

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

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## Abstract

Horticulture value chains are quite critical for the food & agribusiness sector. Currently the sector is experiencing challenges, especially lack of profitability, causing several businesses to be near default. Short product shelf-life and lack of product differentiation are cited as critical reasons for low to non-existent profit margins in this sector. Horticulture stakeholders (operating at different levels of the value chain) are looking into new business models for creating & delivering value to overcome these difficulties. In this paper we present a framework for creating a differentiated business model with the elements required to achieve success in the modern horticultural marketplace. A differentiating value proposition, right distribution strategy, complimentary chain partnerships and embedded sustainability elements are identified as the key elements for making a business model successful. Frameworks related to how to organize the above critical elements have been worked out in this research. We have examined a wide range of case studies to build and test both the theory and frameworks. In this study we analyze two different but successful business models each having a differentiating value proposition. The first business model deals with a marketing/branding driven production approach with differentiated market positioning, while the second case is a production model with direct delivery to the end-consumer. Understanding the frameworks and how to use them can aid entrepreneurs to design and deliver sustainable business results through new business models.

**Key words:** *Business models, entrepreneur, horticulture chains, market creation, sustained business advantage*

## Introduction & Research questions

Horticulture value chains are facing growing consumer expectations for variety, food safety and security. Most 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 four elements define the conceptualization and realization of the business model:

- *The value proposition [The product-service offering]*
- *Resource and chain partnerships [Businesses enabling the creation and delivery of value proposition]*

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- *The value delivery [ The process of exchanging value and finances]*
- *Sustainability components [addressing the effects on people, society and the environment while pursuing the profit component]*

By fine-tuning each of the above elements, a different business model can be created. But how to turn the theory into practice remains a critical question. The entrepreneur seeking to develop a new business model must answer four important questions.

1. How can an entrepreneur configure a differentiated value proposition?
2. How can an entrepreneur work out his distribution strategy?
3. How can an entrepreneur realize complimentary chain partnerships that would enable him to deliver the value proposition?
4. How should the entrepreneur approach sustainability in the context of his new business model?

## **Research method**

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

## **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 enables us to define the conditions and parameters under which one business model performs better than another.

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 & Zott (2001, 2012) suggest business model innovation as a way to create and extract value, especially in times of economic change. Osterwalder (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. Nidumolu et. al (2009) in their Harvard Business Review article have dealt extensively with how sustainability is, and will continue to be, a key driver of innovation.

Without a business model perspective, a company is a non focused participant in a dizzying array of networks and passive entanglements. Adopting the business model perspective can help executives

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purposefully structure the activity systems of their company. This study contributes by defining innovative business model possibilities in horticulture and provides a framework on “how” to arrive at the right business model. 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.

## Analysis and the development of the framework

Literature review, expert interviews and successful cases with innovative business models suggest that a successful business model need at least 4 complimentary components. Differentiated and competitive value proposition is the first critical component, while a well worked out distribution strategy, complimentary chain partnerships and embedded sustainability elements are the other three components. These 4 components in the context of the differentiated business model is indicated in Figure 1 below:

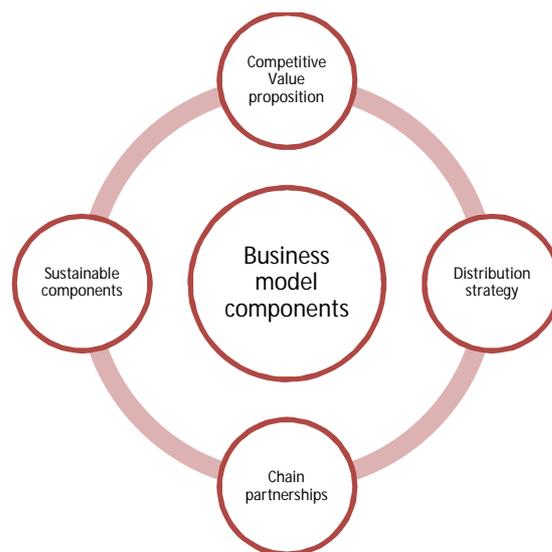


Figure 1: Business model components

Each of the 4 components indicated in the above figure will be addressed in detail using frameworks to guide how these components are worked out in the context of two case studies. Before we progress further with the development of the frameworks, we introduce the two case studies.

