



# Management Model for Dairy Production Based on a Business Ecosystem Concept

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## ABSTRACT

This article proposes and evaluates a management model to boost the dairy production development from the perspective of a business ecosystem concept. This study proposes a management model based on two bibliographic systematic reviews of the dairy production. To analyze the resulting portfolio, the authors used a prior content analysis proposed by another researcher, which served as the basis for analysis and discussion of the elements for the model construction. Then, the model was tested with dairy experts. This research identified a total of 13 models which apply to dairy production and 2 models from the business ecosystem concept perspective. Consulting with 450 experts in the dairy sector, the authors empirically evaluated the model. The authors found that the results demonstrated an important validity indicator and model reliability in practice. Based on the finding, this article proposes a management model for dairy production from the business ecosystem concept.

## KEYWORDS

Business Ecosystem Orientation, Business Ecosystem, Dairy Chain, Dairy Production System, Dairy Production, Management Model, Organizational Ecosystem, Value Co-Creation, Value Cocreation

## 1. INTRODUCTION

Approximately 150 million households around the globe are engaged in milk production. Milk provides relatively quick returns for small-scale producers and is an essential source of cash income. In this sector, in the last three decades, world milk production has increased by more than 50 percent, from 500 million tons in 1983 to 769 million tons in 2013 (FAO, 2016).

However, some links in the dairy production chain have technological limitations and management lack, among these, the producer stands out since it has suffered the consequences linked to the new market exigencies (Godinho and Carvalho, 2017). In this sense, highlight the poor hygienic and sanitary habits of the producers, due to the qualification lack and the producers' awareness (Lange et al., 2016, Marcon et al., 2017).

According to Alencar et al. (2001), in the milk agribusiness, there are typical market situations of imperfect competition, in which the companies that work in the upstream (input suppliers) and downstream (dairy industry) agroindustry system sectors are few, organized in associations of

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interests, which interact with a broad, heterogeneous and dispersed group of producers. This condition is detrimental to dairy producers' gains, as well as the economic sustainability of small dairy farms (Hailu et al., 2017).

Given the above, it is verified that there is a need for better management among the dairy ecosystem players, so that the whole System develops, by mitigating the dairy sector barriers. For Bonamigo et al. (2016a), the applied business ecosystem concept in dairy production allows encouraging innovation and cooperation between the players that make up the dairy ecosystem so that the development be driven.

In this sense, to identify the key factors to develop the dairy system, from the business ecosystem concept perspective, Bonamigo (2017a) showed six key factors that contribute to this sector development using a theoretical framework. Figure 1.

According Moore (1993), Winn and Pogutz (2013) and Annanperä et al. (2015), the business ecosystem concept, allows the interaction among several players that make up the milk business environment, among them: prefectures, government, research institutes, governmental institutions, producers, cooperatives of producers and universities, that in a cooperative way create value in the dairy business ecosystem, and together they develop.

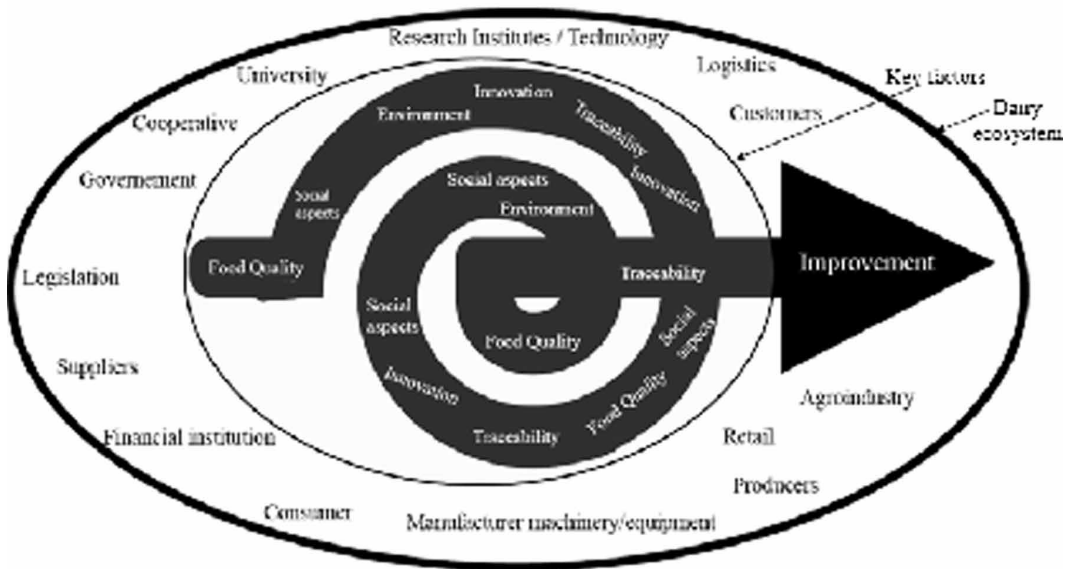
Additionally, advantages are generated for the cooperating actors, among them the knowledge and resources behavior (Bonamigo et al., 2017).

Moore (1993) defined the business ecosystem as an economic community supported by a foundation of interacting organizations and individuals—the organisms of the business world.

The economic community produces value goods and services for customers, who are themselves, ecosystem members. Over time, they co-evolve their capabilities and roles and tend to align themselves with the directions set by one or more central companies (Alizadeh et al., 2017).

For dairy production drivers, showed for Bonamigo (2017a), a brief description is shown in Table 1.

Figure 1. Dairy production key-factors booster framework



Source: Bonamigo (2017a)

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