

# IFAMA 2015: Emerging business models in horticulture value chains: Frameworks for entrepreneurs to create market relevance and impact

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## Abstract

High-tech horticulture production methods (such as vertical farming, hydroponics and other related technology possibilities), combined with evolving market side possibilities (consumer's willingness to pay for variety, food safety and security), are opening new ways to create and deliver value. In this paper we present four emerging business models and attempt to understand the conditions under which each business model is able to create positive market value and sustained business advantage. The first of these four models is the case of a vertically integrated production to retail operation. The second model is the case of a production model with assured retail/distribution side commitment. The third model deals with a marketing/branding driven production model with differentiated market positioning. Finally, the fourth is a production model with direct delivery to the end-consumer based upon the leveraging of wide spread digital technology in the consumer market. To demonstrate these four business models, we analyze practical case studies and analyze their market approach and impact. Using this analysis, we create a framework that enables entrepreneurs and businesses to adopt a business model that matches their capabilities with market opportunities.

**Key words:** *Business models, Entrepreneur, Horticulture chains, market creation, sustained business advantage*

## Introduction & Research questions

Horticulture value chains are facing growing consumer demand expectations for variety, food safety and security. Most of the horticulture supply chains operate in a conventional capacity driven (push based) approach which leads to a mismatch between demand expectations and supply side capabilities. In developed markets, horticulture supply chains are experiencing substantial challenges posed by excess capacity, lack of differentiation and lower prices. Emerging market challenges are more related to supply shortage, lack of product variety, and safety and quality of the produce.

The mismatch between expectation and supply suggests restructuring of the horticulture production chain from a push based system to a combined push-pull system. A combined push-pull approach ensures that market dynamics are taken into consideration when it comes to making decisions about technology adoption and production capability. Pioneering businesses agree that achieving the optimal push-pull requires tailored business models. In general however, there is less clarity on what defines a genuinely differentiated business model. To facilitate right interpretation and understanding we define the critical components that constitute a business model. For this research the following three elements define the conceptualization and realization of the business model:

- *The value proposition [The product-service offering]*
- *Resources and chain partnerships [Businesses enabling the creation and delivery of value proposition]*
- *The value delivery [The process of exchanging value and finances]*

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By fine-tuning each of the above elements a different business model can be created. In this paper, we present four emerging business models and understand the conditions under which each of these four business models create market value. The first of these four models is the case of a vertically integrated production to retail operation. The second model is a case of a production model with assured retail/distribution side commitment. The Third model deals with a marketing/branding driven production model with a differentiated market positioning. Finally, the fourth one is a production model with a direct delivery to the end-consumers leveraging on the ubiquitous adoption of digital technology by the consumers. For each of these four business models, we analyze a practical case study and analyze their market approach and impact. Using this analysis, we create a framework that indicate the conditions and parameters under which each of the four business models can create market side impact and offer a sustainable business model.

From this conception what questions should an entrepreneur ask himself before finalizing his horticulture business model?

1. What is the connection between demand-supply dynamics and the business model choice?
2. How should the competitive landscape be evaluated and understood and how does that affect the choice of the business model?
3. What framework should be used to think about these questions (demand-supply-competition-capabilities) to come to the right business model choice?

## **Research method**

To address these questions we take support from the published literature and from four real life case studies We will also make use of extensive interviews and discussions with entrepreneurs and experts who are pioneering business model innovators in general and horticulture in particular.

## **Literature research:**

Research relevant to this study focuses on demand-supply dynamics and quantifies the opportunities and constraints within horticulture value chains. Additional relevant literature deals with the economics of technology development and how these technologies overcome constraints imposed by the current demand-supply dynamics. Thirdly, we will be looking at the literature that deals with business model innovation in general and specifically within the horticulture sector. Combining insights from these three areas and applying them to the four practical business models would enable us to define the conditions and parameters under which one business model performs better than another. This study contributes by defining innovative business model possibilities in horticulture and provides a framework on “how” to arrive at the right business model.

Ahmed et al (2011) studies the competitive dynamics within fruit and vegetable value chains in emerging markets and brings out insights related to work force development initiatives and establishment of connections with developed markets fruit and vegetable value chains. Despommier (2010) and Oskam et. al (2013) provide a good overview of high-tech production systems.

Amit and Zott (2001, p. 493) propose a firm’s business model is an important locus of innovation and a crucial source of value creation for the firm and its suppliers, partners, and customers. Osterwalder

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(2010) defines a business model through a canvas that is now one of the popular tools for businesses to structure and present their operational and strategic components for creating and delivering value. While the Osterwalder (2010) Canvas Business model is very helpful in explaining an operational or worked-out business model it does not provide a framework on “how” to come to the right business model. The “how” element needs to take the sector specific dynamics of demand, supply and competition into account to choose the right business model. Once the right business is worked out the Osterwalder (2010) model can be quite helpful as a check. In this study, horticulture specific “how” elements addressing the creation of value proposition, creation of collaborative partnerships, and value delivery are worked out.

### **Contribution & Conclusions of this research**

The basic premise of this study is that supply-demand dynamics within horticulture value chains are changing quite rapidly and that these fast changing dynamics will challenge the current approach to creating (production) and delivering (distribution) value to consumers. Our hypothesis is that new ways to create and distribute value is only possible by restructuring businesses and their business models. Although most businesses now accept that they need to re-align their business models with the realities of the market place, it is less clear how to go about achieving this. The key contribution of this research is that it demonstrates “what” business model is most appropriate for his/her business and “how” to execute it. (market value of market relevance).

The key outcome/contribution of this study is a business model choice framework that is derived out of the key requirement to align supply and demand dynamics. To achieve this, technology choices need to be demand driven and strategic and value chain partnerships should enable a continuous product-market-technology-economics fit.

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