

Cura Consulting Group

Strategic Solutions for Sustainable Growth

THE COMPETITION/INNOVATION CYCLE

by Clara Chow

The competition/innovation cycle produces and reinforces not only profitability but also sustainability. Competition creates a forum for innovation. With the discovery of new opportunities, a firm can identify strategic areas for private investment. Private investments coupled with key stakeholder interactions increase productive growth, resulting in public goods for the consumer and profitability for that firm. The economic value generated then stimulates additional competition from other businesses. Economic and societal benefits stem from this rivalry through information and technology transfer as well as new business standards. This in turn raises the overall quality of life. However, in the midst of competitors, the longevity of a company will be a function of the initial interaction and the subsequent relationship with internal and external stakeholders and customers such that the public goods and services delivered engender more than economic value. That is, the firm's behavior as well as its goods and services have to produce socio-economic value. Therefore, innovation can lead to a competitive advantage in the short run, but additional market and non-market considerations are necessary for the long run.

There are several facets to how a firm becomes a sustainable enterprise or a green business/entrepreneurship¹. This paper discusses one of those facets: the role of competition and innovation in fostering competitive sustainability.

Industry Attractiveness

Before a firm can invest in activities or even consider a competitive position which will gain profitability, that company must understand its own industry attractiveness. To analyze this as well as to shape the internal industry structure, Michael E. Porter (1980) proposed a five-force model. These five forces examine: (1) the threat of entrants, (2) the threat of substitutes, (3) the bargaining power of buyers, (4) the bargaining power of suppliers, and (5) the intensity of the rivalry among competitors. The threat of entrants looks at the barriers to entry, for example, access to distribution channels, product differentiation, brand identification, and economies of scale. It is also critical to assess government actions, such as protectionism, in evaluating the threat of entrants. The threat of substitutes depends on availability, user's switching cost, and price-value trade-offs between the firm's original product and the substitutes. In the bargaining power of the buyers and suppliers, it is necessary to evaluate the strengths possessed by these constituents in controlling the firm's profitability. This information guides the firm in selecting strategic alliances. Finally, the center of these forces is the intensity of rivalry among competitors. Here the firm needs to understand the industry growth, the depth of product differentiation, its storage cost, and the concentration and balance among competitors. These five forces define price, cost, and investment requirements which highlight the industry attractiveness.

¹To read more on this topic, see Chow, Clara, *A Framework for Understanding Green Business*, Sloan School of Management, 2000.

Business Strengths

Once a company comprehends the level of attractiveness, there are also factors that define the business strength and determine its competitive position. These factors are the activities associated with a company's organization. One factor is the set of activities necessary to produce and service the product. The other is the set of activities which *supports* the development and production of the deliverables. This latter group of activities is the underpinnings of an organization. They include the firm's infrastructure, human resource management, technology development, and procurement. Both sets of activities make up a firm's value chain (Porter 1985).

The focus of a company's value chain is the strategic business units which depict the core competencies of a firm. By aligning the business strengths with the demand conditions, the firm can then provide products to meet customer needs. This alignment enables the firm to effectively invest and produce public goods which will ultimately increase the firm's market share and competitive advantage. Once that happens, new business standards are set, and other companies begin benchmarking or comparing themselves against what is perceived as a leader in the industry.

New Market Opportunities

In an effort to regain lost or capture more of an existing market share, competitors will gauge new products on the market as business opportunities. Fresh possibilities will stimulate new business formation through innovation. Competitors will increase capacity for innovation by acquiring or developing new technology, redirecting resources and skills, and creating new infrastructures. Unless the barriers to entry are high, as in the case of patents or certain government restrictions, new businesses are created. This leads to productive growth which eventually results in economic value. With a rise in economic value, the quality of life improves. An improved welfare activates public investments in specific areas in order to stay abreast and support these advancements. They include investments in education and community/national infrastructure. As a result, companies are motivated to increase their private investments to meet the new demand conditions generated by the competition and by public investments. This then begins a new competition/innovation cycle (Figure 1).

