

BUSINESS MODEL FOR CZECH AGRIBUSINESS*

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Business modelling facilitates the understanding of value creation logic in organizations in general. Identifying the components of business models based on different criteria helps understanding the fundamentals of business and the position of entrepreneurs and managers in companies. The present research is focused on the definition of a specific business model for the Czech agribusiness sector. Based on the theoretical background and evaluation of selected business models, the aim is to create a new business model, using components which take into account the specifics of this particular industry.

small farms; Canvas; Czech agritourism; modelling of business; strategy; business model components



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INTRODUCTION

Many definitions of a business model have evolved over relatively short time, but as Teece (2010) pointed out, like other interdisciplinary topics, business models are frequently mentioned but rarely analysed. As a consequence the term is often used, rarely properly understood. It is also affected by the way how scientists understand the topic – many of them link the business model with value capturing and firm performance. According to Amit, Zott (2001), a business model defines ‘how the enterprise creates and delivers value to customers, and then converts payments received to profits’. According to Richardson (2008), the business model explains how the activities of the firm work together. Table 1 provides an overview of the most common definitions of the business model.

For the purpose of this paper, the most relevant definition is that by Zott et al. (2010) describing the business model as the strategic tool of a farm’s business analysis. A structural template that describes the organization of a farm’s value creation and transaction process is needed to understand better its potential for innovation.

The importance of business modelling

As Ulvenblad et al. (2014) confirms, there are not many studies on business model innovation concerning the agricultural sector, thus there is a need to develop a new business model specifically for the agricultural sector. According to Žídková et al. (2011), farming enterprises have been adapting to the changing business environment. The cooperative business model has many appealing components at its core that make its use in rural areas generally easily accepted and embraced (Crandall, 2014). The useful strategic tool is a business model, especially when the latest economic results of Czech agricultural enterprises and the development of the main structural indicators of a farm’s economy can be a positive move (Tyrchtr et al., 2015). In general, there are several different opinions, as to why the research into the business model may be important. Teece (2010) wrote that an increased understanding of the essence of business models and their place in the corpus of the social and organizational sciences should help our understanding of a variety of subjects including market behaviour, competition, innovation, strategy,

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Table 1. The most common definition of a business model

Author	Definition
Chesbrough, 2002	‘Business model is a description of how your company intends to create value in the marketplace. It includes that unique combination of products, services, image, and distribution that your company carries forward. It also includes the underlying organization of people, and the operational infrastructure that they use to accomplish their work’
Teece, 2010	‘A business model articulates the logic and provides data and other evidence that demonstrates how a business creates and delivers value to customers. It also outlines the architecture of revenues, costs, and profits associated with the business enterprise delivering that value’
Zott, Amit 2010	‘The business model is a structural template that describes the organization of a focal firm’s transactions with all of its external constituents in factor and product markets’
Osterwalder et al., 2005	‘A business model is a conceptual tool containing a set of objects, concepts and their relationships with the objective to express the business logic of a specific firm. Therefore we must consider which concepts and relationships allow a simplified description and representation of what value is provided to customers, how this is done and with which financial consequences’
Margetta, 2002	‘A business model answers: Who is the customer? What does the customer value? How do we make money in this business? What is the underlying economic logic that explains how we can deliver value to customers at an appropriate cost? A business model focuses attention on how all of the elements of the system fit into a working whole. It describes, as a system, how the pieces of a business fit together’

source: author’s survey

and competitive advantage. Our understanding of the nature of the firm itself, together with the role of entrepreneurs and managers in the economy and in the society, should also benefit from a better appreciation of business models and their role in entrepreneurship, innovation, and business performance. Amit, Zott (2001) also comment that the study of business models is an important topic for strategic management research because business models affect the firms’ opportunities for value creation and value capture. The business model can be a source of competitive advantage that is distinct from the firm’s product market position (Christensen, 2001).

