

MARKET ATTRACTIVENESS OF NEW PRODUCT CONCEPTS

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Abstract

Implementing sustainable growth via successful new product development programs requires more than competent technical development. Various methodologies such as Stage Gate Processes have been developed to help businesses better manage the actual development process. However, before new product development initiatives are begun, a business should understand how the resultant product or product line will fit into their own product portfolio, and how the offering will fit the targeted market. *The only thing worse than no product development is development of the wrong product for the wrong market.* Product Development resources are scarce in today's fast paced business environment and no organization can afford to direct these resources down the wrong path.

A business must understand the integrity of the market they are trying to serve, be it an existing market, or a new market the business has not formerly participated in. The external and internal forces impacting a market's integrity must be understood before key decisions on new product development are considered. The external forces of both the bargaining power of suppliers and customers must be considered, along with threats of new entrants and substitute technologies assessed. All these forces come to bear in the rivalry among existing and new competitors. Only with such an understanding can a business direct its product development efforts to maximize their position in the Value Chain and enjoy an attractive share of the total Profit Pool.



Introduction

Resources for product development activities have never been more valued than in today's fast paced business environment. No business has the luxury of expending scarce research, development, or marketing dollars on projects that don't provide the maximum return in the shortest possible time.

Research and Product Development managers have successfully implemented new management tools such as Stage Gate programs to help manage the progress of active projects. However, it is imperative for executives to be certain the best projects are selected. Too often, resources are expended on programs that are not attractive in the market environment, particularly when the business is entering uncharted waters of a new market segment. The same can be true when participating in familiar markets if dynamics in these markets are in flux. The time to determine the attractiveness of the market segment you are trying to serve with a new product offering is before beginning the product and market development activities. How many businesses have developed and then attempted to introduce new products only to learn the market potential is limited due to competitive pressures, supplier pressures, changes in customer dynamics, the threat of new entrants, and the threat of alternative technologies.

Fortunately, tools are available to assess market attractiveness prior to entering an expensive product and market development cycle.

Michael E. Porter of the Harvard Business School first introduced the concept of the five forcesⁱ in the context of competitive analysis in his landmark book, *COMPETITIVE STRATEGY*ⁱⁱ, in 1980. Porter proposed Five Key Forces that impact competitive positioning in free markets, as shown in Figure 1 below.



