

Product Development During a Recession

During a recession, corporate and consumer spending are reduced and consumer confidence lowers. Many businesses handle recessions conservatively by aiming to conserve capital and “ride out” the recession. These companies lay off employees, reduce inventory, and reduce capital spending. This conservative approach may actually cause the company to lose market share as well as fall behind their competitors.

Companies that continue their spending policies during a recessionary period, but manage their processes effectively – gain the most value per dollar spent. To survive and possibly even thrive during a recession, companies must continue to develop and market their products. They must provide products that amplify perceived value to their customers in order to obtain and increase market share. **Fortunately, there are a number of ways to reduce product development expenses** and enhance customer experiences.

Where Not To Cut Corners - Research

Market Research

Research is an area that many product development companies (especially entrepreneurs and small businesses) claim to deliver but very few actually perform effectively. Many companies even skip this stage, stating that “they already know their market” or “this market is obvious.” However, in these rapidly changing and competitive times, no market is static and unchanging. Effective market research determines the profitability of proposed products by dramatically reducing product acceptance risks. This is accomplished by defining the market segments that may benefit from the proposed product, the size of those markets, and possible price points.

Competitive, Trend and Brand Experience Research

Research is vital to establishing market viability, size, and profitability. Competitive analysis helps determine possible competitors and the competitors’ targeted market. Trend analysis helps to determine market trends and focuses on predicting the next market innovation. Brand experience aligns and compares a potential products’ perceived “brand” with the customer’s expectations.

User Research

After the profitability is established, user research focuses on the proposed products’ form, fit, and function. To determine which forms and functions best meets the consumer’s expectations and preferences, researchers often utilize user groups; these groups are shown sketches, renderings (photo-realistic images created by industrial designers), storyboards, short animation sequences, or even prototypes of proposed product forms. User research can also determine and refine required features such as ergonomics, user interface, size, usability, etc.

Task analysis, based on research gathered from focus groups, gives important, in-depth information about the need the product is meeting and allows the researchers to better understand how the focus group currently deals with the issue. It may lead to subtle feature changes that increase the products marketability or possibly indicate new products entirely. This aligns the product with the customer’s expectations and helps to avoid the “product in search of a market” syndrome.

Lean, Mean and Green - Product Development

Another area that companies often mistakenly change significantly during a recession or down-turn in the economy is product development. Product lines are modified and development projects are cut back or stopped to help focus efforts on “life-saving” products. Budget-conscious consumers are now more judicious with their resources. They are still purchasing products, but are highly conscious of perceived value. Companies that cut back or rely on old standards may find their customer base rapidly eroding.

So how do you get consumers to purchase your product without a large investment into product development?

You have several cost-saving options. The first and easiest is breathing new life into an existing product without going through the complete product development cycle.

New Clothes

Rather than completely designing a product from start to finish, a more cost-effective method is focusing instead on the product styling and features of current products. It may be possible to revive an existing product line and increase revenue without the expense of the design of a completely new product. Expert industrial design firms often change the way a product looks without undue engineering modifications and extensive (expensive!) retooling - often while utilizing cost-saving alternative materials and methods. New concepts may use the same electronics and/or software so that the development expense is minimal, especially when compared to developing a new product. The objective is to revitalize the product without redeveloping the brand.

Revamped products often have such a different appearance that customers do not relate them to the previous product but envision them as new and distinct products. This perception can be aided by the addition of new features thereby bringing increased value to the customer - without reinventing the wheel. This process also gives the added benefit of reducing inventory (reduced number of unique parts) and may reduce manufacturing costs (due to higher volumes, reduction or elimination of extensive retooling, and reduction in prototyping costs).

Saturated and declining products are the best candidates for this type of development process. These products can benefit from a new look which can invigorate the brand and increase revenue and could actually change the product’s position in its lifecycle. If the product is designed in a modular fashion, these modifications and future ones will be considerably easier.

Building with Legos - Modularity

By developing modular products, a company has the ability to modify or update one component without changing any other components. For example, a development team can change the mechanical assembly, even the form of the device itself, without modifying the software or electronics. It is also possible to design the electronics and the software so that these components are modular. This cuts down on tooling and assembly costs, and can allow you to change or modify a product to look new and distinct by only changing one component.

Another form of modularity is using the same part in more than one place on the product or using the same parts on other products. This cuts down on tooling and assembly costs as well. Also if a product is discontinued or changed to such an extent that it no longer uses the part, inventory can be recycled for use on these other products and costly retooling is eliminated or minimized.

Modular products can also reduce the amount of regulatory testing that is required for products. Some regulatory tests do not need to be repeated for minor changes or can be focused on the changed area.