Osterwalder et al. (2005) also defines the general roles of the business model and identifies five categories of functions, which are: understanding and sharing, analyzing, managing, prospects, and patenting of business models.

Chesbrough (2002) also describes the business model functions, the most important being: to articulate the value proposition, that is, the value created for users by the offering based on the technology; to identify a market segment, that is, the users to whom the technology is useful and for what purpose; to define the structure of the value chain within the firm required to create and distribute the offering, to estimate the cost structure and profit potential of producing the offering, given the value proposition and value chain structure chosen; to describe the position of the firm within the value network linking suppliers and customers, including identification of potential complementors and competitors; formulate the competitive strategy by which the innovating firm will gain and hold advantage over rivals.

Within the strategy literature, research on business models has revolved mainly around three aspects: (1) the networked nature of value creation, (2) the relationship between business models and the firm performance, and (3) the distinction between the business model and other strategy concepts. As mentioned above, the business model represents a potential source of competitive advantage. In other words, the business model needs to be taken into account as an important new contingency factor to affect the strategy–performance relationship (Zott et al. 2010).

Firms in general seek opportunities to generate income by adopting new behaviour patterns in frequently changing conditions.. Their quest for new ways of operations can be facilitated by business modelling as it analyzes firm processes, and shows the opportunity for innovation pointing out whether the firm is able to implement a new idea brought in from external environment, rather than seeking for the innovation potential internally (Hron et al. 2012).

Business model and the firm performance

Business models can play a key role in explaining the firm performance. Afaah, Tucci (2001) propose the business model as a unifying construct for explaining the competitive advantage and the firm performance, and define it as ‘the method by which a firm builds and uses its resources to offer its customer better value and to make money in doing so’. Afaah (2004) focuses on a firm profitability and introduces a strategic framework in which the business model is conceptualized by means of a set of components that corresponds to the determinants of the firm profitability.

Table 2. Review of performance measurement

Author	Performance measurement
Brealey, Myers (2000)	profitability, efficiency, and market value
DeYoung (2005)	Return on equity (ROE) and return on assets (ROA), provisions-to-assets
Weill et al. (2005)	operating income, Economic Value Added, return on invested capital (ROIC), and return on assets
Malone et al. (2006)	Return on equity ROA
Zott, Amit (2008)	total value creation, profit and market value
Osterwalder (2010)	total costs, revenue, cash flow

source: author's survey

The framework includes the following components: resources (including competences and capabilities), industry factors, activities, and position.

Zott, Amit (2008) analyzed the performance implications of a business model design on entrepreneurial firms. In their view, the essence of the association between the business model design and the firm performance can be analyzed by looking at two distinct effects: the total value creation potential of the business model design, and the firm's ability to appropriate that value. They identify two design themes around which the business model can be orchestrated: efficiency and novelty. In their empirical work, Zott and Amit see the business model as an independent variable, and they link it with firm performance, moderated by the environment.

According to Weill et al. (2005), there is not a universally or even commonly used set of measures for evaluating the financial performance of firms. Multiple measures covering investor and accounting returns are typically recommended (e.g. Cochran, Woods, 1984; Brealey, Myers, 2000) including: profitability, efficiency, and market value. A wide range of measures have been used in previous research assessing strategic groups, or other organizational factors against a firm performance (Ketchen et al., 1993). For consistency with previous work, to evaluate the financial performance of strategic groups, we followed the lead of Ketchen et al., 1993 who worked out a list of 45 measures of performance in six categories: Sales, Equity and Investment, Assets, Margin and Profit, Market Share, and Overall (perceptual measures). We applied the measures from each of these categories that were appropriate for our objective. The approaches of several different scientists are shown in Table 2.

In the case of small and individual farms, it is difficult to use some of the indicators mentioned above because they are not relevant. The accounts of a small farm tend to show the same results in due to legislation. In this paper we have proposed an updated set of indicators.

