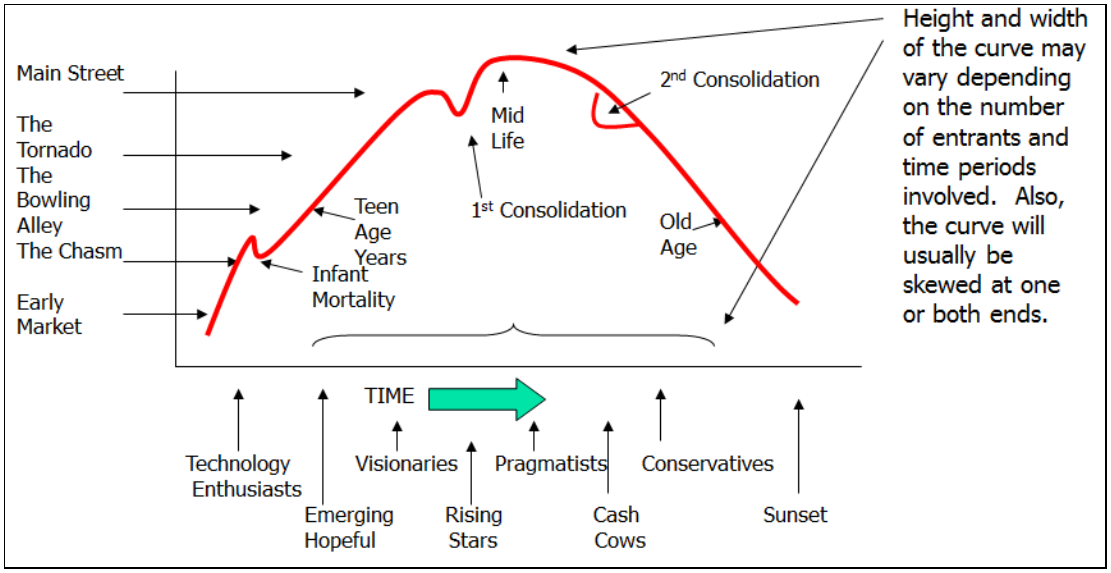

Figure 5. Sample Gaussian product life cycle curve. The figure depicts how a product evolves over time, and highlights typical market consolidation points that occur at 5 percent (infant mortality point), 45 percent (mid-life point), and 90 percent (old age) of total market capitalization. Anticipating where market consolidation points will occur allows managers to plan the appropriate mitigation actions. Taken in its entirety from Nugent (2003). Copyright 2012 Hillard Consulting Group.

Thus, when industry scanning indicates a market consolidation is taking place, the Gaussian curve can be plotted to roughly determine the market size, and then assess whether a large number of competitor suppliers are chasing a highly concentrated buyers' market (Nugent, 2003).

- Plot a revenues (unit price) verse unit cost form of the slope analysis curve to avoid unprofitable production runs. A revenue (unit price) verse unit cost graph can indicate whether gross revenue is degrading faster than corresponding unit costs over time. The graph, as indicated in Figure 6, indicates (through extrapolation) that at some point revenues will not provide the margins required to cover costs.

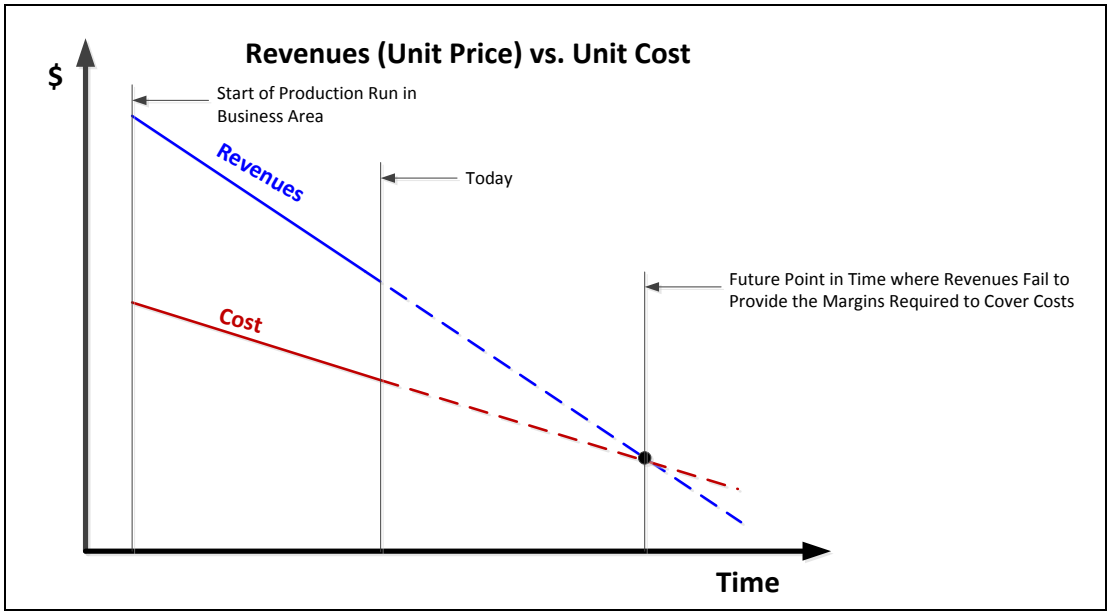

Figure 6. Revenues (unit price) verse unit cost form of the slope analysis curve. The figure shows how a plot of the revenues verse cost slope analysis curve can be extrapolated into the future to identify a point of intersection defining the point in time where revenues fail to provide the margins to cover costs. The company should either exit such a market or implement a mitigation strategy prior to this time frame. Based on Nugent (2003).

- Plot a converging / diverging gross margin verse revenue form of the slope analysis curve to avoid decreasing sales profitability. This form of the slope analysis curve, as indicated in Figure 7, can indicate when gross margin, as a percentage of net revenue, diverges from the net revenues curve. This condition is a warning sign that the profitability of sales is decreasing. Convergence of the gross margin curve in the figure to net revenue indicates that sales revenues are increasing faster than costs (a good condition). Divergence means costs are increasing faster than sales (a bad condition).

