



Managing Innovation Through a Business Model in the Food Industry

Kristina J. Gacoska*

**PhD Candidate, Bitola, 7000, N. Macedonia*

DOI: <https://doi.org/10.55248/gengpi.5.0524.1245>

ABSTRACT

Every enterprise, regardless of the type of value it creates (product or service), uses different types of processes for the day-to-day execution of normal activities. Thus, we can have production processes, marketing processes, financial processes, and control processes. In simple terms, processes represent interconnected activities carried out to obtain a specific product or service, or a desired result. When we talk about a specific product or service, we refer to a production process in which input raw materials are transformed into output finished products, such as in the food industry, which is part of the meat industry. However, for an enterprise to function normally, or rather, to ensure the conditions for the functioning of the production process, there must be other processes that do not directly participate in the activities for obtaining the product or service but create all the necessary conditions. For example, to procure raw materials for production, there must be a procurement process. For the procurement process to be able to order raw materials, there must be a budget approved through a procurement approval process. To design the actual product or service, there must be a market research process, a process for communicating with customers, etc. We see that the results of one process represent inputs to another process within the same organization in the food industry. These results are not always physical products or pieces processed during production but can also be information that is important for the process that will use them further. Therefore, we can say that the process represents a group of activities that use resources in the form of people, systems, and tools to transform the input into the process itself into a result with added value for the food sector using the benefits of business models. It is worth mentioning that the process is a sequential set of activities, or subprocesses, aimed at achieving a specific goal or obtaining a specific product, service, or information.

Keywords: managing, quality control, food industry

Review of Literature

Generally, in a food industry enterprise, there can be three types of processes:

Management processes. Management processes are business processes that direct the work of the entire enterprise, such as processes for strategic planning and management processes.

Operational processes. These processes are also called essential or primary processes that focus on the primary goal of the enterprise, i.e., creating value (product/service) that should ultimately reach the hands of customers. Examples of these processes include production processes, engineering processes, procurement processes, marketing, and sales processes.

Support processes. In addition to management processes and operational processes, enterprises also have processes that serve to support the essential processes. For example, financial processes, IT processes, improvement processes, customer support processes, recruitment of competent personnel, etc., are processes that fall into this group of processes.

The implementation of a process can be carried out in two ways:

- Process as a group of activities that use resources in the form of people, systems, and tools to transform the input into the process itself into a result with added value. Note that processes can consist of systems that carry out specific activities to transform the input into these systems. These systems can be natural (human) and artificial (technical systems) such as equipment, machinery, tools, etc. When it comes to people as part of the process, we can have two types of people:

- Operators in the process. Operators are people who perform certain activities in the process itself. For example, drilling a hole in a shaft using a drill (technical system) by the operator (natural system). Or, the employee in marketing is an operator in the process of measuring customer satisfaction who conducts various activities such as collecting customer information, contacting customers, talking to customers, analyzing results, and preparing a report for management (output from the process).

- Process owners. Process owners are people responsible for the performance of the process in achieving the set goals. Simply put, process owners manage the process, document the process (process maps, procedures, and work instructions), improve the process, define key performance measures of the process, and monitor and analyze the performance of the process. For better analysis of processes, they are further dissected according to business models

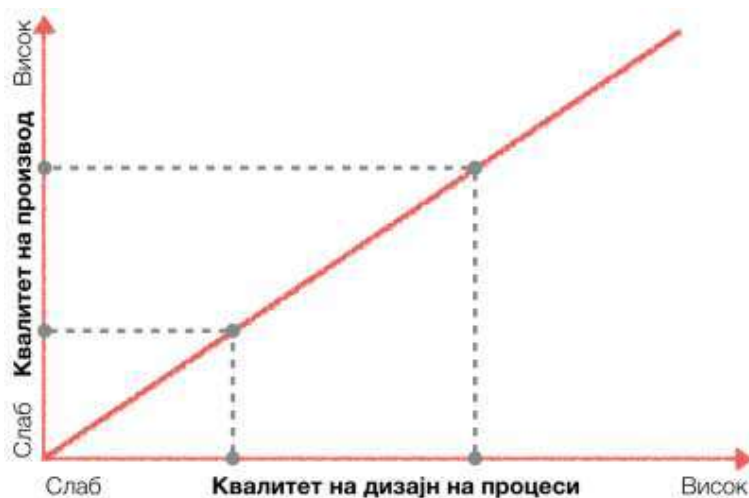
into their constituent elements. Since the process is a collection of activities, it is composed of activities, which in turn represent a set of tasks, which in turn represent a set of movements, which in turn represent a set of micro-movements.

