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COMPETITIVE BUSINESS STRATEGY OF A PUBLIC BREEDING INSTITUTE

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Abstract

Due to squeezed public budgets in both developing and developed countries, the governments' policy often include privatization of public plant breeding institutes as a proposed solution to the problem. Since vast of commercial plant cultivars have been developed by conventional breeding techniques, the interest for acquiring such institutions raised over the last several decades. However, not much attention has been paid to developing competitive business strategy within the public Institutes so the customers and society may still benefit from the both its value proposition and public good. At the Osijek Agricultural Institute, Croatia, an early developed focus-and-customer-relationship competitive business strategy has always been a linchpin that could financially and technically underpin plant breeders' education, development of new cultivars and improvement of plant science in the Pannonia region of southeastern Europe. Not less important, this kind of strategy that rely much on personal connection with the customers results better in both - their buying experience and our price positioning in the seed market. It seems that, besides pure transaction, the customers especially appreciate every contact that cannot be found online. Every improvement in this segment of customers' captivity is crucial and therefore of utmost importance for keeping our business strategy competitive, sustainable and enhanced. The example of the Osijek Agricultural Institute that is presented in this paper shows that regardless of being for-profit entity such as a public owned or private research institute, knowledge on choosing and pursuing a proper business strategy is a point of paramount importance, i.e. it is the question of life or death for every kind of market oriented entity.
Keywords: Business, Strategy, Value Proposition, Competitive Advantage, Privatization

1. Introduction

Since 1878, the Osijek Agricultural Institute, Croatia, has been providing research in plant science – from the very first incentives on improving general agricultural practices and early collections of germplasm to the conventional breeding programs aimed to developing non-GMO commercial hybrids and varieties of agricultural plants (maize, wheat, barley, soybean, alfalfa, forage peas, and red clover), supported by the molecular methods such as double haploid and genomic selection. However, long-term debate and misconception about the role of the public plant breeding institutes in the real sector seed industry in southeastern Europe opened certain dilemmas that could be submitted to the following questions: (i) should a public research Institutes practice commercial activities along with scientific ones, (ii) what kind of value proposition, value chain, competitive advantage and competitive business strategy they can perform, and (iii) what about social responsibilities of the Institutes in case of their privatization. This paper deals with this particular agenda that has been on the table for years within the governments and academic community in the region. It includes managerial approach based on Michael E. Porter's foundations and on-the-ground experience in commercial plant breeding and competitive business strategy implementation. It also analyses the importance of having sustainable business strategy that includes a distinctive value proposition along with other strategy's essential elements required for meeting both social and customers' needs as well as retaining Institute's position on the market. Not less important, such comprised scientific and business policy has always helped the Institute for being decisive and as much as possible independent form the general policy makers whose decisions hadn't been always clear and in favor of plant science development.

2. Discussion

2.1. Should a Public Research Institutes Practice Commercial Activities along with Scientific Ones

Public research budgets in developing countries are usually very tight so they do not provide enough money for any sustainable plant breeding program as well as for basic research. In Croatia, for instance, governmental fund for R&D was in range from .74% to .88% of the national GDP vs. 1.77% to 2.04% of the EU GDP for the period 2007-2016 (http://ec.europa.eu/eurostat/). As public budgets are squeezed, research institutes are often being asked to earn more through the sale of their products and services (Tripp and Byerlee, 2000). For the Osijek Agricultural Institute, reinvestment of the profit earned into new cycles of R&D and breeding programs has always been and still is of the utmost importance for its development and sustainability. In such economic environment the overall stability of the Institute relies on combining the following: (i) state budget investment in plant research which never exceed 10% of the total revenue stream, (ii) results of the commercial breeding programs aimed to development of the new commercial cultivars, and finally (iii) results of the seed production and its sales at domestic and foreign market.

Managerial combining of the above listed items and processes actually help development of high performing cultivars and quoting lower than premium seed price for the farmers. Therefore, we may speculate that if there were no Institute, the seed price would rapidly rise at regional market due to reinforcement of the competitors' power. Consequently, societal needs would be probably suffering from the global market players' business policy.