MATERIAL AND METHODS

This study presents the application of a business model to the agricultural sector. Agribusiness is that part of the economy which is devoted to the production, processing, and distribution of food, and includes the financial institutions that fund these activities. Large-scale agricultural operations are managed in complete contrast to small-scale family farming. Agri-business is often very diversified and can be concerned with the whole range of agricultural output: the ownership of land, the agricultural production process, the manufacture of agricultural machinery, the processing of the product, and its shipment. This sector has many specifics which need to be taken into account. The specifics of the agricultural production include: (1) biological character of production, (2) spatial character of production, (3) locality, (4) comparability of production, (5) dependence on natural climatic conditions, and (6) specialization of production according to geographic location. Considering this it is apparent that there are: (a) long and fixed production cycles, (b) differences between the labour and production cycles, (c) high risks.

Agriculture plays a major role in maintaining and sustaining a basic living standard for the rural population in developing countries. The production function of agriculture, principally food supply, has long been recognized, but its social security function has generally been under-appreciated (Wang et al., 2012). Its role and functions are changing along with economic development and social expectations. The shape of changes in farming conditions is determined by economic, legal, environmental, technological, international, institutional, demographic, and socio-cultural conditions (Runowsky, Zietara, 2011).

Agricultural sector definition

For the purpose of this research, the definition of the agricultural sector was specified in order to provide clarity for suitable data for business modelling. Small

Table 3. Components of a business model

Author	Concept and its components
Stewart, Zhao (2000)	Profit stream (includes the revenue stream and cost structure), Customer selection, Value capture, Differentiation and strategic control, Scope
Afuah, Tucci (2001)	A system made of components (scope, price, connected activities, implementation, capabilities, sustainability), customer value (the extent to which the firm's offer is distinct or is lower costly than that of its competitors), revenue sources (Where do the money come from? Who pays what value and when?)
Applegate (2001)	Concept (market opportunity – product and service offered, competitive dynamic, strategy for capturing a dominant position), Capabilities (define the resources needed to turn concept into reality– people and partners, organization and culture, operation model, marketing sales model, management model), Value (measures the return to investors and other stakeholders, benefits returned to stakeholders, to the firm, market share performance), Brand and reputation, Financial performance
Rappa (2001)	Sustainability, Revenue stream, Cost structure, Value chain positioning, Financial performance
Osterwalder (2004)	Value proposition, Customer segment, Partners' network, Deliver channel, Revenue stream, Relationship, Value configuration, Capability, Cost structure
Bonaccorsi et al. (2006)	Products and services delivery, Customers, Cost structure, Income, Network (structural aspects), Network externalities
Brousseau, Penard (2006)	Costs, Revenue stream, Sustainable income generation, Goods and services production and exchanges, Pricing strategies, Relationships (demand and supply), Network externalities
Stewart, Zhao (2000)	Profit stream (includes the revenue stream and cost structure), Customer selection, Value capture, Differentiation and strategic control, Scope

source: author's survey

and individual farmers specializing not only in agricultural products, but also offering services and extra production in bio quality, were subject of analysis. In the pre-testing part, three business models were applied, each having different components, on one model farm called Farma Moulisovych. The aim of the research was to identify whether these models were also suitable for the wider agricultural sector, or whether some items should be added or modified. Validation of this model by testing at other farms is subject of future research.

Components of the business model

The Farma Moulisovych farm was analyzed based on three business model theories of different authors. As Zott, Amit (2009) say, the business model can be viewed as a template of how a firm conducts business, how it delivers value to stakeholders (e.g. the focal firms, customers, partners, etc.), and how it links factors and product markets. Table 3 provides a review of literature dealing with various components of a business model. In this research, three approaches of business model analysis were chosen – by Shaffer et al. (2004), Holloway, Sebastiao (2010), and Osterwalder, Pigneur (2010).