### Case study 1: Looije Tomaten

*Looije is a family company in the Netherlands that was set up in 1946 by J.M. Looije, the father of the present-day director Jos Looije. The company started out growing a range of vegetables. The oldest son, Jos Looije, joined the company in the 1970s, which is when the company started to specialize in*

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*growing tomatoes. In 1992 they further specialized to growing cherry tomatoes and in 2000 they added vine cherry tomatoes to their product range. Up until 2003 they had sold their produce through auction houses, but after they started selling direct. It was in 2005 that they decided to launch a specialized brand of tomatoes called Honingtmaten®.*

### *Case study 2: Lufa Farms*

*Lufa Farms, based in Montreal (Canada), is a commercial agricultural company that is pioneering a viable and sustainable model for city rooftop farms. Without using chemical pesticides, herbicides or fungicides, the company's greenhouses produce more than 100 tons of vegetables the year round. In addition to their own production, they also procure from local organic produce growers to enable a complete food assortment consumers can customize and order on-line and have directly delivered to them. Lufa Farms distributes more than 3,000 baskets of produce per week through a network of pick-up points in and around Montreal. Lufa Farms customers choose their products from an online grocery store which allows them to select exactly what goes into their baskets.*

In the next section we suggest an approach for developing a competitive value proposition.

### **1. Competitive value proposition aligning specific demand-supply dynamics**

A value proposition is generally made up of one or more “differentiating *attributes*” that a sizeable segment of customer<sup>1</sup> is able and willing-to-pay for. The differentiating attributes could be direct product attributes, service attributes or a combination thereof. Examples of product attributes in the context of horticulture are freshness, variety, health impact, consistency, availability, affordability etc., while attributes such as convenience and customization are service attributes. A clear and competitive value proposition is designed by using one or more differentiating attributes. Using data related to existing market offerings, a business can identify and develop a value proposition to identify and develop an underserved market. This is market innovation, the process of defining and serving combinations of new customer segments and new product attributes.

In this research, we offer the following tool to enable an entrepreneur to systematically work-out a competitive value proposition. The greater the level of insight and intuition in using the tool, the more differentiating the value proposition can be.

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<sup>1</sup> We consistently try to use customer segments to cover industrial clients and the end-consumers. A customer segment is a sizeable group (in its current form or growth form) that is able to offer a realistic business case

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		Customer segment + distribution channel combination					
			A		B		
		A1 (Customer interest)	A2 (Benchmark)	A3 (Your differentiated value proposition)	B1	B2	B3
	Attributes						
Product	Taste	5	0	3			
	Variety	1	1	1			
	Freshness	1	1	1			
	Healthy elements	2	1	2			
	Affordability	4	2	3			
	Consistency	2	1	2			
	.....	.....					
Service	Availability	2	1	2			
	Convenience	2	1	2			
	Customization	2	1	1			
	.....	.....					

*Figure 2: Value proposition Tool*

Product and service attributes are the key starting points in creating the value proposition. The above table lists some common product attributes but is in no way exhaustive. In fact the innovative entrepreneur identifies and creates new attributes as a way to differentiate and create a competitive value proposition. In that sense the tool is open ended and can accommodate whatever attributes an entrepreneur believes would be valued and paid for.

Next the tool defines the consumer segment in the context of a distribution channel. The reason for this is that, in the context of food, a consumer nearly always makes use of several channels and his/her behavior at each can be quite different. Gajanan & Basuroy (2007) describes how consumers perceive and respond to sellers, their products, and the environment in which they are sold and vice versa. For example a consumer at a retail supermarket exhibits higher price sensitivity than at on-the-go channels (such as train stations). Hence to be able to create a more pragmatic and executable value proposition, the tool considers both the consumer profile & the distribution channel.