2.2. What Distinctive Value Proposition (VP)

Choosing particular kind of value proposition you will offer your customers is the core of competing to be unique. It is the element of strategy that focuses externally on the customers, at demand side of the business (Magretta, 2012). For the Institute, it is a unique package of seed product along with accompanied extension service aimed to the small and medium size buyers and social benefit. Rural society from which our customers mostly come from and operate in may also benefit form this service through farmers' education on successful crop growing. Improved crop production in such competitive context usually reflects on customers' loyalty by alleviation a potential constraint for expanded use of the Institute's seed products. A distinctive combination of non-GMO seed product, its medium price, personalized relationship with customers and a set of complementary services completes the value proposition for the customers. The VP model of the Institute is shown in Table 1.

Table 1. The Value Proposition Model of the Agricultural Institute Osijek, Croatia

What customers?	What needs?
- local farmers	- high yielding cultivars of above average yield stability
- local agricultural enterprises in the country and abroad	- extension service on successful crop growing
- distributors, representatives and direct sales	- plant and soil analysis
What relative price? - acceptable to local farmers (no premium, no discount)	

Various scientific backgrounds of the Institute' staff ensures that, besides the seed product, we can provide a valuable services to our customers as well as free after-sales support such as an extension service, plant lab analyses, field trials statistics, and Field day plot logistic. It means we offer farmer-acceptable seed prices accompanied with convenient services. Alike non-profits, we shift part of our relative value in rural society's favor (analogue to higher price for pure profits). It reflects a part of our social responsibility as a public institution but it also has positive effect to customers' loyalty and our market position as a regional player.

2.3. The Agricultural Institute Osijek Value Chain

The value chain consists of the sequence of internally primary and support activities that an organization performs in order to create a value for customer. Porter (1980) claims that all differences between companies in cost or price derive from the hundreds of activities required to create, produce, sell, and deliver their products or services. The author says that all differentiation is being created right here along with accompanied costs. Therefore, value chain is crucial for understanding competitive advantage. At the Institute, the value chain refers to R&D, conventional breeding, seed production, processing and supplying, marketing and sales, and post-sales service (Table 2). Most of our rivals are not present with R&D and breeding divisions in the region and therefore cannot ensure scientifically based post-sales service to the full extent (Table 2). Following and strictly performing the sequence of those particular activities helps out our strategic positioning on a regional market. By default, small regional farmers are price sensitive and very traditional so they appreciate developing activities being performed at local level. It makes them feel On The Safe Side, Especially In Europe Where The Fear Of Transgenic Plants Is Notably Expressed. Magretta (2012) pointed out that the value chain must be specifically tailored (designed) to deliver a distinctive value proposition to the customers. According to the author, a value proposition that can be effectively delivered without a tailored value chain will not produce a sustainable competitive advantage. These activities are managerially relevant sources of competitive advantage - the things that managers can control. Managing both cost drivers and price drivers of those activities and subactivities may show us what costs could be cut without harming customer value. Strategy is about trying to shape these underlying determinants of profitability (Magretta, 2012).

Table 2. The Two Competing Value Chains

The Value Chain of the Agricultural Institute Osijek				
R&D	Breeding programes	Seed production	Marketing & sales	Post-sales service
The Value Chain for the Most of Rivals				
not in the region	not in the region	Seed production	Marketing & sales	Limited post-sale service

2.4. What Competitive Advantage and Competitive Business Strategy

Competitive advantage refers to an edge that enables a company to earn above industry average profit (Tse, 2018). Competitive advantage lies in the activities that were chosen to perform differently or to perform different activities from rivals (Magretta, 2012). As Porter (1998) argues, competitive advantage arise form the value-creating propositions of a firm or a country. Such propositions may emerge from the firm's (or country's) management of its competitive strategy for competition or its value-creating activities. Kuah et.al. (2013) claim that competitive advantage can also be derived from rare, unique and heterogeneous recourses, which can be translated into capabilities that offer value to both the firm and its customers. Johnson et.al. (2017) stressed out that organizational knowledge is especially important because it may produce competitive advantage. The authors define it as organization-specific, collective intelligence, accumulated through formal system and people's shared experience. It doesn't last forever though, since it can obsolete or get emulated by rivals or new entrants. Therefore, in plant development we consider very specific and narrow based architectural knowledge as the most precious intangible asset of all incumbents. However, competitive advantage is location specific and non-available to the wannabe entrants. To some extent, an informal communication and collaborative practices, even among competitors, should be practiced for promotion of intimate knowledge and collective learning (e.g. exchanging germplasm info or field trials materials). Moreover, it also builds the barrier to get into the industry and therefore contributes to the longer forecast period of competitive advantage. Porter (1985) argues that gaining and sustaining competitive advantage depends on understanding not only a firm's value chain but also how the firm fits in the overall value system (fitting). Although differences in value chain are key source of competitive advantage, it is important to see how chosen activities relate to one another (Magretta, 2012). Each of the independent