Shaffer et al. (2004) parsed the term 'business model'. According to them, 'business' is fundamentally concerned with creating value and capturing returns from that value, and 'model' is simply a representation of reality. Combining these concepts with the results,

they define a business model as a representation of a firm's underlying core logic, and strategic choices for creating and capturing value within a value network. Business models provide a powerful way for executives to analyze and communicate their strategic choices. Holloway, Sebastiao's (2010) description of the business model is very similar. They identify four parts of a business model: (1) Customer Value Proposition, (2) Profit Formula, (3) Key Processes, and (4) Key Resources.

One of the most popular business model tools in recent years has been the 'Business Model Canvas', which was developed by Osterwalder, Pigneur's (2010). Its components are Value Proposition, Customer Segment, Customer Relationship, Channels, Key Activities, Key Resources, Key Partnership, Cost Structure, and Revenue Stream.

Osterwalder, Pigneur (2010) offers a concept that enables the user to describe and think through the business model of an organization, and its competitors. The author believes that a business model can best be described through nine basic building blocks that show the logic of how a company intends to make money. The nine blocks cover the four main areas of business: customers, offer, infrastructure, and financial viability. The business model is like a blueprint for a strategy to be implemented through organizational structures, processes, and systems.

In practice, firms are using the Business Model Canvas for different tasks because of its numerous

advantages: it illustrates simply how the firm makes sense financially, and enables them to translate their business plans into processes, check reality, remind the teams to think holistically about their business, and prevents them from getting stuck on details. The Canvas helps them to clarify their current business models and understand and focus on the impact.

Business model and farm performance indicators

As explained above, classic financial performance indicators were unapplicable because of the farm's accounting system. The set of indicators proposed herein is updated based on the cooperation with farmers within a qualitative research study. It shows relevant results, which are not influenced by the system of accounting. Three areas influencing the farm performance were chosen: (1) risk elimination, evidenced by the number of serviced sectors and customers, (2) the usage of the whole farm's property, measured by the indicator of the property and equipment turnover

$$\text{Usage of property} = \frac{\text{Average total property and equipment in a period}}{\text{Sales revenue generated in that period}}$$

and (3) the usage of qualified and professional employees measured by the indicator of Human Capital Value Added (HCVA) that generates an adjusted profitability figure for each employee in the organization. The formula is:

$$\frac{\text{Revenue} - (\text{Total Costs} - \text{Employment Cost})}{\text{Average headcount}}$$

RESULTS

Description of the model farm

Farma Moulisových is a family farm located in the Pilsen region of the Czech Republic. At the beginning, farming was just a family hobby, but gradually it has developed into a real business with many components. Their business activities cover:

- Agriculture production established on 100 ha of their own land, animal breeding (fat- and breed livestock – 100 heads) (40% of the business)
- Food production – bio-quality meat (25% of the business)
- Agritourism – in the Czech meaning of offering accommodation on a farm (10% of the business)
- Organization of events – programmes for children, firms, riding club, weddings, etc. (25% of the business)

Specific characteristics in their business are: (1) All activities work in synergy – they exist together – one supports the others. (2) “Word of mouth” is the main marketing tool; almost no money is invested in marketing. (3) They sell one product because of another – animal production because of plant produc-

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
Customer Ministry of Agriculture SZIF Regional authority Suppliers - Accounting, IT, feeding, Machines Association of breeders Local action groups	Farm itself Real farm with real agricultural processes Farms area Sale of adventures Key Resources Physical Farm Animals Human Family Staff	Agricultural production 40% Plant production (source for livestock production) Livestock production Accommodation 10% = agritourism 3 apartments, 20 beds Adventure 25% Children programme Horse riding Team-building Cooking Academy Weddings Product manufacturing 25% Meat in organic quality Meat pate	Personal relationship Personal contact on the farm Owner itself Channels References Website Shows and exhibitions Direct offer	Families with children Children Schools and kindergartens Cattle breeders
Cost Structure The most important costs - materials for agriculture - People The most expensive costs - Key activities - accommodation - Key resources - material for agriculture		Revenue Streams Profit generation Agriculture production Adventure Riding school Meat production Accommodation		

Fig. 1. Business Model Canvas of Farma Moulisových
source: author's survey

tion, food production because of animals, adventures and accommodation because of the farm itself – it is a chain of interconnected activities. (4) Influence of the season. (5) Personality of the owner – the owner has a huge influence on the farm, and his personality greatly influences the final form of business. (6) Government subsidy – making agricultural production profitable.