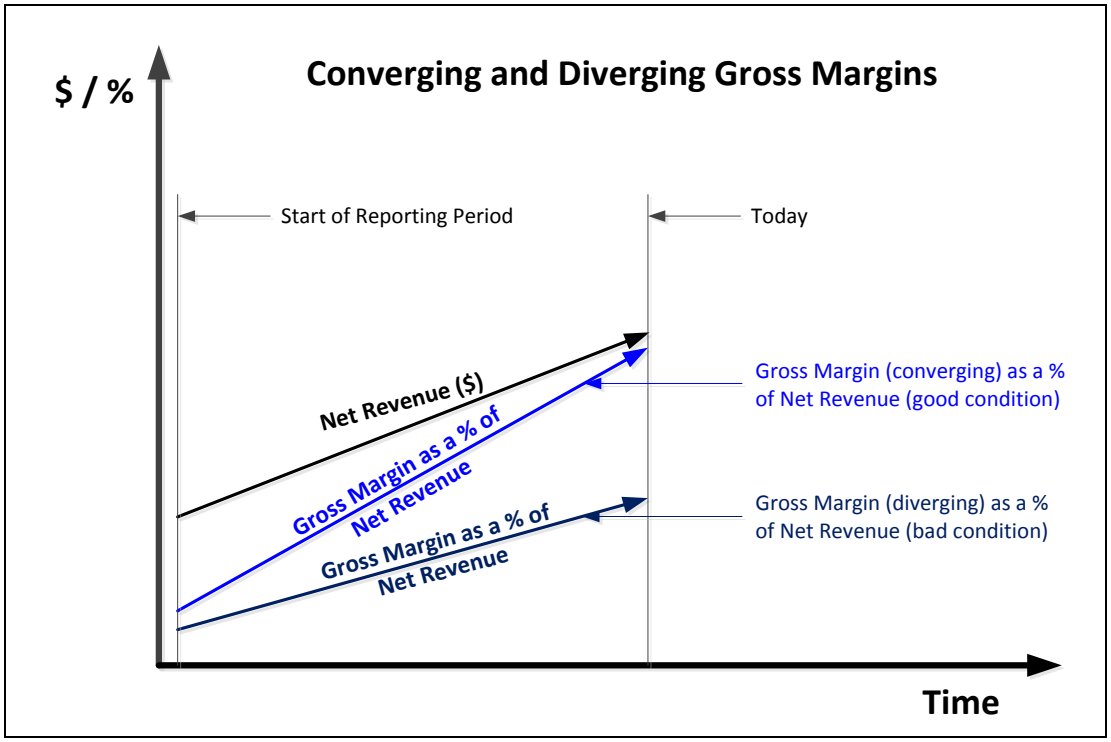

Figure 7. Converging and diverging gross margins version of the slope analysis curve. The figure depicts the use of a plot of net revenues verse gross margin in a slope analysis to identify a divergence (bad condition) of the gross margin (as a percentage of net revenues). Divergence in this instance indicates decreasing profitability and should warn the supplier to implement a migration plan. Based on Nugent (2003).

- Plot the accounts receivable verse sales form of the slope analysis curve to avoid overvalued revenue conditions. Conditions where accounts receivable or inventory are rising faster than sales, as depicted in Figure 8, indicates a converging accounts receivable condition. In this situation the company is less successful over time at collecting its receivables relative to sales, which could indicate management is misrepresenting (overstating) revenues that are not collectible (i.e., of Enron notoriety) (Nugent, 2003).

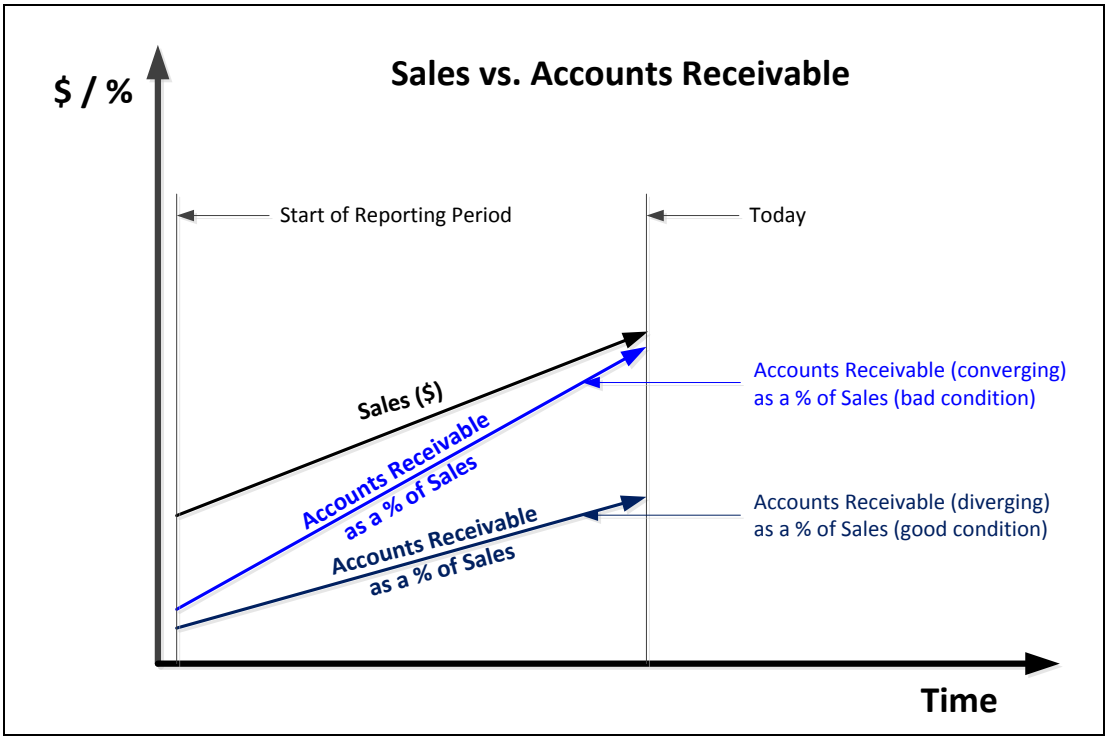

Figure 8. Sales verse accounts receivable form of the slope analysis curve. The figure identifies the condition where sales and accounts receivables are converging, indicating management is overstating revenues that are not collectible. Based on Nugent (2003).

- Plot the sales verse inventory form of the slope analysis curve to avoid obsolete inventory conditions. Figure 9 includes a plot of the sales verse inventory curves. If there is a converging relationship between sales and inventory, then inventory is becoming obsolete and less valuable, and management should take action to dump the inventory while it still has some value (Nugent, 2003).
- Plot an inflection point curve to avoid unprofitable markets. Conducting an inflection point analysis can be accomplished by plotting the unit price of a product against the anticipated sales volume (number of units sold) that would result. The volume of sales typically increases as the unit price of products decreases.