choices should enable (reinforce) the value of the other. For example, we believe our basic R&D reinforces plant breeding as our "near market" science; winter countryside meetings with farmers reinforce their decisions on buying our seed products; and extension service impacts social benefit through crop growers' education. It altogether contributes to customers' loyalty and the Institute's reputation. Thus, value or cost of one chosen activity is synergistically affected by the way other activities are performed. The final result of fitting should be strategy enhancement that is characterized by lower costs for institution and higher value for customers. Strategy is about trying to shape these underlying determinants of profitability (Magretta, 2012). Therefore, strategy always means deliberately choosing a different set of activities to deliver a unique mix of value.

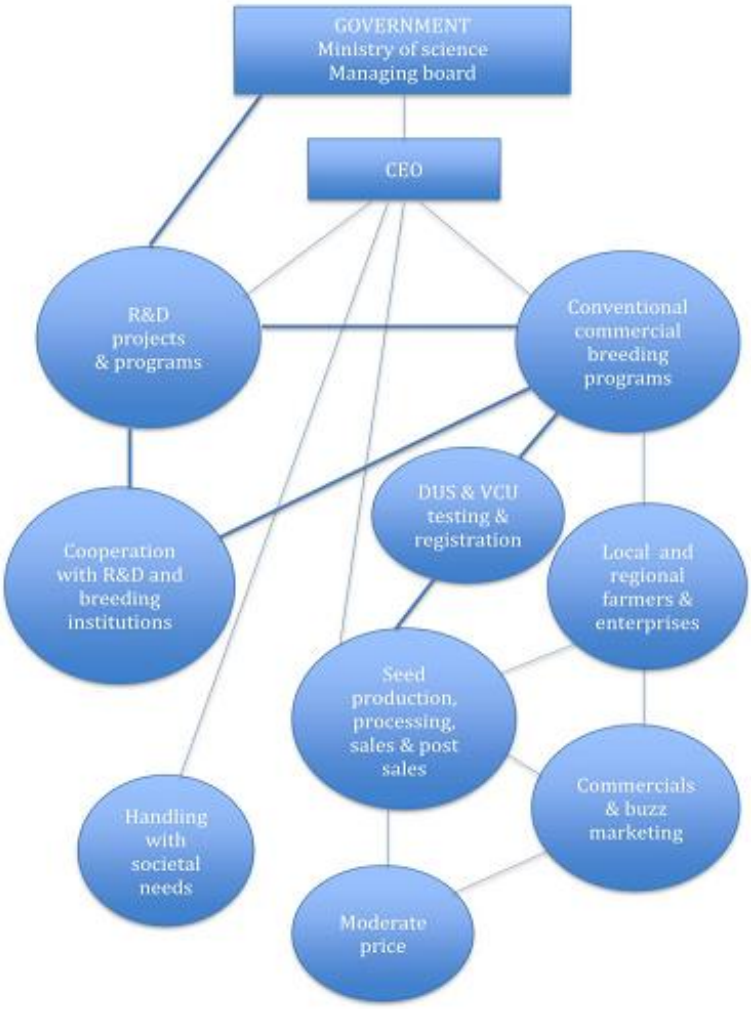

Figure 1. Activity System Map of the Osijek Agricultural Institute

During 140 years of the Institute's continuity, it seems that our customers along with us have contributed significantly to our competitive advantage – actually, we believe they're part of it. We especially value and are proud of the unique relationship with our main distributers and customers. It is a personalized relationship rather than institutional only. Building such relationship is a highly time-consuming process with no shortcuts in its implementation. Carlson (2007) points out that such kind of relationship is characteristic of regional firms and contributes to lowering price and not always expecting normal or industry rates of return on investment. The same author emphasizes this particular relationship as one of the key factors that influence customers' selection of seed products. Greenwald and Kahn (2005) indicated that, besides differentiation and economies of scale, customer captivity represents the most powerful competitive advantage. Authors also pointed out how strategy of being local or an area of focus (concentration) is easier for a firm to get the competitive advantage. Kay (1993) argues that