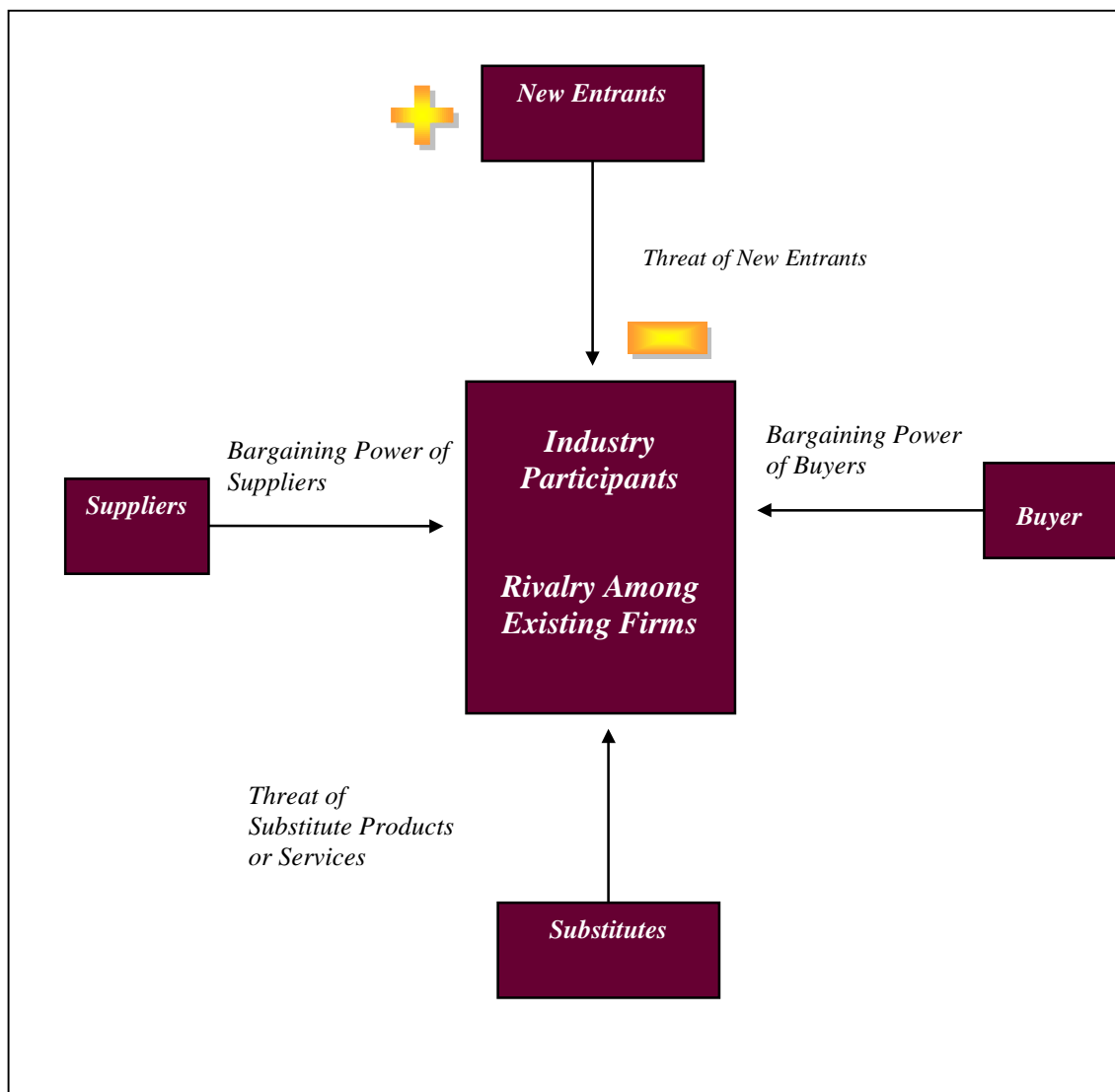


Figure 1



Value Chains

Before focusing on the detail of the Five Forces, some fundamental understanding of Value Chains is worthwhile. Value Chains track the value created or captured by participants at each of the transactions occurring from basic raw materials to ultimate end user or the consumer.

A simplified value chain might look something like that found in Figure 2 Below.

