

Finding a plausible option for revitalising agricultural higher education in India: a systematic review

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ABSTRACT

The objectives of this paper were to explore the existing status of agricultural higher education in India, application of marketing concepts in similar institutions and to find the most appropriate marketing concept to make agricultural higher education more competitive. Extensive searches of relevant agricultural education, business management and higher educational data bases were made. It was found that agricultural higher education in India is stagnant and is facing an identity crisis among its stakeholders. Marketing theories and concepts which are now being applied in higher education across the globe have not been thought of in the context of agriculture education. A review of the literature suggested that considering the objectives, the multiplicity of stakeholders and the nature of public-funded agricultural education, marketing orientation would be most appropriate. Based on the experiences of similar institutions, the paper suggests a three-level strategy for the implementation of marketing orientation in institutions of agricultural higher education.

KEYWORDS

Agricultural education; higher education; India; market orientation; publicly funded institutions

Introduction

The agriculture sector is imperative for food security, employment generation and economic growth (Sinha, 2000); however, it is becoming more and more complex due to globalisation, climate change, entry of corporations into the agriculture value chain and the increasing demand for processed food (Tamboli & Nene, 2013). In India, the sector has come a long way from a ship-to-mouth existence to food self-sufficiency (Tamboli & Nene, 2013). However, in view of the changing scenario and increasing expectations from agriculture, India will need more trained, qualified and motivated agricultural professionals. The agricultural higher education system, with one of the largest networks of agricultural institutions, is expected to meet the requirements of providing a trained and dedicated labour force of agriculture experts (Challa, Joshi, & Tamboli, 2011; National Academy of Agricultural Sciences [NAAS], 2005).

Currently, the agricultural higher agricultural education system in India comprises 53 state agricultural universities, five 'deemed to be' universities, one central agricultural university and four central universities with an agriculture faculty (ICAR, 2012). This is

in addition to many affiliated undergraduate colleges providing degrees in agricultural education. Unfortunately, the scenario of agricultural education is very poor (NAAS, 2005; Shrivastav, 2012; Sinha, 2000; Tamboli & Nene, 2013). The agricultural higher education system in India which is credited with bringing about a Green Revolution in the country is facing a major identity and funding crisis. Although the Indian Council of Agriculture Research (ICAR) which is responsible for quality and uniformity of the content in state agricultural universities and other institutions providing agricultural education has been raising concerns and trying hard to improvise the status of agricultural higher education in country, it has not been able to do much. It appears that developments in the states have bypassed this critical branch of higher education and the agricultural higher education system has been showing signs of stagnation.

The studies carried out by Challa, Rao, and Nanda (2007) and Pal, Mathur and Jha (2005) have revealed that the quality of agricultural education in India has suffered a lot in the last few years. According to C. D. Mayee (one of the members of the ICAR committee and former chairman of Agricultural Scientists Recruitment Board, responsible for identifying lacunae in agricultural education system), 'Education should be the fundamental for better research. But the scenario is very bad today. There are 56 agriculture universities producing 30,000 graduates. But the quality is substandard. Hence, there is a need for overhauling the entire framework of the universities', as quoted in Times of India by Shrivastav (2012). Besides equipping the graduates with subject competency, there is also a need to redefine agricultural education with the objectives of instilling self-motivation and positive attitude among the graduates (NAAS, 2005). There is no doubt that in many parts of the world, agricultural education is perceived as being less attractive than medical, business and computer science education. Agricultural educators can do a lot in terms of making their programmes more attractive. If agricultural education institutions want to go the way of better branding, they should totally rethink their mission, vision, strategy and services (Mulder, 2016).

As in many parts of world, the agricultural higher education institutions in India have traditionally been funded by the government. Students accept admission because of limited options and lower fees, and professionals (both scientific and field extension) join these institutions because of job security and better remuneration. However, reducing potential applicants and declining government funding are forcing policy-makers concerned with agricultural education to consider strategic issues that can significantly alter the situation of agricultural education in India. Although ICAR has made many attempts to tweak education, research and extension systems of agricultural higher education, the overall results, except for few remarkable achievements, have not been significant (ICAR, 2012; NAAS, 2005). Under similar conditions, marketing concepts like marketing orientation and branding strategies have been receiving increased attention.