Although the agricultural production is the most profitable (mainly because it is the basis), the farmers diversify their activities from many reasons – they want to diversify their risks, they have a motivation to do what they like and enjoy, they want to be more independent of existing suppliers and customers. Mainly, of course, they want to use the biggest potential of the place itself – the whole place and their activities.

Application of the proposed business models on the farm

This paper presents the application of three different business models on the model farm Farma Moulisových.

The first model applied was Osterwalder's Canvas Business Model. In practice, its application required quite an extensive amount of input information, some on a repetitive basis. Results of this analysis are given in Fig. 1.

The second business model used was that designed by Holloway, Sebastiao (2010). It brings about a new aspect, and is relatively easy to understand without a deep knowledge of the business model theory. The model diagram is logically arranged into the 'Company' part and 'Customer' part. Required data

can be filled in intuitively, and it is easy to understand all items without deep theoretical knowledge. The analysis of Farma Moulisových using this technique is presented in Fig. 2.

The third option, based on a business model created by Shafer et al. (2004), seems to be the most complicated – there are several different sections with many items, and its logical structure is unclear. It is also less creative and not particularly easy to complete (Fig. 3).

Indicators of the farm performance

Data from the farm's accounts for 2014 were used to evaluate its performance. Table 4 summarizes the results of the applied performance indicators showing that Farma Moulisových is performing very well.

The results of the farm performance illustrate very clearly the performance of the applied business models. The farm offers products falling in with four sectors, i.e. the performance is diversified rather than dependent on a single product or sector. Similar results can be seen in the number of customers – the farm had 853 customers in 2014 and therefore is not reliant on one big customer. The indicator of property and equipment turnover shows the effectiveness in using the farm property and equipment to generate revenue. Economic results reveal that the farm property is being well used. From the result of the Human Capital Value Added indicator it is apparent that each farm employee contributed to a significant profit, and that the farm was using well qualified human capital.