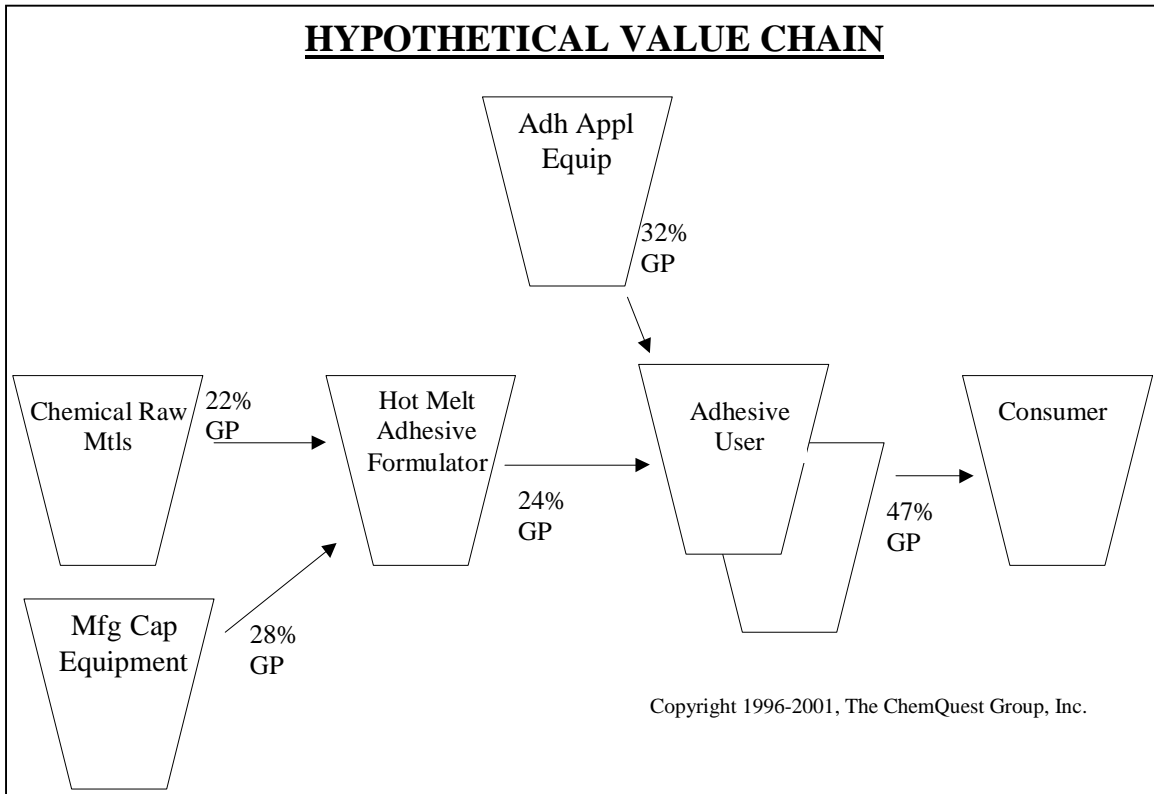


Figure 2



Value chains illustrate not only the flow of goods and services, but to be most useful, they should depict the value contained in each transaction therein. In the simplified example above, the Adhesive User enjoys the highest intrinsic value in the chain and most likely has the most power in controlling and perhaps increasing it's share of the total value delivered.

Profit Pools can be utilized to illustrate absolute values within the value chain. Profit pools would typically identify the total profit dollars of the entire chain and then denote how much absolute profit resides at each step of the transactional process. Using Profit Pools can sometimes reveal new opportunities to participate in other parts of the Value Chain. Figure 3 illustrates a simple theoretical profit pool of perhaps some niche hot melt adhesive used for a specific application in a high value assembled consumer product. In this particular instance, ALL adhesive raw material suppliers together represent only about $\frac{1}{4}$ of a percent of the total profit pool available in this particular value chain. Adhesive formulators collectively capture a bit more than twice the share of the profit pool than the raw material suppliers do. However, the user of the formulated adhesive is able to capture over 99% of all the profit in the total pool. Such an analysis certainly suggests the potential for either raw material suppliers OR adhesive formulators to possess much power in this particular value chain unless their product is so unique it offers substantial value to the downstream participants. If this were true, perhaps these participants are undercharging for the value they bring to the adhesive end user. Having understood these dynamics more fully, perhaps they would have been able to capture a much larger share of the total Profit Pool. New Product Development teams should consider using these important tools to better understand how they might capture a maximum share of the total available profit.



THEORETICAL PROFIT POOL

	Raw Material Suppliers	⇔	Adhesive Formulators	⇔	Adhesive Users
Total Revenue	\$ 5.8 Million		\$ 12 Million		\$ 1,150 Million
% of Total	0.6%		1.4%		98.5%
GP %	22 %		24 %		47 %
Total Gross Profit	\$ 1.28 Million		\$ 2.88 Million		\$ 540 Million
% of Total	0.24%		0.53%		99.2%

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Figure 3



The Five Forces

These five seemingly independent forces have been found to interact and define the structural integrity of a market. Clearly, when developing new products, one would wish to be focusing on products for markets that can provide:

- Sustainability of Profit
- Growth for the foreseeable future
- A sustainable competitive advantage
- The development or sustenance of a leadership position.

Clearly, other elements come into play, such as product life cycles, economic trends, but the “Porter Model” has sustained scrutiny and has proven itself as a reliable predictor of the structural integrity, and therefore attractiveness of a given market segment.