Once these two elements are worked out appropriately, the consumer segment preference for each of the attributes can be marked on a scale 1-5 (and if any attribute is not important/ relevant for a specific segment then that particular attribute can be ignored). This is represented by the column A1 in the tool. Subsequently, the current ability of the most effectively performing player (we call this

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process benchmarking the competition) can be mapped, again using the same scale 1-5. This benchmarking is presented in column A2 and the difference (A2-A1) gives an indication of the potential underserved demand. If an entrepreneur can address this gap through already existing capabilities, or through investment, then there is scope for action. In the table indicated above, a competitive value proposition is created for the entrepreneur in the column A3 and the difference (A3-A2) indicates comparison to the competition. If there exist attributes which in the entrepreneur's perspective are valued highly by a specific target segment, but ignored by the benchmarked competition, there is a scope for addressing an unmet need and an entrepreneur has identified an opportunity.

In summary, after performing competitive benchmarking mapping specific consumer segments to different product attributes, entrepreneurs/businesses can design their value proposition based on a combination of factors such as:

- Current capabilities that will allow it to service the underserved or unmet attributes better than the competition
- The revenue and the growth potential of the current market segment and how easily it can be extended to other consumer segments
- The ease of forming partnerships to deliver the value proposition

The tool and its applicability will become clearer when we apply it to the two cases studied in this research. *Below we present and discuss the value proposition for the Honingtomaten® initiative of the company Looije Tomaten.*

### ***Building the value proposition of Honingtomaten®, Looije Tomaten***

		Specialized fruit and vegetable shops & Gourmet food service		
		A		
		A1 (Customer interest)	A2 (Benchmark)	A3 (Looije's differentiated value proposition)
	Attributes			
Product	Taste	5	2	4
	Variety	3	1	2
	Freshness	5	1	4
	Health benefits	4	1	4
	Consistency	5	1	4
	Snacking	-	-	4
Service	Convenience	-	-	2

*Figure 3: Value proposition of Honingtomaten®*

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*After looking at the commoditization of the tomato chain and increased price pressure from retail businesses, Looije and his team have decided to create a differentiated value proposition for their tomato products. As a result the Honingtomen® journey began in 2005 with the value proposition as presented in table 2. The key insights from the table are presented below:*

- 1. Looije Tomaten have understood that while there is a consumer segment that value taste of tomatoes, the industry is focused on delivering volume at lower price. Furthermore, they know taste is influenced by growing conditions and also know that only 20% of every harvest is of the highest taste standard. Hence Looije Tomaten saw an immediate differentiation opportunity by exploiting this tastiest 20%.*
- 2. For the same reasons, industry was focused on lower price rather than taste/freshness which left a certain consumer segment unhappy*
- 3. Looije found the same segment that valued taste highly also valued health benefits, but growers did not know how to position and market tomatoes to take advantage of this.*
- 4. Consistency of taste and quality as well as price was a major issue and the segment that was not wholly driven by price was not getting the attributes they desired.*
- 5. Finally, a service attribute, namely convenience, strongly influences food buying behavior, but the tomato growers did not understand how to combine convenience with a superior tomato.*

*Looije Tomaten figured out a way to address each of the above elements as follows:*

- 1. They learned how to isolate the 20% of tasty tomatoes from every crop. It was a combination of art and science (growing knowledge, extensive taste tests etc.)*
- 2. They invested in a customized human sorting and packaging facility to ensure that product uniformity and product freshness is ensured and maintained. As a result of this initiative their logistics costs doubled but the desired freshness and consistency have been achieved.*
- 3. They realized that these tasty tomatoes could be positioned as a snack and a specialty gourmet product that would meet both the health and convenience attributes desired by the consumers.*