The activities in a process can be as follows:

- Processing. This activity directly changes the form of the product being produced. For example, processing turning on a lathe, or preparing an invoice in the payment process, or writing a report on customer satisfaction analysis in the customer satisfaction measurement process. The goal of these activities is to execute the transformation of input into output, and therefore these activities are essential activities in a process.

- Control. Control activities compare the processing subject with established specifications and standards. For example, measuring the dimensions of the output piece in the quality control process, checking the amount on the invoice before sending it to the buyer/customer, controlling the prepared report on customer satisfaction in terms of whether all sources of information are used, etc. The goal of control activities is to ensure that the transformation of input into output with processing activities will be carried out according to established standards and not to allow the next buyer (user) of the output, whether internal or external, to receive faulty, inaccurate, or defective output from the previous process in the food industry.

Image 1. Process Design Quality



- Transport: As a separate activity within the process itself, we can also have the transportation of the object being processed. Transport simply involves moving the object of processing from one place to another. For example, transferring a piece of product from one operator to another within the process itself, or transferring the invoice from the operator preparing it to the manager who will control it, or transferring the prepared customer satisfaction report from the operator preparing it to the controller. The goal of transportation activities is to ensure that the work object in the process reaches its destination on time wherever it needs to go.

- Storage: Storage as an activity involves storing the object being processed or other materials and tools without performing processing, control, or transportation activities. For example, leaving the product in storage before it exits the process or before another activity is conducted on it within the process itself, or delaying the invoice in a separate folder for it to be picked up along with other invoices by the invoice dispatcher, or delaying the report in the registrar for review tomorrow. The purpose of this activity is to delay the work object either for another activity within the process itself or to be picked up by the next process.

- Waiting: Often, especially in manufacturing processes, the object being processed may wait to be picked up by the next activity within the process itself or by the next process. Simply put, waiting represents the inability to continue with a certain activity of the process. For example, the work object waits because the capacity of control is weaker.

- Informing: As a separate activity in processes, sending information to another operator in the same or another process, or to the process owner (manager) for approval to continue the process work in the food industry, such as in the meat industry, etc., can be represented. Information can be oral, written, or through electronic information exchange. Often, in more sophisticated production processes, there are automatic checks in the equipment itself that provide a certain type of signaling to the operator regarding whether the activity is proceeding as it should or not.

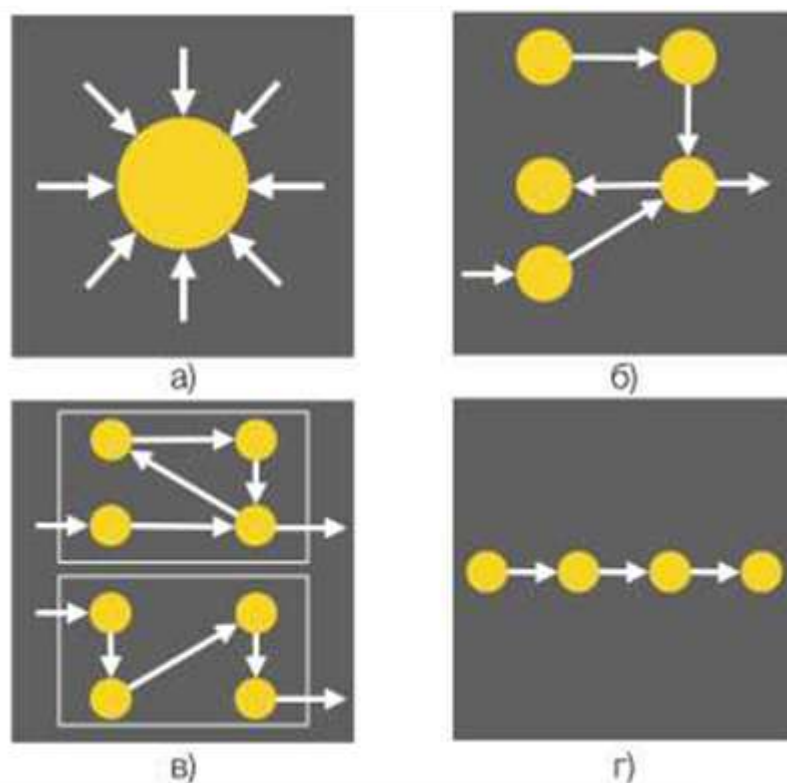
- Combined operations/activities: Processes can also use combined operations where two types of activities are performed simultaneously. For example, control during processing, or control during transportation. In a large part, the quality of the product or service, but also the overall operation of the entire organization, will depend on the process design in the food industry. Poorly designed processes lead to lower product or service quality offered by the organization on the market, as well as working with much lower performance than desired. Therefore, processes must be managed, controlled, and continuously improved to ensure that they will provide maximum contribution to ensuring the quality of products and/or services. The process diagram itself does not reflect the actual movement of work through the process. Simply put, the diagram shows the activities, the connections between the activities, and the direction of the work, but does not take into account the physical locations through which the work moves. For example, if after the