The Five Forces are:

1. Rivalry Among Existing Participants – *the classic competitive battle.*
2. Bargaining Power of Suppliers – *how much power can suppliers exert?*
3. Bargaining Power of Buyers – *how much power can customers exert?*
4. Threat of New Entrants – *how easy is it for a new competitor to emerge?*
5. Threat of Substitute Products or Services – *can a totally new technology supplant the incumbent approach?*



Rivalry Among Existing Participants

- Ratio of market share growth to Industry growth
- Brand equity
- Image/ Reputation
- Fit and finish- reliability, service convenience, conformance to standards
- Ratio of Fixed costs to value added (GP)
- Degree of capacity utilization- e.g. Over capacity
- Degree of differentiation- product, cost
- Degree of market fragmentation
- Price/ value relationship
- Market positioning- existing vs. new
- Diversity of competitors
- Relative strength of competitors, propensity to attack
- Competitors ability to exploit the experience curve, expected speed & cost of response
- Importance of market segment to the competitor
- Competitors' staying power
- Predictability
- Exit costs

Bargaining Power of Suppliers - YOUR Suppliers!

How do suppliers hold power in the value chain? Are there many quality suppliers all vying for a share of the market? Are there a very few number of strong suppliers capable of dictating prices, terms, etc? These are all questions, which must be answered to successfully assess the integrity of a given market.

Suppliers who focus primarily on filling manufacturing capacity will behave far differently than suppliers who focus primarily on profit margins. Suppliers with excess capacity might be prone to cutting prices to fill capacity thereby increasing their market shares. Suppliers less concerned with capacity utilization would be less likely to adjust prices frequently as supply and demand cycles. Some of the key issues to consider are:



- Supplier concentration
- Importance of volume to supplier
- Relative importance of concentration of business to suppliers
- Threat of forward integration by suppliers
- Degree of Supplier's Product differentiation
- Diversity of Industry participants' needs
- Degree of dynamic changes in market
- Degree of end use fragmentation
- Degree of application fragmentation
- Few Suppliers
- Ability to switch suppliers
- Supplier response
- Fit and finish of supplier's offering- reliability, service convenience, conformance to standards
- Degree of capacity utilization- e.g. Over capacity

Historical behavior will often be valuable, but new dynamics must always be considered. How have suppliers acted in the past? Suppliers that operate on a supply/demand model will behave very differently than suppliers who focus on capturing maximum value of their goods and services. Are new suppliers poised to enter the market?

Bargaining Power of Buyers

Few can question the increasing power of customers in the value chain of most business transactions. How many of us have customers or clients that do not exert power? Customers are more sophisticated than ever, and in mature value chains have begun to capture an increasing share of the power, translating to a higher percentage of the available profit poolⁱⁱⁱ. This is particularly true in concentrated markets where a few strong customers dominate the market and can often dictate pricing, terms, and more. Our work in value chain analysis strongly suggests the power in the value chain almost always shifts downstream toward the ultimate consumer with time. Power is generally directly related to the participant(s) in the value chain reaping the highest portion of the profit pool. Therefore, it is crucial to understand the dynamics behind the bargaining power of customers, and in many instances, their customers.



Buyers typically have considerable power when they represent a high percentage of a supplier's business; there are alternative suppliers to choose from, and many other factors. With time, customers will almost always gain more power in a given value chain, unless other dynamics change.

- Buyer concentration
- Buyer leverage
- Ability to backward integrate
- Availability of substitute offerings
- Switching costs/ Cost advantage - Entry Detering Price (EDP): {change in product cost plus cost of investment-gained efficiencies}
- Cost performance
- Relative negotiating strength of new and existing Prospects
- Number of sources typically approved
- Prospects sensitivity to price
- Relative importance of offering
- Relative portion of overall procurement expense
- Value in use of offering – requires an understanding of the value chain
- Prospect's knowledge of company
- Commercial risk

When customers gain more power, sustainability of profit becomes much more challenging. If your customers are able to capture more power (*a disproportionate share of the profit pool*), you are likely to be squeezed unless you are prepared to capture more value from your upstream suppliers, or you can change the dynamics of the market, perhaps with new products or services. However, these new offerings must offer measurable value to your customers if they are to offset this natural order.

Threat of New Entrants

How often has a new competitor entered one of your markets? When YOU first entered the market incumbent suppliers likely viewed you as a new competitor. It could be a new start-up, or a new competitor created from a merger or



divestiture. When a business changes hands, it's not uncommon for the behavior of that competitor to change. An offshore supplier might elect to enter your market geography.

