



CA - Sprott Business Competition Carleton University

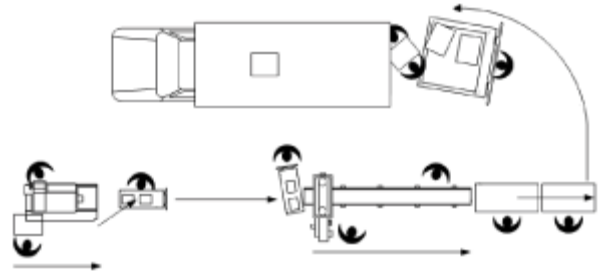
CA - SBC Tips & Strategy Sheet 5: Investing in R&D

Research and Development (R&D) has several effects on your business. When you invest in R&D, you are not only investing in the design and quality of your products, but also into learning new ways of making your production methods more efficient. There are typically two ways to make more money: either charge a higher price for your products, or lower the cost of producing them. Since price is often the most sensitive variable in the world of business, most firms will typically try first to lower their cost of production.

In CA - SBC, your company both produces and markets the products you sell to consumers. In the global marketplace, companies have the option of just focusing their business on selling and marketing while paying another company to produce the products under their brand - this is called outsourcing. Since you produce the products in this competition, you also have control over how they are made. You not only control the quality of the materials you use, but also the process of putting the products together.

Streamlining your Processes:

By investing in R&D, you are investing in both the **quality** and **features** of your product and the **process** of producing that product. Investing in production processes might involve paying a team of consultants to find new ways to make your plant more **efficient and effective**. For example, they might find that one of your machines has a loose screw that is causing defects in your products or find that two employees are doing a task that only requires one. You may also find that you can reduce the time it takes to move a product from one machine to another by simply placing the machines closer together. This is called streamlining your business processes. All of these steps reduce your **cost of production**, which is the cost of materials and equipment needed to produce one unit. A firm's **total cost per unit** includes the cost of materials as well as operating expenses, such as labour. **Firms must ensure they sell their products above this total cost per unit in order to earn a net profit.**



At the outset of the competition, the material cost to produce a single unit is \$50. With investment in R&D you can lower your cost of production. That said, your assembly line will reach its **maximum efficiency** at a certain point and additional investment in R&D will have no impact on your cost of production. Be aware, however, that diminishing returns on your cost of production doesn't mean you should stop investing in R&D. A reasonable investment in R&D should be maintained in order to ensure that your assembly line and your machinery remain up to date and efficient.

Don't forget that investment in R&D also means investing in the **development** of your product; this may include, for example, stronger parts or more features that consumers want. It is possible to increase demand (and potentially sales) for your product through increases in quality and added features. Any R&D effort should be combined with investments in Advertising and Sales Support (Input decision in Xtreme only). Consumers need to be educated as to why a particular feature makes your product better. If you can do that, your company will soon be happily reaping the benefits of your well-spent investments. Good luck!

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