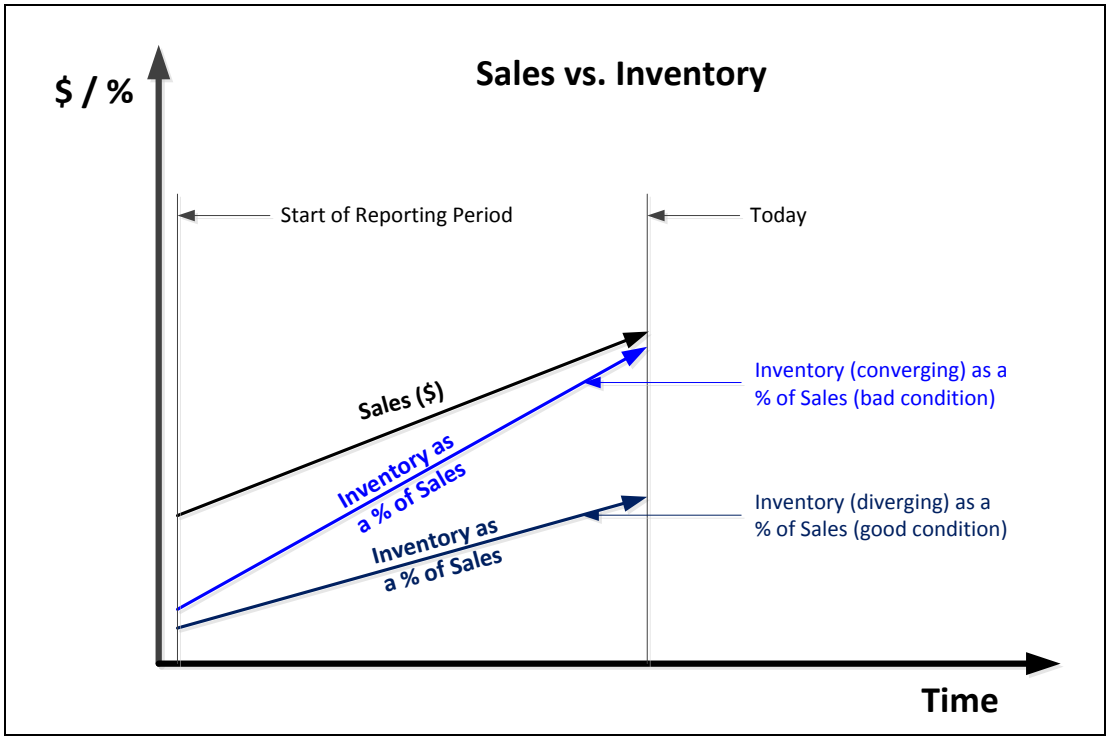

Figure 9. Sales verse inventory form of the slope analysis curve. The figure depicts how a plot of the sales and inventory (as a percent of sales) can be used to identify the condition when inventory (as a percent of sales) increases and converges to sales, indicating inventory is becoming obsolete and less valuable. Armed with this information, a company should take immediate action to offload the inventory. Based on Nugent (2003).

As indicated in Figure 10, the sales volume increases slightly with decreasing price levels until a bend of the curve is realized, at which point the sales volume increases at a faster rate. At the inflection, point further decreases in unit costs result in the sales volume increasing at a much faster rate. The price value of the inflection point can give some insight into how profitable the market area for the product will be.

Using Modified Altman's Z-Scores to Assess Corporate Health

Altman (1983) used empirical data and regression analysis to develop an algorithm, expressed as a function comprised of a series of fractions with predetermined weights assigned to them, which can predict when poor performing companies are heading for bankruptcy.

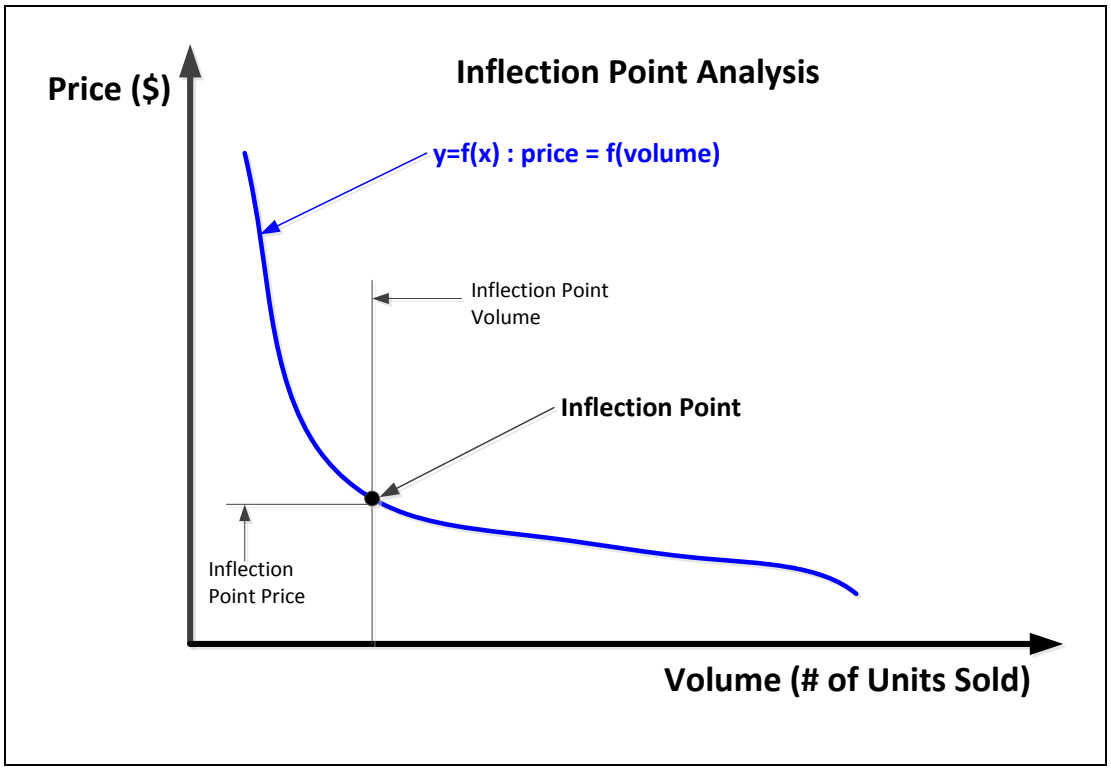

Figure 10. Inflection point analysis. The figure depicts a plot of price values as a function of volume. As the unit price of the product decreases, the sales volume increases slightly until a bend in the curve, at which point the sales volume increases significantly with decreasing prices. The point is defined as the inflection point and gives insight to how profitable the market place will be. Base on Nugent (2003).

The function is used to compute Z-scores to track corporate performance, and then comparing these Z-score values to industry norms. Altman's algorithm has been found to have a 95 percent correlation factor in predicting companies that would file for bankruptcy twelve months prior to the filing, 72 percent for predicting companies 24 months before filing, and 48 percent for predicting companies 36 months before filing.

Altman's algorithm was originally developed for mid-sized manufacturing companies and works exceedingly well for capital intensive, infrastructure-laden enterprises (Nugent, 2003). A modified version of the equation has been defined to put more emphasis on debt as gross margin declines. This modified version can be used to identify the condition where debt becomes more burdensome as companies become less operationally efficient, which increases

the relative risk of bankruptcy to the company (Nugent, 2003). A company's Modified Z-score can be computed by using the following equation:

$$\boldsymbol{Z = 1.2X1 + 1.4X2 + 3.3X3 + 0.6X4 + 1.0X5;\ \text{(Eq. \#1)}}$$

where: Z = Overall Index of Corporate Health

and:
- *X1* = Working Capital / Total Assets
- *X2* = Retained Earnings / Total Assets
- *X3* = Earnings Before Interest, Taxes (EBIT) / Total Assets
- *X4* = Market Value of Equity / Book Value of Total Debt
- *X5* = Net Sales / Total Assets

Altman (1983) reports that financially strong small to mid-sized manufacturing companies have a Z-score above 2.99, and companies in serious trouble have Z-scores of 1.81 or below. A company with a score in between these values could go either way.