*Looije Tomaten was able to differentiate in several dimensions, taste, consistency, and the positioning of the tomato as a healthy and convenient snack, thus fulfilling several underserved needs. This value proposition gave birth to Honingtomen® a differentiated tomato using a distribution channel that commands a consistently higher price throughout the year.*

*Below we present and discuss the value proposition for Lufa Farms.*

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## ***Building the value proposition of Lufa Farms***

		Variety & convenience seeking consumer segments		
		A		
		A1 (Customer interest)	A2 (Benchmark)	A3 (Looije's differentiated value proposition)
	Attributes			
Product	Freshness	5	2	5
	Healthy	4	2	4
	Variety	5	3	4
Service	Convenience	4	1	4

*Figure 4: Value proposition of Lufa Farms*

*Lufa Farms is a fully vertically integrated company that has created a complete chain for growing and supplying fresh locally produced food all the way up to the consumer. When they began in 2009 with their first production facility in Montreal (Canada) they were considered to be pioneers in leveraging state-of-the-art technologies in both production (green house cultivation) and marketing (Internet).*

*Their value proposition of offering a fresh, healthy, fresh product portfolio delivered directly to the consumer is the differentiating element of their value proposition as clearly reflected in the table above. Most of the insights for building the Honingtomaten® success are also relevant in this case.*

In the next section we deal with the distribution strategy & approach

### ***2. Clarity on the distribution model catering to specific market segments***

The second most critical component is aligning the distribution strategy with the value proposition. The distribution strategy is the mode of downstream partnerships that will enable delivery of the promised value proposition to the end-consumer. In practice distribution strategy is mostly defined while creating the value proposition and in a few cases distribution strategy is a part of the value proposition. One of the reasons why this is of critical importance is that the distribution channel strategy defines the positioning and target segment for which the value proposition is actually created. Hence, the choice of the distribution channel partnerships defines the target consumer segments and to a greater extent the revenue model of the business.

Nalla & Kouwenhoven (2014) have dealt with the importance of distribution channel choice and its' relationship with the go-to-market strategy. The main message of the Nalla & Kouwenhoven (2014) is that a differentiated value proposition requires a differentiated distribution strategy. Their research contribution has been the development of two concrete frameworks for entrepreneurs, one to understand the distribution landscape and the second to choose the right channel to match the life cycle of the value proposition. In this research we directly make use of the second framework and understand its relevance and applicability to the two business cases dealt with in this study.

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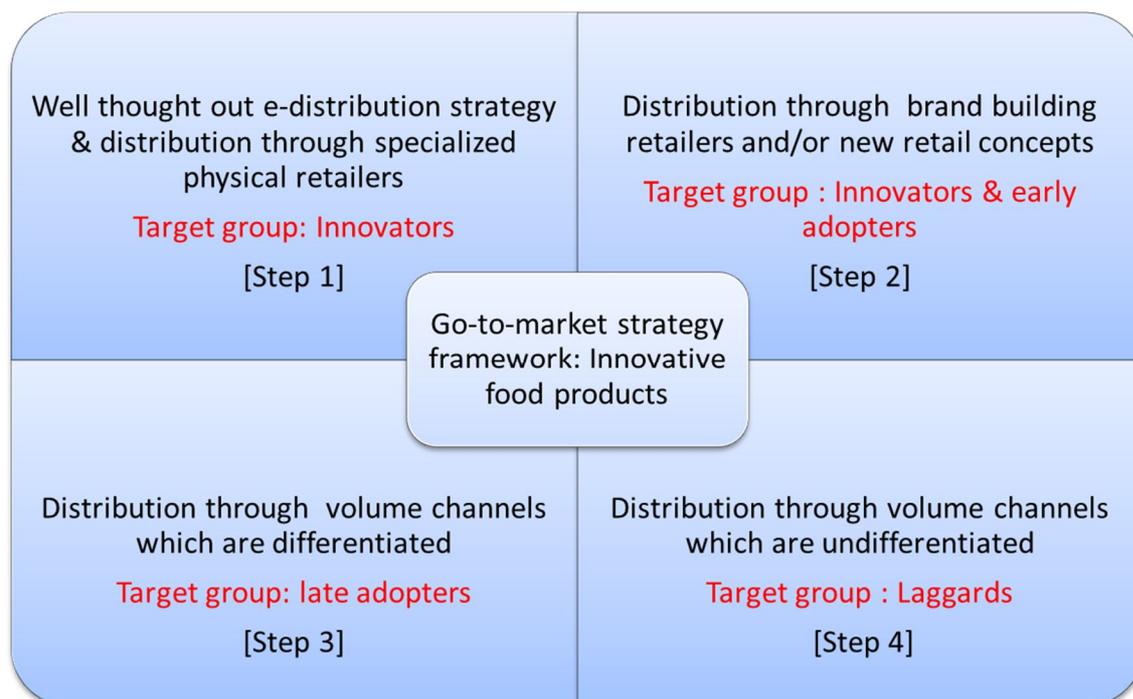


