

Encouraging Independent Invention

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Wisconsin Innovation Service Center finds inventive spirit strong

The increasingly important contribution small business makes to job creation and economic well-being is well known and, deservedly, efforts to encourage and assist entrepreneurs appear to be proliferating. Yet, some individuals who do not possess nor who always care to develop the entrepreneurial skills necessary for successful business management nonetheless make solid contributions to economic development and warrant encouragement as well.

The reference, in this case, is to the independent inventor — not only to the individual involved in university-class research, but also to the one sometimes labeled a workshop tinkerer or kitchen gadgeteer. It is those in whom creativity, in many instances, seems to have taken precedence over business savvy. Independent inventors have historically been credited with the creation of numerous major technological innovations, as widely noted.

It is for these individuals that the Wisconsin Innovation Service Center (WISC), a nonprofit program at the University of Wisconsin-Whitewater, was created, offering preliminary analyses of the marketability of new product ideas to allow inventors to make more informed development decisions.

The purpose of the WISC is to channel investment into commercially-viable concepts by encouraging further development among inventors with promising new product ideas, and by dissuading inventors from investment in expensive patents and/or prototypes if the market potential for their particular ideas appears extremely poor.

On the average at least 95% of a

product's development costs are incurred after the idea screening stage. By having potential problems identified, and possibly solved, as soon as possible in the commercial development process, subsequent investment, if any, can often be used more efficiently. WISC does not purport to make development decisions for inventors, only to assist them in making more informed choices.

THE INNOVATION PROCESS

The Innovation Process is complicated, expensive, and time consuming. Figure 1 is a simplistic depiction of this process as part of the Product Life Cycle, a well-known concept indicating that most products pass through a similar sequence of events. Each successive stage becomes more costly and complex due to the increasing amount of human and financial resources required as well as the greater number of variables that must be considered during this progression.

Although product life cycles are decreasing each year due to record numbers of new products, which forces businesses to eliminate unpopular items more rapidly than ever, and new product development lends itself less and less to the distinctive stages in Figure 1, the distance from Idea Generation to Market Introduction is rarely short. The time period necessary prior to market entry can range from a few weeks to decades, with the average being a few years.

Although the statistics vary greatly, many studies have shown that perhaps only 2-3% of all ideas generated survive the development stages to become profitable products. As more information gained through research is accumulated,

reasons usually surface as to why the product should not undergo further development. Reasons for project elimination may include product liability concerns too high, production costs outweigh probable consumer benefits relative to competitive items, a market too limited to allow production or distribution economies of scale, or a high probability of infringement on existing patents.

Although the new product development process may be well-organized in many instances from the corporate perspective, independent inventors often bypass the economical "Idea Evaluation" stage and proceed to later stages, which require substantial investment. Identification of weaknesses at early stages, of course, allows for the most economical corrections, if possible.

WISC OPERATION

The quality of WISC's idea evaluation service lies in access to a network, built up over the years, of technical and specialized consultants with a variety of expertise, as well as maintenance of an in-house staff capable of performing quality secondary-market research. Reports include preliminary information concerning functional feasibility, degree of current competition, potential level of need, and relevant demographic, societal, and industrial trends.

As mentioned, the goal of WISC is to encourage inventors to take the next step in the development process or to encourage a reassessment