Nugent (2003) recommends using the Modified Altman function as a means for identifying inflection points and, as such, highlight changes in a business's performance. Since we are using Altman's Z-scores for a different purpose related to identifying inflection points, and not necessarily to predict bankruptcy, the degree of change in Z-scores tracked over time is the important characteristic for our use (Nugent, 2003). Thus, a market analysis might include computing yearly or quarterly Z-scores for the target company and plotting them on a graph with time as the x-axis. Any negative trends that appear abruptly over time would naturally indicate the company is in trouble.

Selecting Strategic Opportunities

In this section candidate strategic opportunities are selected that will be aligned with execution plans in the next section. Figure 11 depicts the process for selecting the strategic opportunities to be targeted. In their Blue Ocean Strategy approach, Kim and Mauborgne (2005) advocate creating uncontested market space and making the competition irrelevant by capturing

new market demand through differentiation of products and services.

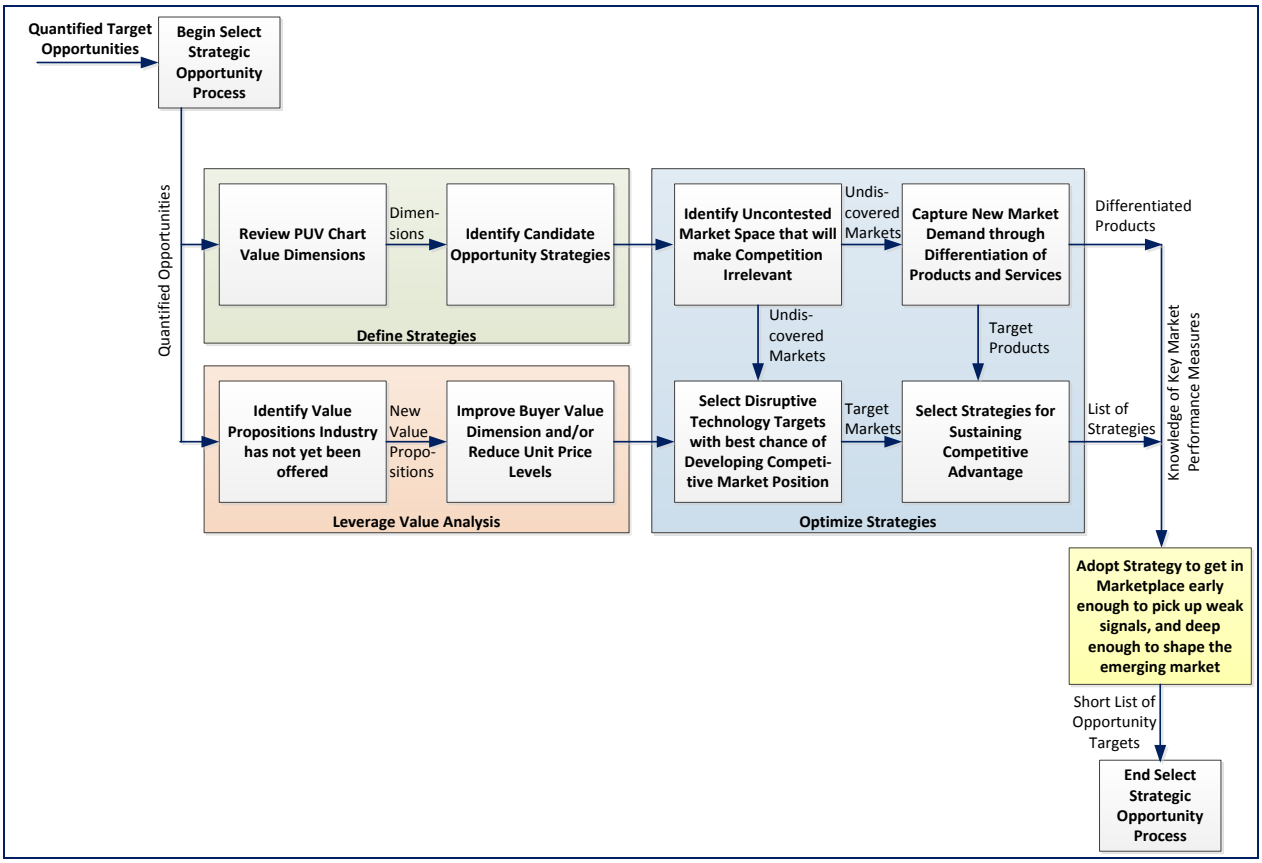

Figure 11. The process of selecting strategic opportunities. The figure depicts how PUV charts are used to identify value dimensions of interest that are transformed to candidate opportunity strategies, and investigated for serving as the basis for uncontested markets through product differentiation. Candidate strategies for sustaining competitive advantage deemed worthy of allocated resources are adopted.

Creating PUV Charts and Customer Value Matrices

A blue ocean is created in a market when a company's actions improve both the cost structure and a buyer's value proposition. Cost savings can be realized by eliminating and reducing the factors an industry competes on (Kim & Mauborgne, 2005). Buyer value is improved by creating value propositions the industry has never offered before (Kim & Mauborgne, 2005).

As McGrath (2005) points out, the most rewarding entry strategy is likely to be risky and

heavily dependent on the evolutionary stage of the technology. Being first to market is generally considered a good proposition, but being the first to explore a new technology can be dangerous. As the old saying suggests, "the early Christians get the best lions." Trying to be the first to implement a new technology early in its evolutionary stage can expose a business to unforeseen costs. Thus, we need to check where the product is in terms of its evolutionary stage.

Market analysis tools can be used for eliciting an understanding of customer value. Bowman and Schoenberg (2005) use Perceived Use Value (PUV) charts, such as the depicted in Figure 12, to depict the influence of "value for money." Dimensions of value that are perceived

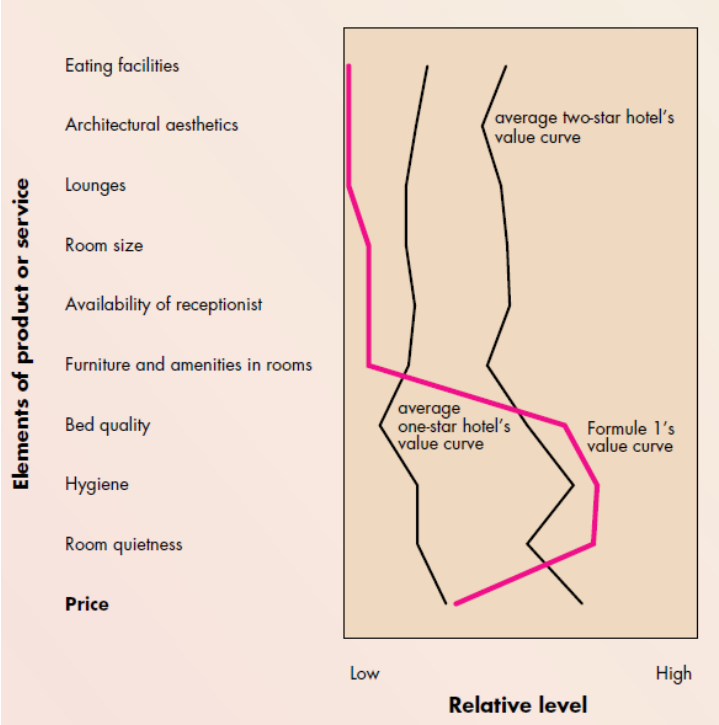

Figure 12. A sample PUV chart for the Formule 1 budget hotel company. The figure identifies the value dimensions considered important for this industry on the left. The graph indicates that Formule 1 offers unprecedented value to the mass of budget hotel customers in France by giving them what they value most, and much less of what they are willing to do without. Taken in its entirety from Kim and Mauborgne, 1997, p. 108.