Figure 5: Go-to-market strategy framework for innovative food products

Within the go-to-market strategy framework it is suggested that it could take four steps in which an innovation could eventually (over a period of time) reach the status of a conventional mass product.

**Step 1** is about setting-up a well worked out specialized distribution strategy either with an on-line strategy or niche physical retail channels to reach out to the target consumers and ensure that they have tried the product(s). In **Step 2**, the business should endeavor to use specialized physical distribution channels that offer higher potential volume than the niche distribution channels in Step 1. In **Step-3**, the product becomes relevant and interesting for volume driven brand building retailers. In **Step-4**, the product is ready to go into the mainstream retail formulas that are driven primarily by price and volumes. A detailed explanation of each of these four steps and the actions that need to be taken is extensively covered in Nalla & Kouwenhoven (2014). Here below, we present the distribution channel strategy for each of the 2 case studies that we discuss in this research.

*Honingtomaten® has understood that their differentiating value proposition needs a novel distribution approach. Hence they have approached the specialized fruit & vegetable retailers and gourmet food service distributors. The value proposition of Honingtmaten® was immediately clear to these channels as they could see that this product had potential to appeal to their consumer segments. Honingtmaten® also promised their channel partners that Honingtmaten® would remain committed to these channels and would never go to the conventional channels. This way the channel partners maintained exclusivity and took special care in promoting Honingtmaten®.*

*Lufa Farms direct-to-consumer distribution of locally grown organic products is one of its key differentiating elements as indicated in the value proposition table.*

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In the next section the role of complimentary partnerships will be discussed and demonstrated in the context of each of the 2 different case studies.

### **3. Value chain and ecosystem partnerships for delivering the value proposition:**

Almost always, a competitive value proposition creates interdependencies with other complimentary businesses both upstream (suppliers) and downstream (distribution) in the value chain. Additionally, it needs support services of other critical eco-system partnerships in logistics, IT, marketing etc. In addition to a key product and service value proposition, it is the committed and eco-system partnerships that have the potential to offer a longer term competitive advantage.

Each of the successful case studies has created differentiated partnerships built over a period of time and cannot be easily duplicated.

*Looije, the parent company of Honingtomaten® explicitly touts the power of partnerships and explains very clearly on their website how and why they created their unique eco-system and the competitive advantage it offers them. The collaboration ranges from banks, to information technology companies, breeding companies, green house technology companies, distribution channel partnerships etc. and ensures win-win opportunities for all the players involved. It is clear from their more than 10 years of sustained competitiveness in maintaining their value proposition, that committed and differentiated eco-system partnerships can indeed enable a sustained competitive advantage. For a more detailed understanding on the diverse range of complimentary partnerships please visit their website link*