corporate success derives from competitive advantage that is based on distinctive capabilities, which is most often derived from the unique character of a firm's relationships with its suppliers, customers or employees.

Having into consideration aspects of being public research institution and regional market player as well as limitations in scale so as our concentration on the small to middle size enterprises and customer relationship, it seems that focus type of competitive business strategy is the most appropriate one for the Institute. Applying complementary services such as an extension service to our customers contributes to both creation of the real value for our customers and sets the Institute apart from the rivals (differentiation). Additionally, our customers especially value personal relationship experienced in doing business with the Institute's employees. However, from the standpoint of profitability our rivals probably reach better off, but as a public institution our strategy actually stands at the intersection of public benefit and financial performance. The latter often suffers at the expense of previous because, as explained, we transfer part of our VP into public (social) needs and because profitability itself isn't solely purpose of any public institution. For fully understanding, the complete map of activities of the Osijek Agricultural Institute is shown in Figure 1.

2.5. What About Social Responsibilities of the Institutes in Case of Their Privatization

Fundamentally, knowledge is an "impure" public good, so any research can produce some social benefits that may not be financially profitable to the innovating firm such as nutritional traits and diseases resistance in plants (Thirtle *et.al*., 2001). Contribution to education at universities as well as practical training of plant breeders at the Osijek Institute to acquire hands-on experience is part of our social role. Additionally, our regular donations to charity, sport and art at local community reflect our position as a state-owned public Institute as well. Although some authors suggested flexible strategy for public plant breeding (Tripp and Byerlee, 2000), we believe that only clear, distinct and firmly embodied strategy within an organization would successfully connect organization's profitability and social benefits. Porter (1980) argues that problem is that when you substitute flexibility for strategy, your organization never stands for anything or becomes good at anything. Magretta (2012) points out that flexibility sounds good in theory, but trace it down to the concrete level of the activities you perform and you'll see why flexibility without strategy will guarantee mediocrity-tailoring will be poor, trade-offs inconsistent, fit impossible. Sticking with its strategy allows a company to more fully understand the value it creates and to become really good at it. Tripp and Byerlee (2000), in an era of privatization advocated relinquishing the commercial breeding activities to the private sector or even privatization of the public breeding Institutes. The authors suggest concentration of the public breeding programs to the basic germplasm improvement and leaving to the private sector more applied types of research. Webster (1989) cite the case of privatization of public sector R&D establishments in the United Kingdom that has been forced by the government split "near market" and "basic" research, which again led to dissatisfaction among the staff and a change of direction in both aspects of R&D. Author stresses out his doubts that such policy encourages any greater efficiency. The good thing is, however, that privatization helps institutions to reach some institutional structures on which future innovation in the new technologies will depend. Morris et.al. (2006) point out that public breeding institutes will continue to struggle and have difficult time convincing policy makers that their activities cannot be picked up by private firms. Likewise, on-the-ground experience of the post socialist countries showed that in ownership transformation cases of the plant breeding institutes, they lost their scientific role due to post-privatization problematic staff retention and then a vast of their profit served for private needs only with a very few social responsibilities, if any. It ultimately seems that society of developing countries still benefit much more from the private seed sector indirectly through the public institutions rather than if societal needs purely depend on private firms' business policy.

3. Conclusion

Further development of basic R&D and plant breeding development cycles at the Institute is possible only by inner profit distribution over the Institute's core activities,

Additional customers captivity is an opportunity for the Institute to develop further differentiation from the regional players in the seed industry and keep our competitive advantage sustainable and competitive business strategy focused and enhanced.

Our on-the-ground experience showed that after their privatization in southeast Europe, research institutes lost both their R&D and societal role, and a vast of profit served for private needs only with a very few social concerns.

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