as important by the customer are plotted on the horizontal axis. Things like product styling, performance, brand strength, reliability, and quality are plotted on this axis (Bowman &

Schoenberg, 2005). The horizontal axis graphs the customer's perception as to how well each competitor's product delivers against the desired dimensions of use values plotted on the y-axis. The critical feature of the PUV chart is the identified list of dimensions of use values perceived as important to the customer. When drawing conclusions based on customer analyses, it must be recognized that customers may have subtle, but important, differences in how they perceive value (Bowman, & Schoenberg, 2005). In practice, therefore, we may have to breakdown customer sets into alternative segments of demand.

Bowman and Schoenbert (2005) describe supplementing the PUV chart with a *Customer Value Matrix*, which is a plot of perceived use value (from low to high) on the vertical axis, and the perceived price (from low to high) on the x axis. An example *Customer Value Matrix* is depicted in Figure 13:

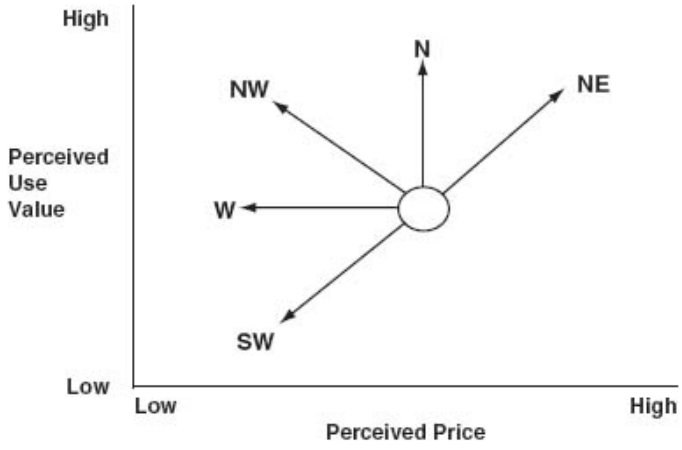

Figure 13. A sample Customer Value Matrix used for defining competitive strategy options. The picture plots the perceived use value of a product against its perceived price so it can be compared to competitor products. Strategy definition is facilitated by considering how to move west on the chart by offering the same perceived use value as the competition, but at a lower price, and how to move north on the chart by offering more user value at the same price, or taking the actions that result in any combination of the two (i.e., moving west or north). Taken in its entirety from Bowman and Schoenberg, 2005, p. 44.

Review of the *Customer Value Matrix* indicates that cutting price (moving westward on the chart) and increasing perceived use value (adding value and causing northward movement on the chart), or any combination of north or westerly movement, will create market opportunities (Bowman & Schoenberg, 2005).

Once the PUV chart is plotted, the following questions can facilitate selection of the appropriate strategy:

- What PUV chart dimensions can be eliminated that industry has taken for granted?
- What dimensions of the PUV chart can be reduced below the industry standard?
- What dimensions of the PUV chart can be increased well beyond industry standard?
- What dimensions of the PUV chart (that has never been offered to industry) should be created? (Bowman & Schoenberg, 2005, p. 51).

Market Segmentation by Differentiation of Products and Services

Market segmentation is a key concept in marketing that focuses on grouping customers and competitors so product offerings can be tailored to their needs. Consumers tend to differ from one another according to their geography, purchase and usage behavior, decision-making processes, demographics and lifestyles, personality and personas (i.e., relative to the assertion that the goods someone buys are a reflection of their self-identify), and motivation (Moroko & Uncles, 2009). In response to these differences, businesses can develop market segmentation strategies for products in the belief it is more profitable to treat certain groups of consumers differently, than to treat them all alike (Moroko & Uncles, 2009). Positioning the product's brand by the customer segment it serves, and clearly defining the meaning of the brand within that market segment, will differentiate a business from its competitors. This can be accomplished by implementing advertising campaigns that map product features to the needs of

the consumers in the segmented market area. As a result of a substantial increase in consumer and consumption data captured via modern e-commerce technologies, there are now "numerous ways of identifying desirable groups of consumers to segment these market areas" (Moroko & Uncles, 2009, p. 182).

Trend Analysis

Once markets have been sufficiently segmented, a business may want to define corresponding strategic business units (SBUs) as profit making areas within the company that focus on related product offerings in that market segment. Each SBU requires a separate marketing plan, competitor analysis, coordinated branding strategy, and marketing campaign. An SBU is needed when there is an intersection between a product offering, and a reachable market segment that has a high value profit potential. If there are big enough market niches for a product, then a company may want to create a SBU that focuses on that opportunity. *Apple, Inc.*, as an example, might want to track its *iPhone*, *iTunes* music web store, and *iBooks* web book store separately as SBUs. If so, then each SBU would conduct a market trend analysis and assess the competitive posture of each product, as well as the market conditions. The colored balls in Figure 14, for example, represent the current (2012) posture of these products, while the white balls indicate the future (2017) posture. The size of the ball graphically indicates how strong the product is in the market space. If Apple is expecting its iPhone, which has only been commercially available a few years, to keep increasing in popularity, the size of the ball would increase in size to represent the anticipated 2017 value. The location of the ball on the grid indicates whether the product has a low, medium, or high market attractiveness (y-axis), and a low, medium, or high competitive posture (x-axis). Thus, by conducting a trend analysis the health of a product, its market conditions, and its growth potential can all be quickly illustrated

for status reporting purposes. Employees are in a better position to select market segments in which to compete, provide a mixture of well demanded products, and to develop strategies that outperform competitors.