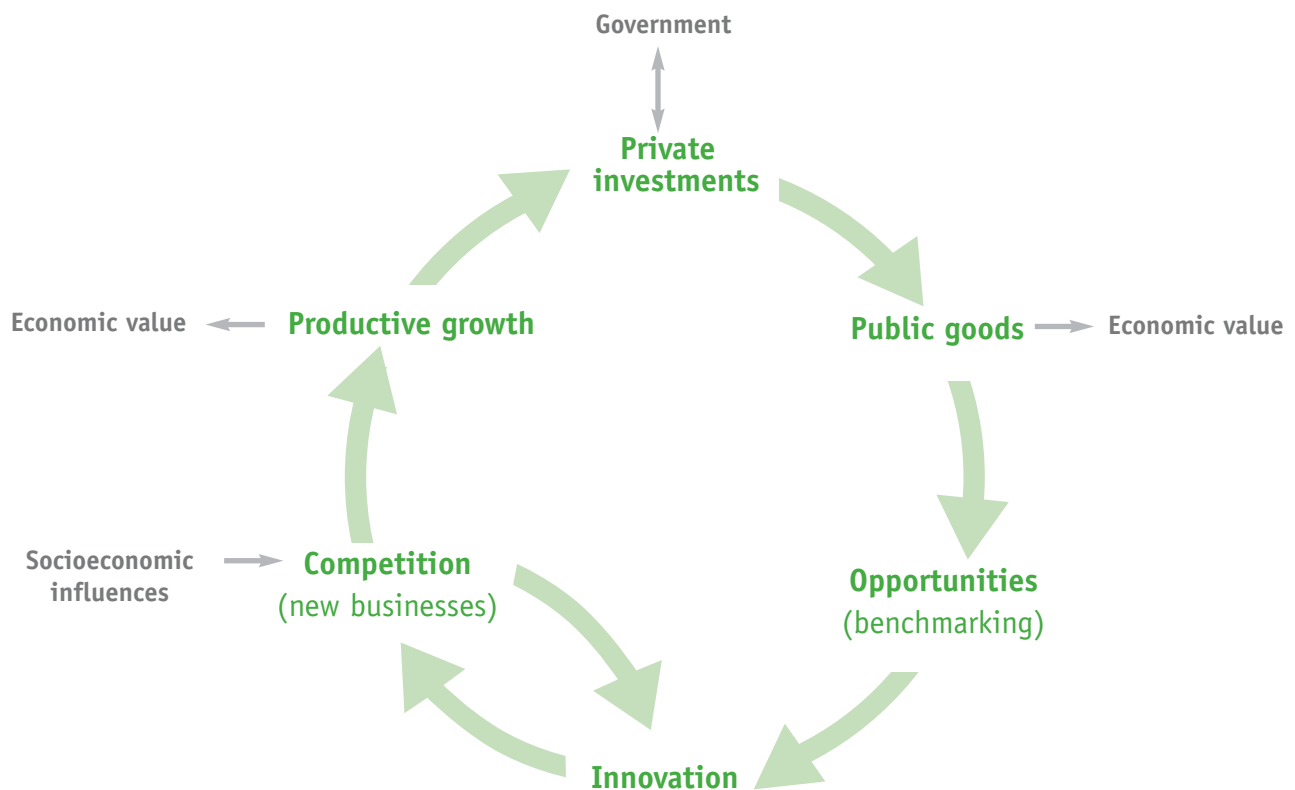


FIGURE 1: COMPETITION/INNOVATION CYCLE

The Role of Customers, Suppliers, and Universities

Though not presented in Figure 1, there are additional external elements that affect this competition/innovation cycle. One crucial element is the role of the customers, suppliers, and universities in stimulating and shaping innovation (Porter 1998). In particular, the wants and needs of the customers drive the market for new products and services as well as the sustainability of a firm. Hence, in-depth knowledge of customer value is the heart of many business strategies.

Customer value is defined as an “interactive, relativistic, preference experience” (Holbrook 1996, Holbrook and Corfman 1985). This experience is based on the consumer’s overall assessment and perceptions of the utility of the product (Zeithaml 1988). By taking the strategic position of “Total Customer Solutions” (Hax and Wilde, 1999), a firm is customer oriented and outward thinking. The company also has an organizational structure that centers on achieving customer value. In this position, the company is better equipped to understand and meet customer needs. The business focus is to form a bond with the customer. By establishing a deep customer relationship, this enhances the consumer’s perception of not only the utility of the product but also the overall experience with the firm.

In terms of customer influence specific to designing for the environment, the current demand conditions for green products as delineated by the *Green Gauge Report*² are limited. While close to half of Americans are in a high socio-economic status and have the purchasing power to pay a premium for environmentally friendly products, a small percentage (approximately 15%) actually does. That percentage represents the needs of two consumer segments: the True-Blue Greens³ and the Greenback-Greens⁴. Therefore, in response to these particular consumers, the proliferation of businesses has been primarily on serving a niche market.

The other larger segment, the Sprouts⁵, has the financial capabilities but has not been influential in the innovation process for green goods and services. This suggests that Sprouts currently assesses and perceives the value, i.e., the

utility, of the eco-friendly products and services differently than the True-Blue Greens and Greenback-Greens.