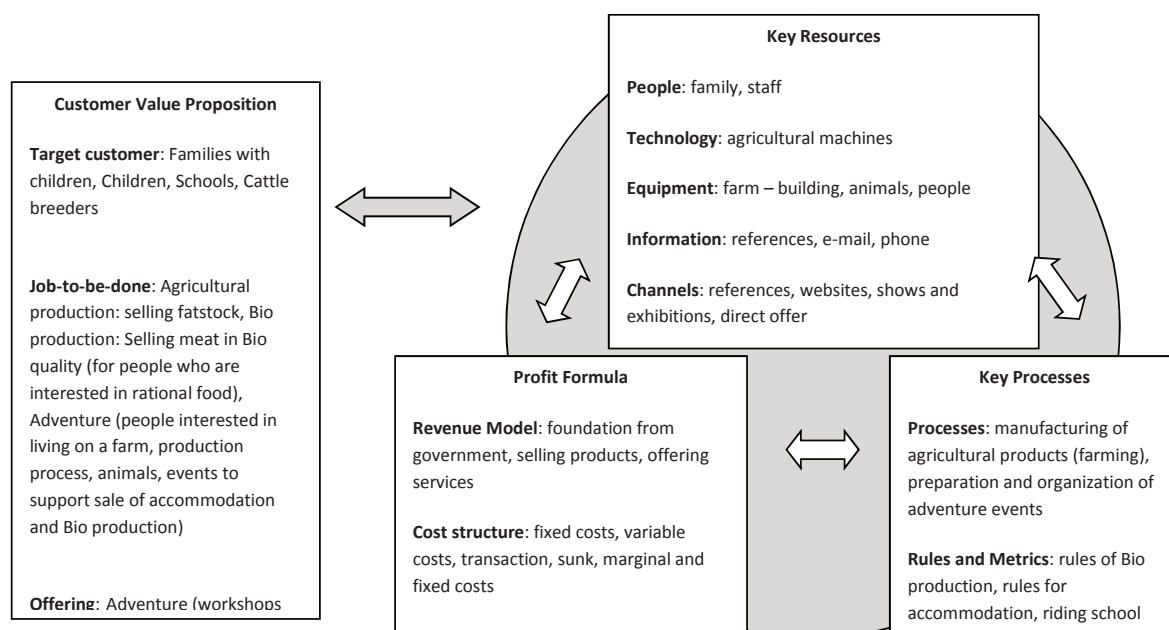


Fig. 2. Business model of Farma Moulisových, using Holloway and Sebastiao's technique
source: author's survey

None of the presented three models takes into account the peculiarities of the sector of small and individual farms. The biggest difference is in the relationship between the business itself and the owner of the farm. In these businesses, the customer is not the centre of interest of the owner, and the creation of an offer

The newly created business model brings in the focus of attention the specifics of small farms, and puts the Value proposition in the center, because it is

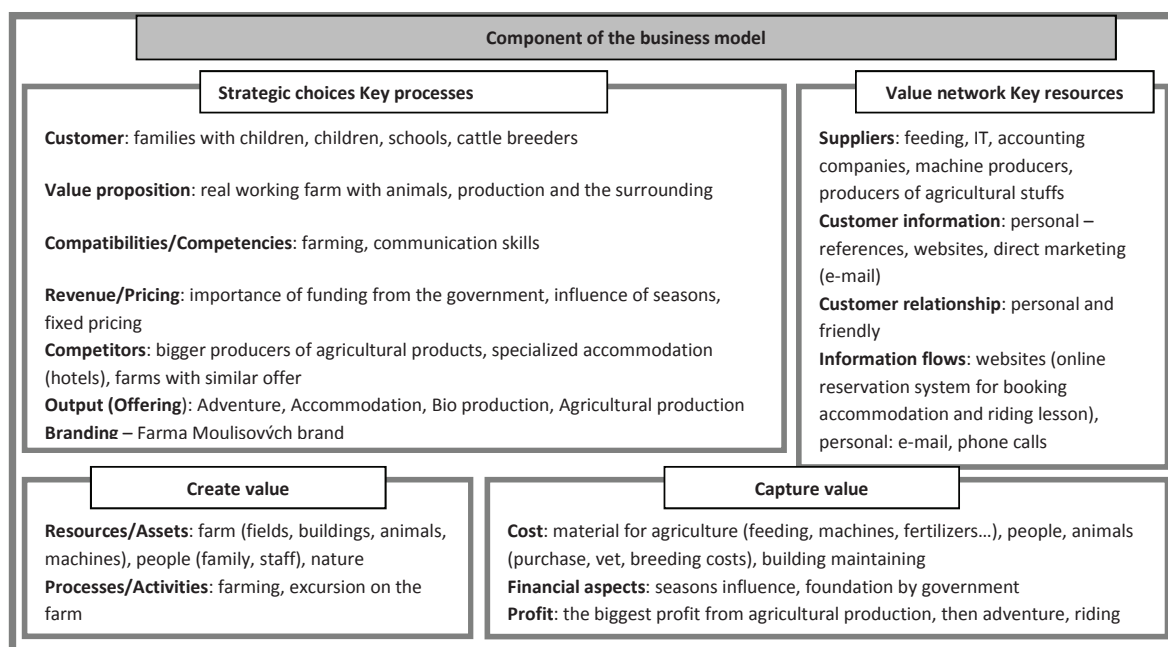


Fig. 3. Business model of Farma Moulisových, using Shafer's technique
source: author's survey