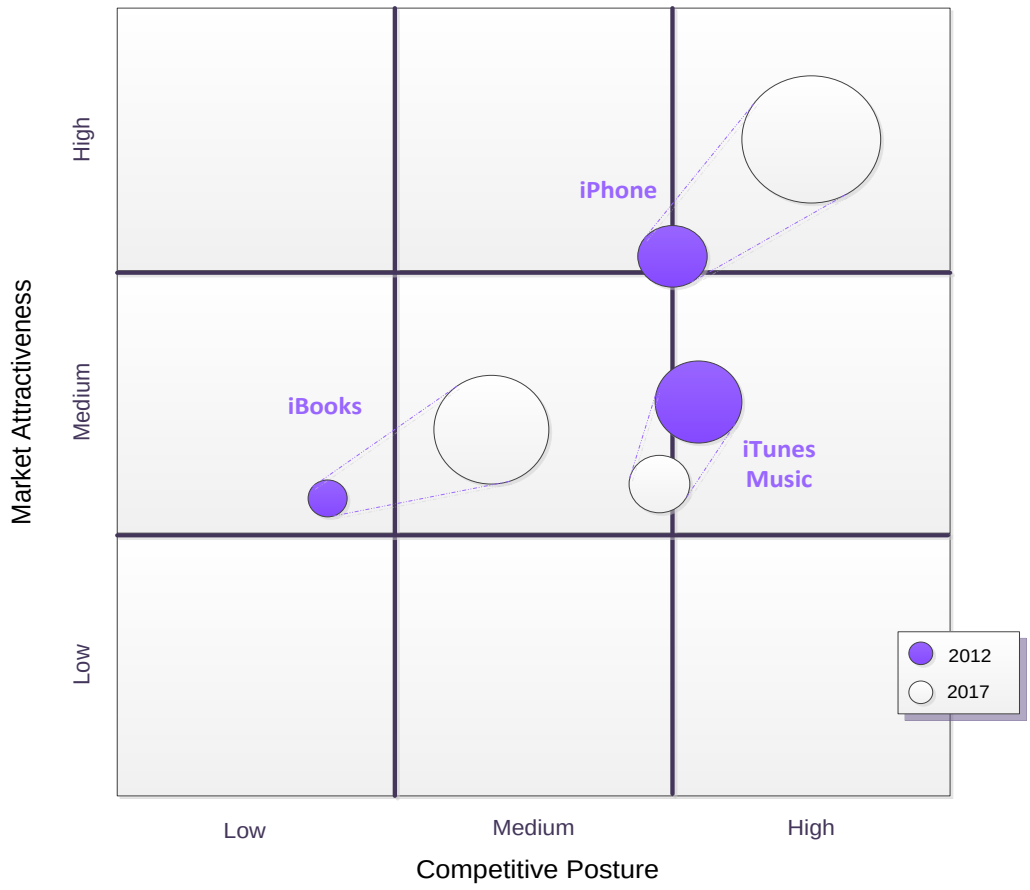

Figure 14. Modern Trend Analysis. The figure depicts the current strength of a product relative to its competition (colored balls), the anticipated future strength of the product relative to its current state (white balls), the current industry market attractiveness (location of the colored balls on the y-axis), the future industry market attractiveness (location of the white balls on the y-axis), the current competitive posture of the industry (location of the colored balls on the x-axis), and the future competitive posture of the industry (location of the white balls on the x-axis), all in one chart. Based on work initially introduced to industry by the Boston Consulting Group.

Meeting key objectives at the SBU level requires conducting market analyses to position products through a competitor profiling exercise, and by defining critical success factors, both of which would be improved if more employees understood the ramifications of the trend analysis.

The type and form of the data depicted in Figure 14 can be used to quickly and efficiently communicate market analysis and strategic planning information to employees, and should therefore be communicated to them.

Value Innovation Analyses

The selection process should also check for strategy innovation that can drastically change the current market environment in ways that can create business opportunities. Strategy innovation is said to "re-conceive the existing industry model in ways that create new value for customers, wrong-foot competitors, and produce new wealth for all stakeholders" (Hamel, 1998, p. 8). Conducting a value innovation analysis considers whether there are opportunities to reconfigure the overall value proposition, as offered to customers, by exploiting key trade-offs which may exist between dimensions of use values (Kim & Mauborgne, 2005).

Defining Implementation Strategies

This section aligns selected opportunities with business execution plans, so implementation strategies can be defined. Each strategy is tied to measurement parameters so implementation can be tracked. Figure 15 indicates the process for defining implementation strategy.

Creating Dominant Market Positions

Although it is difficult to obtain, the process to define an implementation strategy should at least attempt to identify specific market conditions that can result in securing a dominant market position. McGrath (2005) suggests the process for identifying a winner-take-all market opportunity requires looking for:

- Potential changes in the basis of competition
- Techniques that can result in "customer lock-in"
- Techniques that can result in "competitor lock-out" (p. 58 – 59).

If we can define opportunities to offer radically improved performance on some of the performance dimensions that matter most to customers, then the opportunity is there to create a position of dominance.

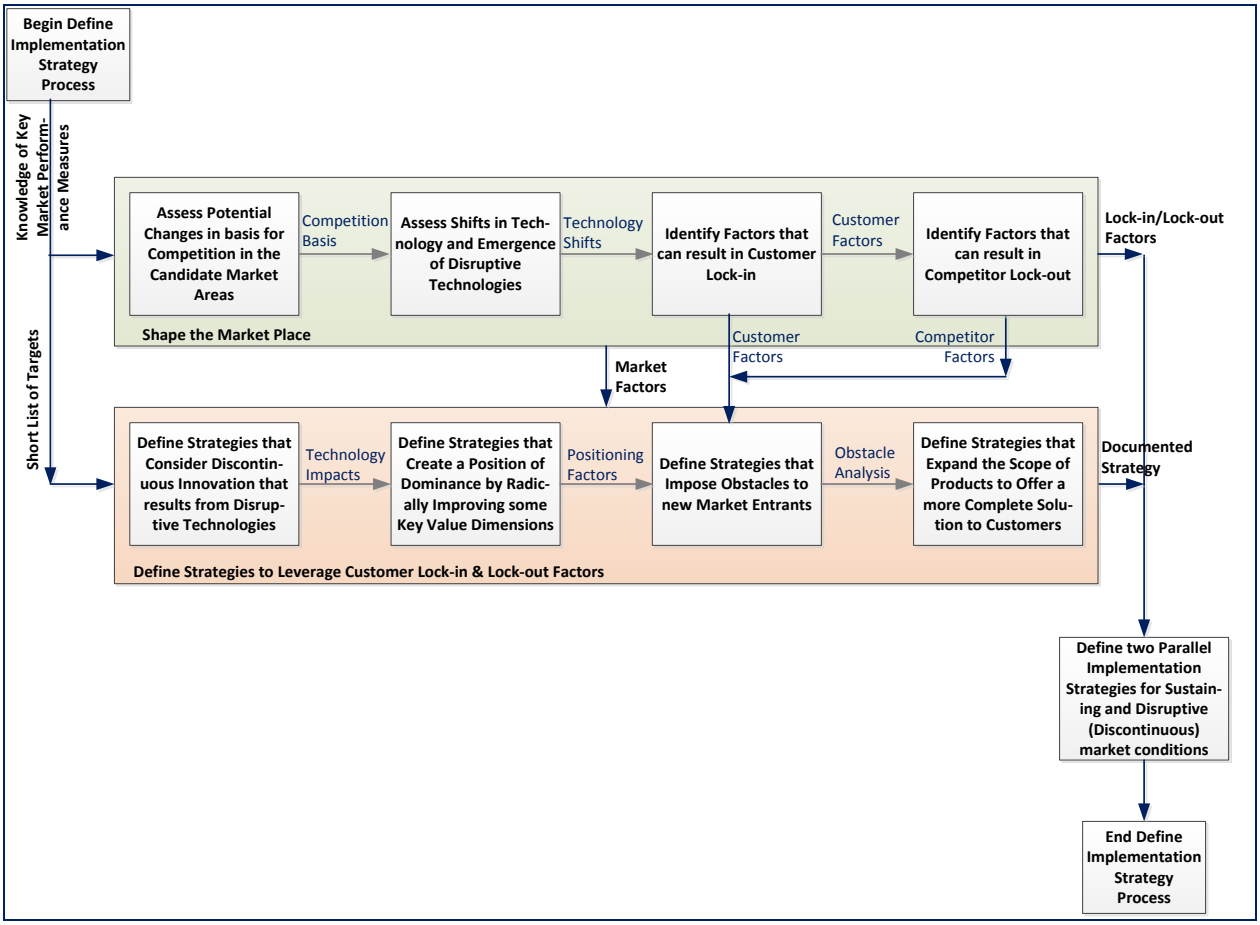

Figure 15. The process of defining implementation strategy. The figure shows how technology shifts can be analyzed to identify customer lock-in and competitor lock-out factors, which can then be the basis for strategies that impose obstacles to new market entrants. The process results in the refinement of parallel strategies for both sustaining and disruptive market conditions.