Waste Not – Want Not

Today's consumers are increasingly focused on green and sustainable solutions. Today's companies have many options for meeting this need. This can include simply recycling, making products using recycled materials (post-consumer waste), or creating sustainable products designed for multiple uses rather than single use products that fill our landfills. Researching user preferences to be sure products will be well received prevents overstock and rejected products.

Many companies and consumers are beginning to focus on carbon footprints (measure of the impact human activities have on the environment in terms of the amount of green house gases produced, measured in units of carbon dioxide which impacts and contributes to global warming) - ranging from employee's gas usage in the commute to and from work, all the way to efficient packaging and delivery. Another option that is slowly coming into practice is carbon offsetting, investments in projects that aim at the reduction of CO2 emissions, for instance biofuels or tree planting activities.

So how do you find the product development help you need?

How to find cost-effective product development

Why buy the cow? Out-sourcing

Out-sourcing projects is a common way to reduce costs in a downturned economy. Contract industrial design firms, particularly those with both marketing and mechanical engineering capabilities, are experienced in cost-effectively conducting research and product development. By outsourcing these services, your company can tap into the large knowledge base, experience, skills and resources available to these firms – without the overhead and other costly expenses of an in-house design team.

Cost savings include:

- 1) reducing the overhead associated with full-time employees
- 2) access to specialized expertise resulting in expanded abilities, cost-effective and manufacturing-focused design expertise
- 3) access to new technologies and materials
- 4) out-sourced development teams are paid only when utilized
- 5) access to research and consumer expertise focusing on added perceived value to expand the products' abilities or technology
- 6) in a downturned economy or recession, contract firms might have more bandwidth to devote to your projects and costs may be more negotiable
- 7) the company is given the ability to focus on its core competencies while continuing to develop new products

This collaboration requires open communication and honesty, allowing the contract firm to better understand the company's requirements, needs, and desires. When a long-term relationship is established, the contract firm has a better understanding, development cycles are shortened, and there will be better resource utilization. *For more information on partnering, see ID-ONE's white paper on "Partnering with a Contract ID Firm."*

Cool Tools in the Hands of Experts

The design of new products (or potential new products) can require expertise in software, hardware, plastics, metals, textiles and manufacturing. Anyone can draw a picture on a napkin, but presenting that image in a way that can actually be evaluated and eventually manufactured (preferably as cost-effectively as possible) requires a commanding knowledge of a multitude of programs, prototyping, and manufacturing processes and vendors. Having a large multi-disciplinary team of experts at your fingertips can prove invaluable.

Experienced designers utilize a combination of hand sketches, story boards, and advanced computer graphics (such as renderings or short animation sequences) to present multiple alternative concepts/solutions. These presentations can be used to select a product design and features, to solidify the direction of design, and/or to present the concept to potential investors, focus groups, management, prototypers, manufacturers....

Many companies find it invaluable to have models or prototypes created that represent the proposed product. This allows them to have “hands-on” experience and typically generates valuable feedback on the product’s proposed form and function. Rapid prototyping allows manufacturers to develop prototype parts quickly using materials similar to the final product, but without expensive tooling. These prototypes can be made of starch, plastic, or metal and are “grown” (created by printing layers of materials that build up to a 3D model) in hours or days.

“Starch models,” also called 3D prints or Z prints, can be created in mere hours using laser jet printing technology. These are usually representations of the “skin” of the product that can provide the appearance, ergonomics and general shapes and feel of product. Other models may be fully functional and look identical to the finished product.

À la Cart Services

A cost-effective advantage to using contract industrial design and engineering firms is the ability to utilize only those services needed. The company can start from scratch with a new product and use all of a multi-disciplinary contract firm’s skills or require assistance with only one aspect (for example a fresh perspective and ideas for the advanced R&D department or cosmetic updates to an existing product). Establishing a long-term relationship or partnership with a consulting firm allows the company to access only those services needed, and in a timely manner.

Summary

Product development costs can be managed, even during an economic downturn. Now is the time to take stock of your assets, plan for the future, and begin executing that plan. What will be your next step? Will you introduce a new product innovation or energize an existing product line? Will you freeze all innovation and hope that when this uncertain economy passes, your customers will still be looking for the same flavor of products?

- Links

- http://www.bizjournals.com/pittsburgh/stories/2008/01/28/daily37.html?ana=from_rss
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Mary and Wayne Brush are principals of ID-ONE, a multi-disciplinary product design firm featuring industrial designers, graphic designers, mechanical engineers, electrical engineers, hardware and software engineers, business developers, etc. ID-ONE is an award-winning consultancy with a multi-cultural staff known for their efficiency and development of relationships with their diverse clientele. They enjoy the challenge of working with independent entrepreneurs, small start-up companies, all the way up to Fortune 100 companies - and everything in between.

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