Often external factors can contribute to the viability of a new competitor. Changes in global trade agreements can open borders allowing new competitors increased access to your traditional markets. Environmental regulations can change (favorably or unfavorably) allowing a new competitor to capitalize on some innate capability. Competitors might appear when a new capital investment comes on stream offering capacity previously not available. Distribution dynamics might change allowing a business to enter the market where previously they may have been denied access to customers.

New competitors will undoubtedly disrupt the value chain and in their attempt to capture a share of the profit pool, change will occur, *even if the competitor is ultimately unsuccessful.*

- Value in use of existing offerings
- Degree of product differentiation
- Capital requirements/ Capital intensity
- Access to distribution
- Economies of scale
- Degree of leveraging Brand identity
- Switching costs/ Cost advantage - Entry Detering Price (EDP): {change in product cost plus cost of investment-gained efficiencies}
- Expected retaliation
- Access to distribution
- Effect of Government actions to encourage/ discourage new entrants
- Degree of competitive rivalry
- Bargaining power of prospects
- Specification business with high value add
- Cost of service
- Diversity of raw material requirements



Threat of Substitute Product or Services

This is among the most ignored threats, but nonetheless, is a critical force that should be carefully examined and understood prior to engaging in new product development. In some instances, the proposed development program may be a substitute product or technology capable of supplanting an incumbent approach. New product opportunities are often found by carefully examining the threat of substitute products in your particular value chains.

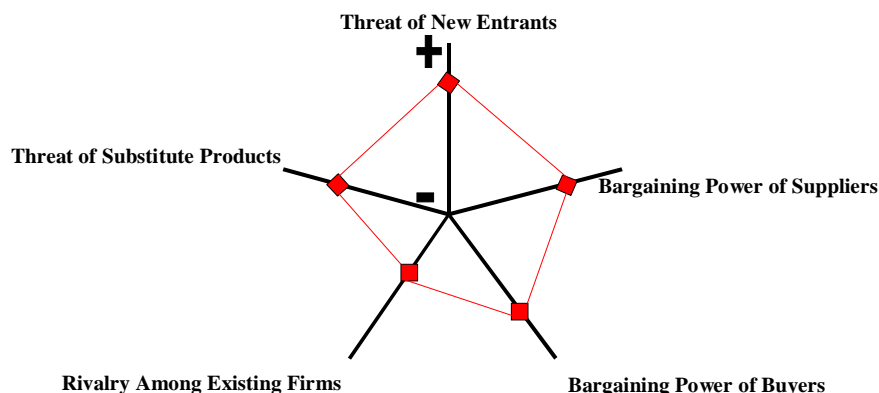
- Switching costs/ Cost advantage - Entry Detering Price (EDP): {change in product cost plus cost of investment-gained efficiencies}
- Industry participants' propensity to switch
- Relative cost performance of substitutes
- Specification cycles
- Degree of development
- Degree of differentiation
- Service requirements
- Incremental cost to serve- SG&A
- Induction time to commercialization
- Intellectual property strategies employed
- Effect of Government actions/ Regulatory
- Relative strength of competitors, propensity to attack
- Competitors ability to exploit the experience curve, expected speed & cost of response
- Importance of market segment to the competitor
- Competitors' staying power
- Predictability



Analyzing The Impact Of The Five Forces

Proprietary tools are available allowing both a qualitative and quantitative analysis for predictions of the future impact of these five forces and how they may interact creating the structural integrity and perhaps to change a market.

The results can be represented graphically to easily indicate the relative attractiveness of one particular scenario vs. others that might be under consideration.