drilling operation, the turning operation follows, where is the drill, the drill operator, and the lathe operator? How long will it take for the piece to move from the drill to the lathe? The arrangement of activities, the technology used for the activity, and the location of the operator will affect the time required to perform the activity, but also the likelihood of some undesirable effects such as damage during transportation. Imagine that you are a bank teller dealing with clients. You don't have a photocopier nearby your workstation, and you have to walk to the photocopier located at the other end of the bank, wait to make copies, and return to continue serving the client. Probably the client will already show signs of impatience because it's not organized as it should be, and why should he lose a few minutes because of a weak process in the bank.

So, the physical arrangement of activities will have a significant impact on the process itself, especially in the processing time of a job, which also leads to the volume of work performed in the food sector. More processing time for a job leads to less volume, a smaller amount of completed work with the process. We can have 4 types of arrangements when it comes to processes.

- Fixed positioning, where the process is entirely performed in one place. In this case, the arrangement is based on the resources needed to perform the process activities (see figure below). For example, fixed positioning can be when the client comes to the bank counter, and for each activity performed by the operator, it is performed in one place - the counter.

Image 2. Types of Positioning



Functional layout is a layout based on functional needs and the location of resources for each individual function through which work needs to pass (see figure below b). For example, some activities will require special technology or support from the function performing them, so the processing itself must pass through that function.

Cell layout occurs when materials, information, or customers enter and are processed through cells where all transformational resources are located (see figure below c). For example, in larger supermarkets, there are separate areas where coffee, sandwiches, or beverages are sold. These shop-in-shop stores within a supermarket function through a cell layout.

Product layout occurs when people and equipment are located according to the need for production of the product in the food sector. The sequences of activities take place according to the sequences where the processes are located (see figure below d). An example of a product layout could be the assembly of cars where almost all variations of the same model require the same sequence of activities.

For better representation and understanding of how a business process works, process maps are usually created in the form of diagrams, such as flowcharts. With these diagrams, the work performed by a process is divided into interconnected steps, or activities.

Process mapping is a graphical description of the process in terms of how the activities within the process are interconnected. Process mapping identifies the different types of activities performed within the process and easily shows the flow of materials, people, or information through the process in the food sector. Each process has an event to start and an event to end the process. For example, the event to start the production process occurs when the order from the customer is processed in the sales process, while it ends when the finished product leaves the warehouse for storage of finished products,

or when it is taken over by the distribution process in the food sector. Or, the event to start the customer satisfaction measurement process occurs when the new product design process requests specifications for customer satisfaction from the existing product or service, and it ends when the report is delivered, or when it enters the new product design process. When it comes to the process of preparing invoices, it starts when the products are ready for delivery to the customer and ends when the invoice is paid by the customer. The process design through mapping includes the recognition of appropriate symbols that have specific meanings in the process.

Image 3. Process Design



Let's take an example with the simplest process for stimulating demand for what a company offers as value to customers using these symbols to map out the process. Note that not much can be discerned about the execution of the process from this process diagram alone. This is because only the main subprocesses are listed, such as request development, new product development, promotion, and conversion. However, each of these subprocesses will have multiple activities to be carried out. If we continue further with the breakdown of the first subprocess titled "development of requests for new product/service," we will get another process diagram.