The broadening of marketing concepts (Kotler & Levy, 1969; Levy & Kotler, 1969) has led to application of marketing elements in fields outside core business domain (Kotler & Zaltman, 1971) including higher education (Dholakia & Acciardo, 2014). Branding, based on primary function of differentiating and communicating competitive advantage, plays a prominent role in the marketing strategies of educational institutions (Dholakia & Acciardo, 2014; McDonald, 2009). It has been reported by Chapleo (2007) that marketing and branding remain key in environment beset with sweeping changes,

and the marketing orientation concept can be adopted in the higher educational environment effectively (Hammond, Webster, & Harmon, 2006).

This paper presents results of systematic review of literature on the status of agricultural education in India, and the usage of marketing concepts in higher education. The objectives of the review were to analyse the current status of agricultural in India, identify marketing concepts which have been used in higher education, and make suggestions about possible application of the most appropriate marketing concept in the institutions of agricultural higher education.

Application of marketing concepts in higher education

The elements of globalisation in higher education are widespread and multifaceted, and the higher education market is now well established as a global phenomenon (Hemsley-Brown & Oplatka, 2006). In recent years, there has been a paradigm shift in the governance of the higher education system throughout the world and marketisation policies, and the market-type mechanisms have been introduced in the countries previously characterised by a high degree of government control (Jongbloed, 2003). With the die now cast for free-market pricing, and almost half of the students (one of the major stakeholders) unconvinced that their course provide value for money, universities have to think hard about how they attract, retain and satisfy this new generation of discerning customers (Bodoh & Mighall, 2003).

Marketing activities by public institutions are stimulated by changes in the competitive and demographic landscapes (Dholakia & Acciardo, 2014). The increasing costs of education and the increasing competition among higher education institutions force universities to adopt market-oriented strategies in order to differentiate their services from those of competitors (Butt & Rehman, 2010). The literature reveals that higher education system across the globe like in the United States (Dill, 2003), Canada (Kwong, 2000), the United Kingdom (Taylor, 2003), Japan (Arimoto, 1997), China (Mok, 2000), Asia (Gray, Fam, & Liane, 2003), Africa (Maringe, 2004) and India (Raj, Raguraman, & Veerapan, 2013; Thanagasamy, 2014) is moving towards marketisation and deregulation. The issues of application of marketing concepts in higher education have been discussed in the context of various concerns like problem of increasing competition (Farr, 2003; Ivy, 2007), funding (Brookes, 2003) and increasing participation (Farr, 2003). There has been a paradigm shift in the governance of higher education system throughout the world, and the marketisation policies and market-type mechanism have been introduced in the countries previously characterised by a high degree of government control to gain competitive edge and larger share of market (Hemsley-Brown & Oplatka, 2006). Universities and other institutions of higher education have to compete with each other to attract high-quality students and academic staff in an international level (Melewar & Akel, 2005).

In view of the above fact, the author recognises that there is considerable scope for using marketing concepts in the field of higher education in India, which has so far been largely state funded and devoid of any such attempts by universities authorities. The need of doing so is imminent. A review of the literature on the subject suggests that although there is unanimity of opinion on the application of marketing concepts in higher education, the authors have different opinions about how and which concepts