Suppliers affect the innovation process as well. As it relates to green business, this is driven by the availability of natural capital/resources. Information and globalization have made access to natural capital easier for the suppliers. It is only with restrictions brought on by scarcity of the natural resource or by government regulations and policies do suppliers stimulate the green innovation process. An example of how specific limitations initiated new concepts and subsequent competition is Toyota’s “green” machine, *Prius*.

After the Korean War, Japan experienced rapid growth. However, by 1991, due primarily to rising interest rates, Japan was in a recession. In 1996, Prime Minister Ryutaro Hashimoto established a broad reform plan to restructure administration, education, the financial system, fiscal policy, and social security. The reforms also address regulations that restricted business development and competition. Along with these reforms, Japanese companies were also facing the implementation of tougher environmental regulations to manage pollution and global warming. In addition to more stringent environmental requirements pertaining to clean air, the Japanese consumers and auto industry had to confront the problem of gasoline storage and the anticipated escalation of petroleum prices worldwide. To promote innovation as well as to deal with the issue of resource shortage, the Japanese government offered incentives such as tax credits that were directly related to research and development, especially for new solutions in “unexplored fields” (The Economist Intelligence Unit Limited 1999).

In 1997, Toyota Motor Corporation introduced to the Japanese consumer *Prius*, the first mass-produced car powered by a combination of gasoline and electricity. With this car, Toyota’s strategy was to be the first mover and to dominate the market in “green” automobiles. The success of Toyota’s *Prius* in Japan has brought recognition and interest to other foreign auto competitors. Even though General Motors (GM) and Volkswagen had been exploring the green business long before Toyota’s innovation, neither of these companies had

²This report published annually by NOP World, LLC, tracks consumer attitudes and behaviors about environmental issues.

³True-Blue Greens are the environmental leaders and activists. Green Gauge Report 1999.

⁴Greenback Greens are the environmental spenders – people willing to pay to improve the environment, but with little time to get involved themselves. Green Gauge Report 1999.

⁵Sprouts tend to also be in the high socio-economic group. They are the key “swing” people whose attitudes and behavior can be both pro- and anti-environment. Green Gauge Report 1999.

a successful product. Seeing the success of Prius, GM and Volkswagen established a technology alliance with Toyota.

In this example of Toyota, impending natural resource scarcity and government intervention instigated green innovation. This innovation led to new businesses and additional private (domestic and foreign) investments for the future. The competitive advantage brought on by the unique product also created rivalry with competitors. In turn, the economic and societal gains from this rivalry were greater information and advanced technology in the public domain. Likewise, the resulting new and higher industry standards also contributed to the betterment of the quality of life.

The final factor that has a role in innovation is knowledge centers, such as universities. As seen in the Toyota example, technology development and transfer have a key function in the competition/innovation cycle. Universities and educational programs play a similar role. They not only influence innovation through research and development as well as through the establishment of environmental learning centers, but they also generate the skilled human capital necessary for a competitive advantage in the green market.

Social Capital

In addition to how customers, suppliers, and universities affect innovation, there are other components that impact competition and the creation of new businesses or the modality of entry. These components are socio-economic conditions. Economic activities are very much intertwined with social relationships or "social capital" (Porter 1998), and economic value is measured by varying socio-metrics. The type of socio-metrics depends on whether it is a developing country or developed one. Given the significance of socio-metrics, the relationship between a company and the community is paramount in maintaining a competitive advantage and the viability of that firm in the long run.

Social capital contributes to a company's sustainability by supporting the infrastructure and facilitating the firm's power to acquire the necessary resources and information. The ability for a firm to optimize social capital is a critical component for the success of a corporation. In the case of multinational corporations (MNCs), this becomes a fundamental factor for growth as MNCs enter the market where requirements in the host country, such as environmental standards, are more stringent than that of the homeland.

Finally, as depicted in the Toyota example, the government is an important catalyst for private investments either directly or indirectly. Government incentives, such as tax credits and favorable trade requirements, can promote private investments. Various forms of protectionism and sanctions also impact private investments. Depending on the regulatory requirements, this can either stimulate or suppress private investments. As with community relations, it is therefore necessary for firms, especially MNCs, to also view the government as a customer and foster a relationship in order to gain a competitive advantage and be sustainable.

In sum, the competition/innovation cycle shows how economic value is derived from private investments to produce public goods that spur competition and productive growth. There are external and internal elements that influence this cycle. Socio-economic factors, customers, and suppliers (availability of natural capital) play a pivotal role in determining whether green entrepreneurship is truly a competitive advantage and the basis for sustainability.

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