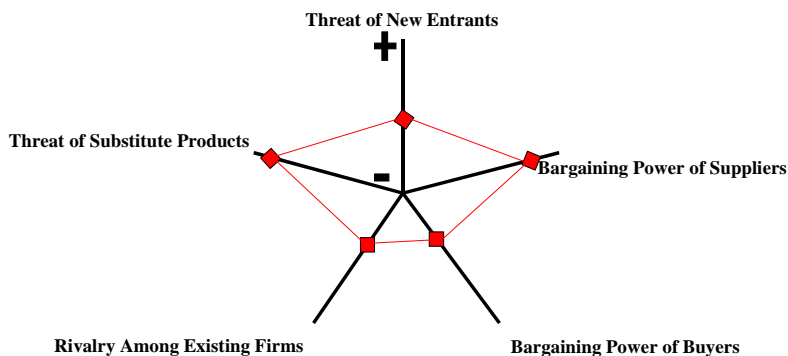


The process, actual evaluation requires significant inputs from the team involved in the project and the decisions, but once completed, the graphical representation is quite easy to evaluate, particularly when comparing alternative strategies in the product development process. The sample diagram shows the results of one hypothetical market segment one might be considering developing offerings for. The center, or apex, of this diagram is from the perspective of the organization considering a product development program into a particular market or market segment. This particular analysis shows the Threat of New Entrants is relatively low, yet the Rivalry Among Existing Suppliers to this market is likely quite intense. There is also a modest threat of substitute products being developed and the bargaining power of suppliers is slighter more favorable than the bargaining power of potential



customers. However, such findings would signal a warning flag for your team that the shift in power to downstream buyers is a potential concern for the future and perhaps should be examined in more depth. Relative important, or weighting, of each of the Five Forces may also need to be considered by specific case.

On the other hand, the following diagram would perhaps reflect a market segment with very different attractiveness. In this case, the *bargaining power of customers* is very high and might predict a market where customers can more freely dictate business terms, pricing, etc. and exert considerable control on an adhesive formulator attempting to enter this market. Interestingly, in this case, the bargaining power of suppliers to the adhesive formulator appears quite weak and one can only assume this weakness will grow as the ultimate customers continue to gain strength. However, the low threat of substitute products might further suggest the market is ripe for product improvements which might shift power back upstream away from the ultimate end user. Value Chain analysis may reveal specific opportunities.



There would also be some concern that new competitors might enter this market more easily than in the earlier scenario. As might be expected, there is vigorous rivalry among existing adhesive suppliers to this market. However, the threat of substitute products appears relatively low and raw material suppliers would appear to have limited power, as might be expected when ultimate end users control the value chain. Raw materials suppliers often work with limited knowledge of the end use markets in our industry, if only



because they are further removed from the terminus of the value chain. As an adhesive supplier you might well be wary of entering this market segment. However, if you could bring some new power-creating element to the table, perhaps in the form of significant economies of scale, thereby offsetting some of the competitive rivalry, this could lead to ultimately capturing some of the value chain power back from the end user universe. Meaningful new products offering demonstrable value might also allow the recapture of some or, perhaps even create value from the value chain. In any event, it is quite easy to recognize the difference in structural integrity between the market scenarios presented in the above two example diagrams.

By combining the information gained from Value Chains, Profit Pools, AND the Five Forces, it becomes much easier to envision how a new product or service might impact a previously stable market. The best new product programs are those that result in more favorable market conditions for you. Shifting the positions of power should be a prime consideration in the important decision of allocating resources for product development programs, either as offensive or defensive measures.



Summary

Product development programs are expensive. It is imperative the organizations precious resources are properly deployed. Developing an understanding of the market you serve, or wish to serve, is a critical early step in any product development effort. The Five Forces offers a relatively simple and structured method to assess the integrity of a market and begin to understand how it may react to the introduction of your new product or service. In addition, if you are armed with this understanding, you are in a much better position to predict the actions of existing and potential competitors and to understand better what your customers truly value. Does the world need a better mousetrap? Does the world need a better glue? Only new products capable of creating or capturing meaningful value in the value chain can truly be successful in capturing sustainable value.

The development of new technologies and new products is critical to any organization's continued success, but it is crucial to develop the right technologies and offerings, which the market truly values and can translate to sustainable profitability for your business. It is critical to understand the structural integrity of the markets you wish to serve with your development. Structurally sound markets offer the best sustainable profitability. As we've seen, the integrity of a given market can be gleaned by understanding the interaction of the Five Forces. By understanding and analyzing the impact of your new potential offering on the market using the Five Forces, you are much more likely to be successful with your new product development strategies. Once a market is properly characterized, choosing the most viable product development projects become much easier. Developing sustainable profitability requires more than just solid technical development capabilities. Today, an organization can prosper only through the combination of solid market understanding *AND* technical competency.



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