should be used. Branding remains the most talked about (Bodoh & Mighall, 2003; Brookes, 2003; Dholakia & Acciardo, 2014; Gray et al., 2003; McDonald, 2009; Vlasin, 2009), but other concepts have also been discussed in context of higher education: marketing communication (Gatfield, Braker, & Graham, 1999; Gray et al., 2003; Hesketh & Knight, 1999; Markwick & Fill, 1997; Mortimer, 1997); reputation and image management which has been considered different from branding (Binsardi & Ekwulugo, 2003; Hemsley-Brown & Oplatka, 2006; Ivy, 2001; Nguyen & Leblanc, 2001; Oplatka, 2002); relationship marketing (Arnett, German, & Hunt, 2003; Gibbs, 2001; Klassen, 2002; Oplatka & Hemsley-Brown, 2004; Sirvanci, 1996); corporate identity (Baker & Balmer, 1997; Jones, 2001; Melewar & Akel, 2005; Melewar & Jenkins, 2002) and market orientation (Chapleo, 2007; Fredriksson, 2009; Hammond et al., 2006; Harris, 2001; Merchant, Rose, Moody, & Mathews, 2015; Trang, Blankson, & Roswinanto, 2015).

Application of marketing concepts in agricultural higher education in India

Agricultural education policymakers now recognise that they need to rehearse their education system (ICAR, 2012; NAAS, 2005) and need to adopt marketing concepts like branding of agricultural education (Kumar, 2016). Currently, agricultural higher education is facing issues like the difficulty in attracting bright students, lack of funding and shortage of academics (Tamboli & Nene, 2013). Other problems confronting agricultural universities include traditional teaching, lack of good quality textbooks/case studies, inability of staff to inspire students and weak interaction between students and teachers (Challa et al., 2011).

From the economic perspective, the major source of funding for these universities has been the Government, but because of the financial crunch, the Government has been reducing funding. Similarly, almost stagnant growth of agriculture and faster growth of other sectors such as information technology and service sector have made agriculture as a sector less rewarding and with fewer opportunities. Marketing and branding strategies can help institutions to overcome the aforementioned problems as these have been able to do the same in the United States (Brookes, 2003).

Besides meeting young undergraduate aspirants, agricultural education has other major responsibilities of conducting researches and extending those to farmers' field. Universities need to develop strategies based on a set of unique characteristics and communicate these characteristics in an effective, consistent way to all the relevant stakeholders to maintain and enhance their competitiveness (Melewar & Akel, 2005). Branding as a strategy has become more popular way of differentiating an institution from its competition, but the complexity of higher education makes branding an even more difficult task than in the traditional commercial context (Dholakia & Acciardo, 2014). Considering the status of agricultural education in India, branding, imaging and reputation, marketing communication and relationship marketing may not be appropriate. These marketing concepts, to be used for the promotion of agriculture education effectively, require the product or services of agricultural higher education to be either better or to have similar qualities than those of its competitors. Unfortunately, agricultural higher education in India is suffering from multifunctional deterioration and neglect (Challa et al., 2011; Himanshu, 2016; Tamboli & Nene, 2013). The problems

that agricultural education faces in India are multifaceted – quality of students, old curriculum and pedagogy, quality of academic staff and no formal administrative system for agricultural education, to name a few (Mishra, 2016). Promoting products that don't deliver is a waste of money because advertising has to be honest that should be commensurate with promise (Reeves, 1961). Developing compelling and credible brands will present some real challenges in a sector that has been slow to embrace the basic principles of branding to identify, differentiate and communicate what is unique about a product, institution, or service (Bodoh & Mighall, 2003) like agricultural higher education in India. Besides lagging in the usage of modern technologies, research and extension systems have not been properly integrated with the graduate and post-graduate education systems (Jha, 2016). Agricultural higher education in India should first work on all fronts and have an integrated approach of education in which classroom teaching is integrated with research, extension and capacity building interventions of institutions, and then only think of marketing or branding (Jha, 2016).

If agricultural education institutes want to go the way of better branding, they should totally rethink their mission, vision, strategy and services (Mulder, 2016). Considering the above factors and on the basis of the available literature on the application of marketing concepts, one of the solutions which agricultural education in India may find appropriate is adoption of marketing orientation. Marketing orientation has been successfully implemented by universities with the state government funding (Chapleo, 2007; Merchant et al., 2015). Besides product functionality and production efficiency, marketing orientation focuses on delivering products designed according to customer desires, needs and requirements. By implementing this concept, institutions cannot only get closer to the needs and aspiration of stakeholders, but while attempting to meet those needs, institutions can bring changes in the working of its different functional units. Because of its suitability and easy implementation, Hammond et al. (2006) too had concluded that a marketing orientation can be adopted in the higher educational environment. A successful marketing strategy translates organisational goal into reality (Levitt, 2008; McNamara, 1972). Marketing orientation has been considered an effective driver of business profitability, innovation, employees' commitment and performance of organisation (Kirca, Jayachandran, & Bearden, 2005).