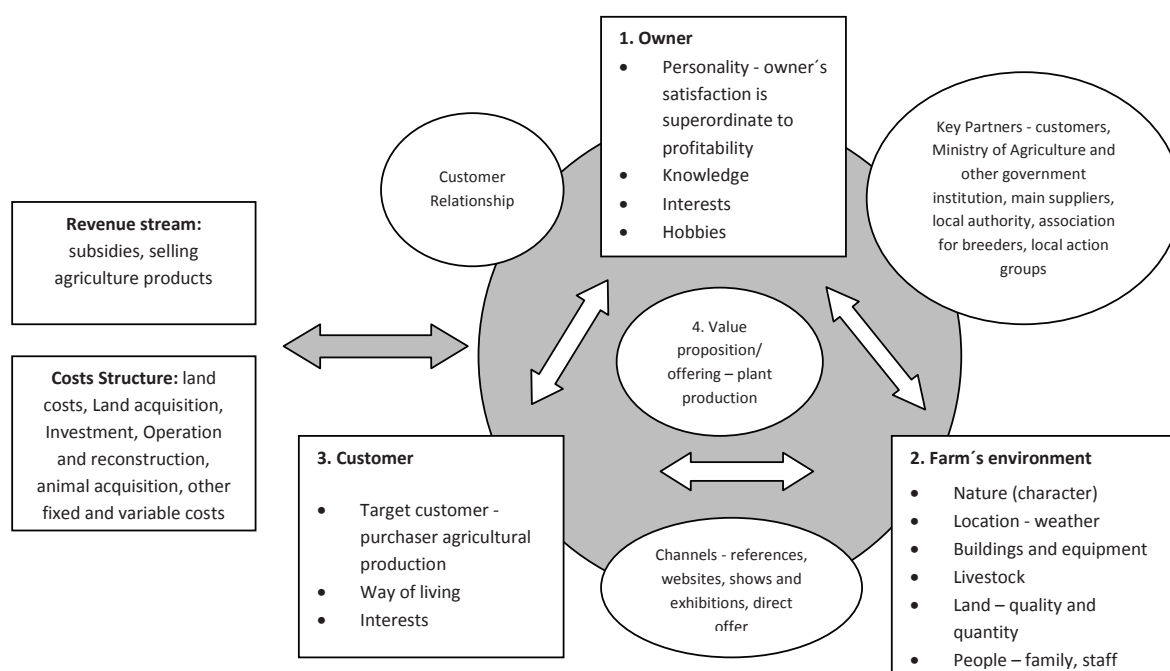


Fig. 4 Specific Business Model Generation for the small and individual farms
source: author's survey

Table 4. Results of performance indicators of Moulis's farm (2014)

Performance measurement	Total amount (2014)
Number of serviced sectors	4
Number of customers	853
Property and equipment turnover	1,13
Human Capital Value Added	543 273 CZK

Source: author's survey

influenced by three important items – the Owner, the Farm environment, and the Customer. There are more items which support the final model – the Customer relationship (personal and individual), the Key partners (who support the production and running of the farm), and the Channels (the way that products are offered to the customers). This last item fully depends on the farm – in this case, all activities are sold directly by the farm. The revenue and cost stream is the final result of this holistic business.

CONCLUSION

The purpose of this paper was to describe the theoretical background theory of the business modelling, and its application to the specific Czech agricultural sector. The components of several already defined business models were used and adjusted for the category of small and individual farming businesses. The adjustments of proposed business model include the role of the owners and their will and the influence of the farm environment on the final creation of the offer to the customer. This preliminary model will be used as a tool for the future research into small and individual farms in the Czech Republic. Its validity will be tested and it will be instrumental in creating a typology of entrepreneurs in agricultural sector. Eventually, a comparison of the differences between them using the derived performance indicators and further research into the influence of this business model in agriculture will be carried out. The set of performance indicators was created and used especially for this case study. Future research will verify the validity of these indicators on a larger sample of small and individual farmers.

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