Recent online commercial transactions have shown that once customers make initial investments in learning, training, and building a relationship with a supplier, they are reluctant to repeat the process with a new provider and, in some aspects, become locked-in (McGrath, 2005). When competitors are confronted with heavy fixed costs and significant obstacles to enter a new market

area with small profit margins, they become discouraged, pursue other opportunities, and a competitor lock-out condition arises (McGrath, 2005).

Addressing the Problem of Discontinuous Innovation

Bessant (2005) advises that businesses interested in establishing innovation must address the problem of "discontinuous innovation" (p. 184). Shifts in technology, the emergence of new markets, or changes to new business models can create destructive change for established businesses trying to remain competitive by incrementally innovating within a relative stable framework (Bessant, 2005). A less traditional innovation approach is required for major paradigm shifts in the market place. Discontinuous innovation is problematic for established industry leaders because it may require working with a significantly different set of teammates. Close, long-term relationships with suppliers may be important for producing a steady stream of continuous improvement innovations, but firms addressing discontinuous innovation initiatives need to exploit a different population of up-start companies on the edge of technology to gain access to new ideas and design concepts (Bessant, 2005). Thus, a dual strategy implementation approach may be called for. Although a company's traditional operational processes are optimized for day-to-day business, Kotter (2012) asserts they cannot handle the challenges of confronting complexity and rapid change that results from disruptive technologies. The solution is a second set of operational processes, "devoted to the design and implementation of strategy, that uses an agile, network-like structure and a very different set of processes" (Kotter, 2012, p. 47). This new operating system should continually assess "the business, the industry, and the organization, and react with greater agility, speed, and creativity than the existing one" (Kotter, 2012, p. 47). This new operating system is said to complement, rather than overburden, the existing processes, thus freeing the organization to "accelerate strategic change" (p. 47).

Offering More Complete Solutions

The ability to offer a complete solution can be a big improvement over previous individual product offerings (McGrath, 2005). Thus, businesses should look for ways to expand the scope of products to offer a more encompassing and complete solution to customers.

Using Market Analysis Tools to Pursue a Schumpter Creative Destruction Situation

Interestingly, when the market analysis tools described above are evaluated collectively, they all produce some of the data necessary to implement competitive value pricing scenarios, such as the *Schumpter Creative Destruction* phenomenon. Under this model, a company that is first to market with a product sets price levels that allow it to quickly recoup its non-recurring engineering (NRE) costs. By the time imitators enter the market area, the first company to the market can reduce prices to levels that won't allow the new comers to recoup their NRE costs (Nugent, 2003). While the newcomers are struggling to stay in the market while operating at a loss, the first to market releases another version of the product, with new features that can demand price levels that support good profit margins, and the whole process starts over again (Nugent, 2003).

Each of the tools described above can be leveraged to create a *Schumpter Creative Destruction* situation. By tracking the market capitalization levels where infant mortality, mid-life, and old age occur in a business's life cycle, the Life Cycle model, having noted the typical market capitalization percentages when market consolidation occurs, can be used to estimate when future consolidation points are likely to happen so businesses can implement mitigation plans (Nugent, 2003). The Inflection Point analysis defines the unit sales price that an established producer can reduce their pricing levels to, and thereby significantly increase sales volume. This pricing level will pressure new market entrants to sell at levels that will not recoup

their non-recurring engineering costs. The Unit Price / Unit Cost analysis defines both the unit price where revenue levels fail to recover costs, as well as the corresponding point in time when the venture will start operating at a loss. Armed with this information, the established producer can plan to have new products and features available to replace the old ones by that time frame. Finally, the SG&TA tool can be used to conduct a gap analysis to identify features that the next incremental product release must have to ensure a viable business model with an ample customer base. Thus, another way market analysis tools are related is they all define information that can be used to support an implementation of Schumpeter's Creative Destruction phenomenon. As such, they support the need to manage pricing levels in the dynamic market places of today.

Implementing Strategies

This section addresses the actions taken to implement aligned strategic opportunities. Figure 16 includes the processes a business can use to implement strategy. As indicated in the figure, market conditions can be manipulated through brand management, so a shared mental model of the market area can spur development of an implementation plan, and the allocation of available resources.

Brand Management

Brand management is the application of marketing techniques to a specific product, product line, or brand, to provide a framework for advertising and feature selection decisions. The discipline of brand management was started at Procter & Gamble and is based on the consumer's need to acquire information about products before purchasing them. Brands help consumers reduce search costs by providing confidence to consumers who have bought other products within the scope of the brand name. The important stages in the development of a brand are to establish its identity and meaning, elicit favorable responses from consumers, and establish a relationship between the brand and the consumer. There is also a governance

responsibility that requires brands to be managed effectively since they have economic value, which must be maintained. The brand values of Coca-Cola, Microsoft, IBM, and GE, for example, are each worth about $50 billion (Keller, 2007, p. 29).