To implement the subprocess "development of requests for new product/service," we will start by gathering information about the customers (both internally and externally to the organization), then we will conduct interviews with the customers, and record both types of information in a dedicated database for the food industry. After collecting enough information, we will proceed to analyze it to determine if there are new requests and if they are satisfied with the current product. If there are no new requests and they are satisfied with the current product, the process will continue from the beginning.

Image 4. Specifications Made



From another perspective, if there are new requirements, we will create a specification for those new requirements (document marker on the diagram), and if they are not satisfied with the current product, we will create a specification for dissatisfaction factors. Both specifications will be analyzed to

create a list of new requirements, and the question will be whether they can be integrated in terms of production process capabilities, integration costs, safety, etc. If the answer is positive, we will create a document as the final specification of new requirements, which will initiate the next subprocess, namely 'development of a new product or service'. The yellow on the diagram represents subprocesses that are not detailed into activities.

CONCLUSION

The article "Managing Innovation Through a Business Model in the Food Industry" emphasizes the importance of processes in enterprises, particularly in the food industry. It highlights how various processes, including management, operational, and support processes, are essential for the smooth functioning of businesses. By dissecting processes into activities and subprocesses, the article demonstrates how resources are utilized to transform inputs into valuable outputs. It also discusses different types of process arrangements, such as fixed positioning, functional layout, cell layout, and product layout, and their impact on process efficiency.

Furthermore, the article delves into process mapping as a tool for understanding and visualizing the flow of activities within a process. It explains how process diagrams can help identify different types of activities, events to start and end processes, and the interconnections between activities. Using symbols to map out processes, the article provides insights into how businesses can stimulate demand for their offerings and manage innovation effectively.

In conclusion, the article underscores the significance of well-designed processes in achieving quality outcomes and operational excellence in the food industry. It emphasizes the need for continuous process management, control, and improvement to ensure maximum contribution to product and service quality. Ultimately, by optimizing processes, businesses can enhance their competitiveness and meet the evolving needs of customers in the dynamic food sector.

References

- Darko Andronikov, Aco Kuzelov, Julijana Sazdova, Kiro Mojsov, Aco Janevski, Sonja Jordeva, Saska Golomeova Longurova, Quantitative characteristics of rabbit hybrids, *Journal of Agriculture and Plant Sciences*: Vol. 17 No. 2 (2019): *Journal of Agriculture and Plant Sciences*.
- Darko Andronikov, Aco Kuzelov, Julijana Sazdova, Kiro Mojsov, Aco Janevski, Sonja Jordeva, Saska Golomeova Longurova, Quantitative characteristics of rabbit hybrids, *Journal of Agriculture and Plant Sciences*: Vol. 17 No. 2 (2019): *Journal of Agriculture and Plant Sciences*.
- Hackett, Nash, H., M (2004) *Food Safety Management Principles*, Chadwick House Group Limited 2nd ed., London.
- Mortimore, Sara; Wallace, Carol, (2015), *HACCP: A Food Industry Briefing*, Wiley-Blackwell 2nd ed.
- Maurya A.: *Running Lean: Iterate from Plan A to a Plan That Works (Lean Series)*, O'Reilly Media, Second Edition edition, March 6, 2012.
- Norman J.: "What No One Ever Tells You About Starting Your Own Business (2nd ed.)", Dearborn Trade Publishing, Chicago, 2004.
- Reardon R., Lenz J., Sampson J., Peterson G.: "Career Development and Planning – A Comprehensive Approach", Thomson Corporation, New York, 2006.
- Ries E.: *The Lean Startup: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Crown Business, September 13, 2011.
- Robbins S.P., Coulter M.: *Management*, Prentice Hall, 10 edition, November, 2008.
- Sharf R.: "Applying Career Development Theory to Counseling", Thomson Wadsworth, Belmont, 2006.
- Sethi, S.P., Prasad, A. & He, X.L. (2008). Optimal advertising and pricing in a new product adoption model. *Journal of Optimization Theory and Applications*, 139(2): 351–360.