Market orientation in agricultural higher education – the stakeholder's perspective

In a market-oriented economy where an organisation's existence depends on its customers, the organisation is established to serve customers and meet their expectations (Trang et al., 2015). However, in the case of agricultural higher education, the success is not only dependent on students, but also on teachers and other equally important stakeholders (customers) like farmers, researchers, agro-industries, extension professionals and the government. The difference between what customers expect and what is being communicated, and what they actually experience after they use services can help measuring customers' satisfaction. In the case of agricultural higher education, the presence of multiple stakeholders makes measuring satisfaction of stakeholders difficult.

Tasks of agricultural education planners become difficult because of varying importance of stakeholders and varying priorities of each stakeholder. For example, for an

agricultural graduate, a good education must lead to a good job with high salary; for a researcher, the priorities are facilities and incentives for good and continuous research. Criteria used to assess whether or not an organisation is successful include the organisation's ability to tap into customers' vantage points (Drucker, 1954; Garvin, 1987) which in the case of agricultural higher education would depend on multiple stakeholders and would ultimately reflect the satisfaction of respective stakeholder. It has been recognised that higher education was not a product, but a service, and the marketing of services was sufficiently different from the marketing of products (Nicholls, Harris, Morgan, Clarke, & Sims, 1995). The nature of marketing in educational institutions is service marketing, and this (according to Mazzarol, 1998) decides that education is 'people based' and emphasises the relationship with customers. In a university environment, students' satisfaction is a good indicator of the quality of education (Trang et al., 2015). In the case of agricultural higher education, however, satisfaction with different stakeholders of teaching, research, extension services and training provided by the institutes is crucial.

Adopting marketing orientation in agricultural higher education and the framework

Marketing orientation is the organisation-wide generation of market intelligence pertaining to current and future customer needs, dissemination of the intelligence across departments and organisation-wide responsiveness to it (Jaworski & Kohli, 1993). An organisation implementing market orientation works at three behavioural levels. 'Customer orientation', defined as the sufficient understanding of one's target buyers to be able to create superior value for them continuously; 'competitor orientation' which refers to the case wherein a business understands the short-term strength and weaknesses and the long-term capabilities and strategies of both the key current and potential competitors; and 'inter-functional coordination', which means the coordinated utilisation of company resources in creating superior value (Narvek & Slater, 1990).

A positive correlation between the levels of marketing orientation within a firm and the ability of the firm to achieve its objectives has been empirically established (Jaworski & Kohli, 1993; Morgan, Vorhies, & Mason, 2009). The difference between what customers expect and what they actually experience after they buy the product measures customer satisfaction (Aiello, Czepiel, & Rosenberg, 1977). Satisfaction and service quality are closely correlated. The classical framework of service marketing by Parasuraman, Zeithaml and Berry (1988) explains service quality on the basis of five gaps, that is, the difference between customer expectation and experience, communication, delivery, service specifications and service design. Satisfaction is an antecedent of service quality, and therefore it is employed to measure the quality of service (Oliver, 1981). The framework as suggested by Trang et al. (2015) holds very high potential in implementing marketing orientation in the agricultural higher education system, particularly in state agricultural universities. It has further been proven that there is a positive correlation between marketing orientation and stakeholders' satisfaction (Bock, Poole, & Joseph, 2014; Merchant et al., 2015; Stokes, 2002; Trang et al., 2015). In the following section, a three-layered strategy has been proposed for institutions