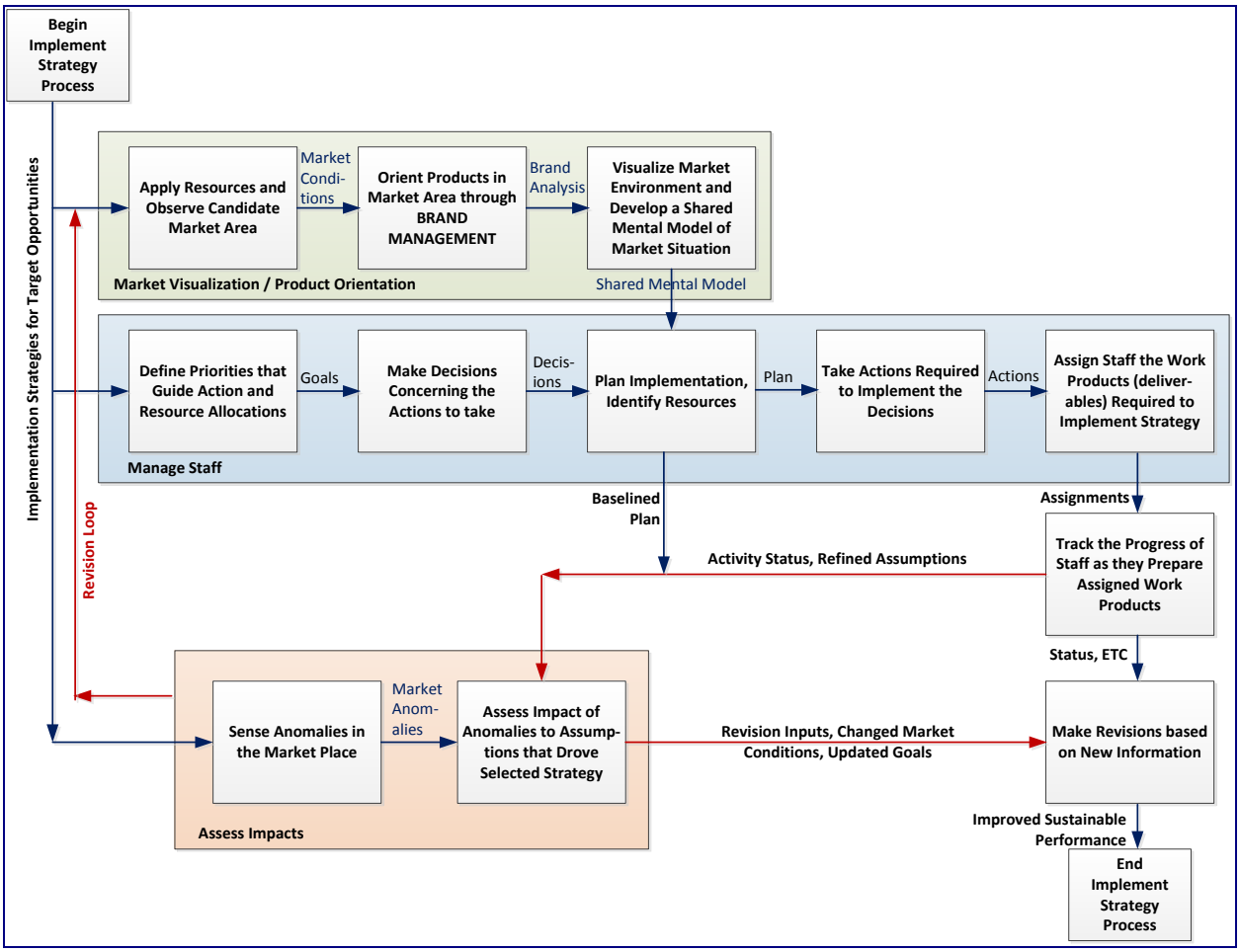

Figure 16. The process of implementing innovative strategy. The figure depicts how market conditions can be manipulated through brand management, so a shared mental model of the market area can spur development of an implementation plan, and allocation of resources. Progress is tracked as strategy is implemented, so anomalies in the market can be sensed and assessed. A revision loop ensures the impacts arising from market anomalies can be corrected.

The branding strategy is an important aspect of product offerings since it enables customers to quickly understand the products and features a business is offering, and is a valuable aid to organizing the products in the customer's minds (Keller, 2007). The different brands in a company can be organized in hierarchical relationships to draw synergy between products and optimize their value. The structure of the hierarchy is based on a corporate decision to either

implement a family of related brands, or to have a number of individual brands (i.e., one large umbrella brand with a number of products, or one brand per product). Note that umbrella brands can have characteristics that traverse all the sub-brands. When new products are introduced into the market place, a new brand can be established just for them, or existing brands can be extended to target a market niche in the same product category, or can be extended into an entirely new product category.

Brand meaning is another important topic. Advertising can be utilized to define what the product can do for the consumer, and thus help define the brand meaning. The products (and to some extend the brands) a consumer buys help define their self-identity. Establishing a brand with the correct meaning (with respect to the target consumers) will make the consumer believe the brand's products are the most relevant product for them and, consequently, result in sales and successful business ventures.

Positioning

Brand management includes positioning the brand by the customer segment it serves, and by how it differentiates itself from its competitors (Keller, 2007). Positioning is said to be central to strategic brand management. The goals of the generic strategies are to either establish the cheapest cost for the product, or differentiate the product by incorporating features that consumers will want. Both options are based on an analysis of a brand's competitors and current customers. The product's design features, therefore, should be based on the targeted customer segment and incorporate a discriminating feature set.

The first step in positioning a brand is segmenting the product's market area into a homogeneous segment based on defined customer personas. Next, the brand should be benchmarked against current competitors to define points of difference, and points of parity. It is

important to establish against whom the brand is competing, and what makes it better than its competitors, so product features that current customer's value can be incorporated to help the brand obtain a competitive advantage. Points of difference are discriminating product features that consumers want, while points of parity are features shared with competitors to counter claims that their product features are unique.

Linear verse Iterative Strategic Planning

Progress should be tracked as innovation strategies are being implemented so anomalies in the market can be sensed and assessed. A revision loop ensures the impacts arising from market anomalies can be corrected. Sull (2005) suggests strategy is an iterative process, rather than a linear one. A better view of strategy is one "emerging out of an ongoing process of trying things, learning from mistakes, and making mid-course corrections" (p. 164). In the traditional linear view, managers sequentially conduct a market analysis, determine the strategy, implement the strategy, and then live happily ever after while permanently sustaining their positional market advantages. A linear view of strategy, however, is said to encourage leaders to escalate commitment to a failing course of action, even as evidence amounts that the original strategy was based on flawed assumptions (Sull, 2005). Since managers define their strategy at the beginning of the process in the linear approach, they must do so precisely when they know the least about the market (Sull, 2005). The linear approach to strategy can work in predictable markets, but "its inability to incorporate new information renders it useless in fast charging markets" (Sull, 2005, p. 165). Thus, the execution process must be an iterative, learning, process with a strategy refinement loop. Each strategy is thought of as a work in progress subject to revision in the face of new information (Sull, 2005).

Incorporating New Information via Refinement Loops

To capture and use new information in our strategy implementation process, Sull (2005) recommends a strategy loop that includes four steps:

1. Making sense of the situation by observing the market, orienting ourselves, and developing a shared mental model of the market situation.
2. Making choices of what to do, and what not to do, by agreeing on clear priorities that guide action and resource allocation, and deciding what actions to take.
3. Making those things happen by acting, and tracking that staff make good on their promises to deliver assigned work products.
4. Making revisions based on new information by sensing anomalies and revising key assumptions (p. 165).

In essence, Sull's work takes the existing OODA loop, which is named after the steps of **o**bserving the situation, **o**rienting themselves, **d**eciding what to do, and **a**cting, and converts it to an OODAR loop by adding a step to **r**evise based on new information.

Conclusions and Summary Recommendations

This paper describes a framework of detailed processes that businesses can use to capture innovative market strategies. Conducting the recommended activities will result in a better understanding of the market place and the factors driving successful operations in it. The flow diagrams presented herein to describe the processes can be treated as a knowledge map for developing and storing innovative strategy. New tools or information can be incorporated by allocating them to the appropriate location in the flow diagrams. Organizing the information behind our strategies will allow us to capture the innovation built into those strategies.

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