[http://www.looijetomaten.nl/index.php?option=com\\_content&view=article&id=104&Itemid=175&lang=en](http://www.looijetomaten.nl/index.php?option=com_content&view=article&id=104&Itemid=175&lang=en)

*In addition to the partnerships that enable best production capabilities, Lufa Farms has established partnerships with other growers in the region to establish product variety and pricing that make the direct-to-consumer delivery value proposition feasible. And it's not just the product variety and pricing, Lufa's partnerships in last mile logistics positively affects the consumer experience and gives them an added competitive advantage and differentiation. For new competition to be as effective as Lufa Farms they need to replicate this entire eco-system.*

From the above discussion, it is clear that complimentary and carefully designed partnerships are critical for building a successful horticulture business model. This essentially means that successful business models require structural business associations that are more than simply transactional (cost driven) business associations. In the next section we deal with an additional but important component, the sustainability elements.

### **4. Sustainability elements embedded in the value proposition**

Sustainability elements are valued more and more by environment and resource conscious consumer segments. And such consumer segments are seeking such differentiated value propositions and are willing to pay a premium and express loyalty towards offerings that have sustainability embedded

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into the value proposition. Hence sustainable food solutions have gained traction in the marketplace. Sustainability is a very broad concept and any generalizations are risky, but it seems undeniable that the literature shows that sustainability elements embedded into core business models promote greater consumer acceptance than otherwise. And the case studies that have been discussed in the context of this study support this argument. Here below, we discuss the sustainable elements that have been defined by the two businesses that have enabled them to keep a competitive edge over the competition. Also we briefly discuss in each case how the other 3 components of the business models (namely value proposition, distribution strategy and complimentary partnerships) enable them to achieve the sustainable elements and maintain business growth and profitability.

*Honingtomaten® model ensures a healthy snacking option for consumers and ensures minimum wastage at the consumer level premium price.*

*Lufa Farms direct-to-consumer distribution of local produce ensures transportation and wastage levels are minimized while ensuring that consumers get convenient access to safe & healthy products.*

In the next section, we present the contribution and conclusion for this research

### **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. We have demonstrated through this research 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 and entrepreneur’s business and “how” to execute it. Specifically, this research identifies differentiating value proposition, distribution strategy, and complimentary chain partnerships and embedded sustainability as the key business model components and presents frameworks to guide entrepreneurs to realize these components. Furthermore, the practical case studies discussed validate the frameworks and also gives a demonstration of how to apply them.

Although this study considers horticulture chain dynamics and deals with horticulture business cases, the presented structure should be valuable for other food chains and also for other sector chains.

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## References

- Amit, R., C. Zott, 2001. *Value creation in e-business*. Strategic management journal, 22(6-7), 493-520
- Amit, R., C. Zott, 2012. *Creating Value Through Business Model Innovation*, MIT Sloan Management Review
- Despommier, D. 2010. *The vertical farm: Feeding the world in the 21st century*, Thomas Dunne Books, New York, NJ, USA.
- Fernandez-Stark, K., P. Bamber, G. Gareffi, 2011. *The fruit and vegetables global value chain: Economic upgrading and workforce development*. Report for center for globalization, governance and competitiveness.
- Gajajan, S.S., S. Basuroy, S., 2007. *Multichannel Retailing And Its Implications On Consumer Shopping Behavior*, Journal of Shopping Center Research (2007), 14, 2, pp. 1-28.
- Nidumolu, R., C.K. Prahalad, M.R. Rangaswami, 2009, *Why Sustainability Is Now the Key Driver of Innovation*, HBR
- Oskam, I.F., K.P.H. Lange., J.P. Thissen, 2013. *Vertical Farming: Technologie en innovatierichtingen voor de toekomst*. Amsterdam University of Applied Sciences, Amsterdam, The Netherlands.
- Osterwalder, A., Y. Pigneur, 2010. *Business model generation: a handbook for visionaries, game changers, and challengers*. Wiley