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THE PRODUCT LIFE CYCLE

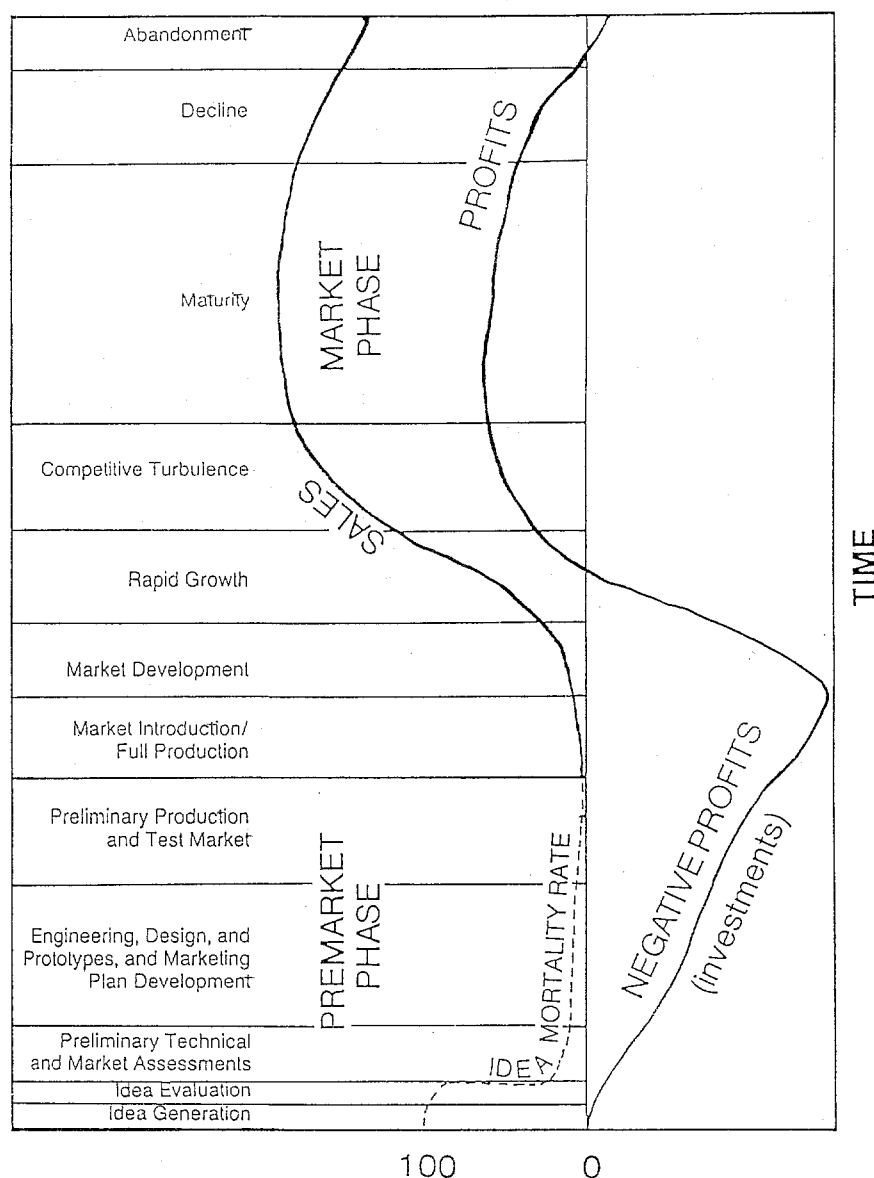


Figure 1

of the product if commercial viability appears poor. The success of WISC, therefore, is contingent upon the client's satisfaction with the service and the credibility of the research report. We track satisfaction and development activities immediately after receipt of the report and one year later. Based on our feedback, more than 90% of our clients are satisfied with their reports. Those with favorable evaluations are usually encouraged to proceed and those with unfavorable reports usually pursue alternative ideas.

The vast majority of our clients,

including those with potentially viable ideas, of course, quickly find that the birth of the idea is certainly not close to half the battle. At WISC, however, we can offer information only in regard to the idea, and cannot judge the tenacity of clients to pursue it, which is the most important criteria for success.

We certainly are interested in whether the information we provided pointed the client in the proper direction and if ultimately the product was a market success, but we are also interested in saving an individual's money if further investment in a particular invention

may not be wise. This separates the WISC from many other private, as well as many other public programs, in that we offer information as to *why* the invention may not warrant development, rather than just offer rejections, which do not always discourage the inventor from further pursuit. Of course, it is often not cost-effective for investors and businesses to explain their lack of interest in certain products, but it is perceived as part of WISC's role.

WISC has evaluated a wide range of inventions, from sophisticated technology to simple kitchen gadgets. Developers of the "Xuloy Technology," a surface modification process with potentially wide application, believe that WISC "has done an outstanding job in providing an evaluation service for innovations."

As with many clients, WISC was able to link these inventors with a well-respected researcher in the field, who was able to comment on the technical merit of the project and offer insight on the potential market. According to the inventors of "Nexus," an innovative word game, WISC contributed a great deal to their understanding of the innovation process and to their assessment of their product's strengths and weaknesses. They "believe the WISC report will play an important role in lending credibility" to their continuing development efforts.

Another of WISC's former clients developed a shoe support concept which was subsequently purchased by Reebok and is expected to be on the market in early 1988. According to this client, the evaluation report provided him with the confidence to continue development of his idea and assisted in moving him in the most effective direction.

INVENTION DEVELOPMENT

Inventors can pursue various alternatives in an attempt to commercialize a new product. Existing firms can be contacted or the inventor can proceed through the innovation process, seeking guidance at each stage. The latter alternative is the more difficult, but generally has the highest probability of suc-

cess for the independent inventor. In some instances, larger companies do not become interested in outside products prior to demonstration of some level of market acceptance. The business may range from a cottage enterprise managed from one's home to one with separate facilities. Available resources and market size will, of course, strongly influence the type of business ultimately established.

Our organization is painfully aware of numerous "idea brokers" operating across the United States, which offer product evaluations to individuals, then entice them into paying additional exorbitant fees with promises of marketing their inventions. Typically, the inventor pays these companies from \$400 to \$600 for an initial evaluation, which is rarely valid and nearly always very favorable.

The company then offers to proceed with development for anywhere from \$3,000 to \$5,000 or more. After the second payment is received little is usually done by these organizations.

Our program recently worked with the Wisconsin Department of Justice to inhibit the activities of these companies in Wisconsin. Unfortunately, however, fraudulent invention development firms seem in no danger of becoming extinct in the near future. We at the WISC are committed to encouraging the independent inventor, and it saddens us that this resource is sometimes subjected to fraudulent exploitation, which only contributes to discouraging individual creativity.

Many prestigious commentators have noted recently that the age of the technological breakthrough stemming from the independent inventor has long since passed, and invention has become entirely too complex for any single person to accomplish. The Director of the Patent and Trademark Office during the late 19th century is quoted (repeatedly) as stating, "Everything that can be invented has been, so the patent office should be closed."

In 1956 in *American Capitalism*, John Kenneth Galbraith wrote, "There is no more pleasant fiction

than that technical change is the product of the matchless ingenuity of the small man forced by competition to employ his wits to better his neighbor. Unhappily, it is a fiction. Technological development has long since become the preserve of the scientist and engineer. Most of the cheap and simple inventions have, to put it bluntly and unpersuasively, been made."

According to a recent "Products of the Year" article in *Fortune* magazine, however, inventions still "pop out of garages and attics enough to keep the spirit of Alexander Graham Bell alive." Not always "high-tech" breakthroughs, certainly, but solid contribution to job creation or retention.

Since 1980, WISC has evaluated more than 2,500 ideas. Invention evaluations have been performed for small businesses and independent inventors from across the U.S. and some foreign countries as well as for university and private programs. Based on our experience, the spirit of independent invention remains strong.