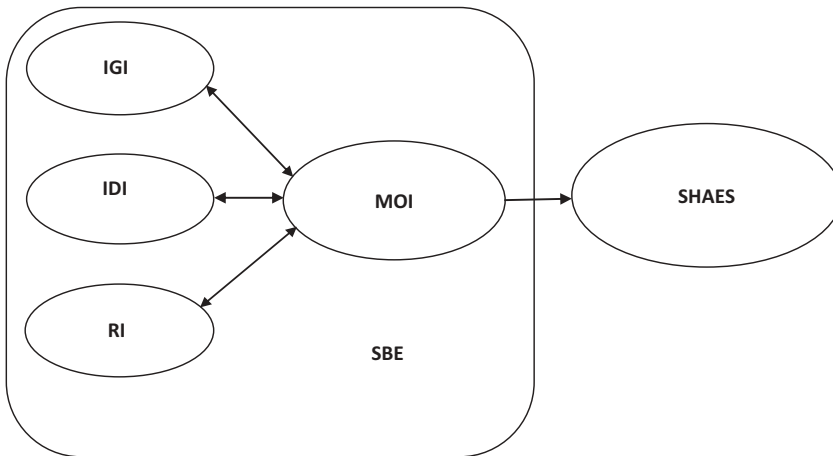


Figure 1. Marketing orientation in agricultural higher education in India: the framework. IGI: intelligence generation by institution; IDI: intelligence dissemination within institution; RI: response by institution; MOI: marketing orientation of institution; SHAES: satisfaction of higher agricultural education stakeholders; SBE: supportive business environment.

dealing with agricultural education in general and state agricultural universities in particular for implementing market orientation concept (Figure 1).

Intelligence generation by institution

During this process, institutions collect information regarding stakeholders' needs and expectations. Institutions prioritise their stakeholders in order of their importance and feasibility of meeting the expectations of respective stakeholders with their existing resources. Institutions also collect information about their competitors and their present and future possible activities in order to understand stakeholders (customers) and their various options (markets).

Because of this, Jaworski and Kohli (1993) have termed intelligence generation as the stimulus that leads to the development of organisation's entire business system. In case of agricultural higher education, this will require coordination between different functional units including academic departments, research, training, extension and human resource development as each of these has different objectives, i.e., marketing perspectives. Pelham and Wilson (1996) have reported that an organisation's ability to collect and process information results in the organisation's better ability to predict its capability, embrace adaptation and create value for customers.

The consequence can be severe if an organisation produces products or services that customers do not want (Trang et al., 2015) or does not produce what customers' want because of lack of knowledge about their customers. It is the responsibility of the 'management' of agricultural education system that data regarding needs and aspirations of different stakeholders are collected and analysed. It is expected that agricultural higher education in India will not be able to meet all the needs and expectations of all stakeholders with limited resources at its command; however, selective corrective actions will prove very helpful.

Intelligence dissemination by institution

The degree to which information sharing takes place among different functional units within an organisation is critical in the marketing orientation strategy (Narvek & Slater, 1990). Agricultural higher education needs to develop an effective internal communication strategy in which information flows in seamlessly, and strategies involving appropriate action are also discussed without delay. This is challenging for the institutions engaged in agricultural education because of differences in academic accomplishments of different stakeholders with different objectives. Coordination within and between various departments for information dissemination, analysis and feedback will decide the level of success of implementation of the marketing orientation strategy (Trang et al., 2015) and will result in a better operational performance (Han, Kim, & Srivastava, 1998). Efficient information sharing provides the university leaders or administrators with an opportunity to understand ongoing situations and problems, which, in turn, enables them to make better decisions (Quinn, 1992).

Interactions with the various departmental heads of state agricultural universities give an impression that each department has been making considerable contributions in their respective fields of operations. However, other departments are ignorant about these contributions. Lack of information sharing and dissemination mechanism has made centres of agricultural education look like non-performers or lying dormant for a considerable time (Kumar, 2016). Creating a functional and active mechanism of information dissemination helps agricultural higher education institutions not only to formulate effective strategies of information sharing, but also to increase their visibility and recognition.

Responsiveness of institution

The degree to which a firm responds to customers' requirements or to competitors' activities decides the success of marketing orientation (Jaworski & Kohli, 1993). In agricultural higher education, the quality of institutions is generally evaluated by the institutions' ability to respond to the students' aspiration, farmers' needs and government's expectations. On the basis of the information gathered, shared, analysed and discussed, educational institutions plan and implement their activities to meet stakeholders' expectation and respond to the competitors' strategies.

As agricultural institutions are facing problem along various fronts (Challa et al., 2007; Shrivastav, 2012; Tamboli & Nene, 2013), these institutions need to prioritise their interventions in order to keep themselves in competition. Usually institutions would like to start with those which will give impression to the primary stakeholders that their needs are being met and they would continue to repose faith in the institution.

Supportive business environment

Conducive business environment and competency of business are pre-requisite for the success of any business and marketing activity. On similar lines, successful marketing orientation implementation in agricultural higher education requires both internal

competency of institutions and conducive academic administrative environment. The available literature suggests that agricultural higher education is suffering on both these fronts (Challa et al., 2007; ICAR, 2012; NAAS, 2005; Pal et al., 2005; Tamboli & Nene, 2013; Varma, 2014). The ICAR will have to take the lead to work on the internal competency of agricultural higher education system in India. It has been taking steps to increase the quality of agricultural education in the country, but it seems that because of excessive continual emphasis on the development of varieties since the Green Revolution (Sinha, 2000) and ICAR's inability to foresee the future of education and take necessary actions, have left agricultural higher education in India non-competitive. Among other reasons, ignorance about the possible application of management concepts and the inability to cope with changes in the market of agricultural education have been the major reasons for the present status of agricultural institutions. Also, the states have to de-control the management of institutions phase-wise giving them more authority to take decisions and making them responsible for developing strategies to remain competitive.

Conclusion

This review has focused on exploring, categorising and analysing literature on higher education in agriculture with special reference to India, and the application of management concepts in higher education. The analysis of the reviewed literature indicated that the agriculture sector in India has undergone major changes because of globalisation. Unfortunately, agricultural education has not been able to keep pace with the changing nature and needs of the sector. Attempts to revive agricultural higher education in India have ignored the business and marketing concepts leaving those institutions non-competitive. Experiences of higher education have revealed that implementation of marketing concepts by academic institutions has resulted in more satisfied customers, more funding, better academic productivity and more recognition. Marketing orientation is one such approach which has been successfully implemented by corporations and can be applied in Indian agricultural higher education institutions. The literature on the subject has established that systematic generation, dissemination and responses from the organisation will help requirements of all three layers of marketing orientation. This, in turn, can meet the needs and aspirations of various stakeholders leaving them happier and satisfied. In the Indian context, the role of ICAR and respective state governments will, however, remain crucial. If the policymakers make concerted efforts, no doubt agricultural institutions too will become competitive and will have a level of recognition at least equal to that of its competitors.

Implications and further research potential

The agricultural higher education institutions face tough competition and challenges in a fast changing education scenario. With more and more and career options opening for potential students and professionals there is an urgent need for institutions to break away from their traditional functioning and offer innovative, need-based, market oriented courses and services. The management of agricultural higher education has to understand what agricultural higher education an institution stands for, and how to

make itself worth marketing. What are the expectations, and who all are the important stakeholders? How can marketing concepts like marketing orientation and branding be applied in agricultural higher education?

While marketing scholars encourage the adaptation of marketing constructs such as marketing orientation in different environments and contexts, there is a need for future researchers to conduct detailed studies on the application of different models in different agricultural higher education settings. For future research, it would be fascinating to study the application of marketing orientation and other marketing concepts in agricultural higher education in India and other countries where it is still state funded and where institutions have diverse stakeholders. If the agricultural higher education institutions have to be recognised as centres of qualitative and market oriented education, as places of advanced research in agriculture and other emerging disciplines, and as sources of valued extension and capacity building of professional work in the field, it will be necessary for there to be continued quantitative and qualitative studies that consider the marketing concept as a viable strategy for bringing a expedient transformation to the Indian agricultural higher education sector.

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