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IMPACT OF THE WORKFLOW MODEL ON THE ASSOCIATIVE MANAGEMENT OF AGRICULTURAL ORGANIZATIONS IN MANABÍ

IMPACTO DEL MODELO WORKFLOW EN LO ASOCIATIVO ORGANIZACIONES AGRÍCOLAS EN MANABÍ

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ABSTRACT

The Workflow model links ICTs with organizational and managerial management processes, with the aim of assisting decision-making in a hierarchical framework in companies, being a tool that contributes to business productivity, which should be empowered by all direct actors in the organization, in this sense the present research is carried out, The purpose of this research is to investigate the impact of the Workflow model in the associative management of agricultural organizations in Manabí, in order to establish the optimal workflow model for associative management and to analyze the impact of the model on the exchange of information between the hierarchical levels of agricultural organizations.. Regarding the methodological design, the analytical-heuristic method is used to determine the components of this research, starting from the characterization of the variables under study, also as a tool to obtain data, a survey of 15 questions is used, applied to 30 agricultural organizations in Manabí, which are organized into latent variables in order to ensure a structured measurement of the information. As conclusions, it was possible to establish that there is a significant and positive relationship between the Workflow Model and the associative management of agricultural organizations.

Key words:

Associative Management, Workflow, Processes, Organizational Structure, Information Systems.

RESUMEN

El modelo de trabajo Workflow logra vincular las TICS con los procesos de gestión organizacional y gerencial, con el objeto de coadyuvar a la toma de decisiones en un marco jerárquico en las empresas, siendo una herramienta que aporta a la productividad empresarial, misma que debe ser empoderada por todos los actores directos en la organización, en tal sentido se efectúa la presente investigación, para indagar acerca del impacto del modelo Workflow en la gestión asociativa de las organizaciones agrícolas de Manabí, con el propósito de establecer el modelo de flujo de trabajo óptimo para la gestión asociativa además de analizar el impacto del modelo en el intercambio de información entre los niveles jerárquicos de las organizaciones agrícolas.. En lo que respecta al diseño metodológico, se emplea el método analítico-heurístico para determinar los componentes de esta investigación, partiendo de la caracterización de las variables objeto de estudio, asimismo como herramienta para obtener datos, se emplea una encuesta de 15 preguntas, aplicada a 30 organizaciones agrícolas en Manabí, las cuales se organizan en variables latentes con la finalidad de garantizar una medición estructurada de la información. Como conclusiones se pudo establecer que existe relación significativa y positiva entre el Modelo Workflow y la gestión asociativa de las organizaciones agrícolas.

Palabras clave:

Gestión Asociativa, Workflow, Procesos, Estructura organizativa, Sistemas de Información.

INTRODUCTION

Currently, the associative management of agricultural organizations is seen as a mechanism for improving and increasing productivity and competitiveness. This will contribute to the sustainable growth of both the agricultural sector and the economic growth of countries, especially those in Latin America and the Caribbean. Ecuador has the ideal climatic and soil conditions for the cultivation of both traditional and non-traditional agricultural products.

Therefore, it is imperative to take advantage of this potential, to harmonize with technological processes, establishing strategies to improve and increase the productivity and competitiveness of this sector, especially when important advances have been made, such as the implementation of Big Data in agricultural production processes (Vite et al., 2020).

This research deals with the Workflow model for the associative management of agricultural organizations, the same that allows an optimal information process, which consists of parameters concerning areas such as: production, marketing, finance, and management development. Likewise, this model establishes the organization and distribution of the different activities and resources (economic, material and human) that a company has together with the implementation of technology for an effective flow of information and organizational communication, which is reflected in an adequate associative management with a high degree of performance, cooperativity, associativity, and competition.

For this study, the term Workflow is used, this was created by the Workflow Management Coalition (WfMC), it consists of a system that allows determining the guidelines, bases, and processes of the elements of this model, it specifies the procedures of the operational area, support and strategies. In fact, it is conceptualized as the distribution of each element and activities concerning the work environment that an entity continuously executes; where the responsibility of each position and job is established, the chronological order of their actions and the corresponding way to perform them, the interrelation between the different departments and hierarchies, as well as the flow of information and level of compliance with organizational objectives (Valero-Pastor, Carvajal- Prieto, & García-Avilés, 2019). For the above mentioned, ISO 9001:2015 standards are used as a reference for this study, linked to the methodology called Business Process Management (BPM).

Background of Workflow research

This model conceives the task of increasing the performance of the processes of the departments and activities in an effective way, which achieves the reduction of the level of costs and work time; on the other hand, it admits decreasing the margin of error, which guarantees the total quality. The automation of business processes is

through the so-called Workflow Management Systems that are carried out with the implementation and use of ICTs (Menéndez & Castellanos, 2016). Before starting with the design and implementation of a Workflow model, there is a dilemma with good reason on the part of the personnel in charge, due to insufficient knowledge and practice on what initial actions should be followed in this process, what type of technologies, the most suitable programming language and whether the entire system to be executed meets the parameters and expectations of quality management (Moreira-Pico et al., 2022).

In a study conducted in 2016, a Workflow system and tools were proposed to enable the effectiveness of organizational processes to improve and increase the level of productivity; its main purpose being to demonstrate that management systems are the primary key to increase competitiveness, especially in small and medium enterprises (Marrero, 2016). In another research work, it was determined that in business processes there are constant exchanges of information, through a system of steps guided by guidelines and patterns that are based on the support of information and communication technologies. Now, this process is finally transformed into knowledge, which allows managers, to make decisions regarding organizational management (Polo, 2019). About the agricultural sector in Ecuador, it is stated that this area is still developed in a traditional and inefficient way, which delays activities, produces errors and above all inequity in the allocation of resources and that these are delivered in a timely manner. On the other hand, the lack of organizational hierarchy hinders the flow of information and work, resulting in reduced productivity and high costs of operations for the organization (Albán, 2017).

Workflow Definitions

Workflow is the partial or global automation of organizational management; through a series of formalities that guide the achievement of organizational objectives, with the support of information technologies (Menéndez & Castellanos, 2016). Also, it is conceived as the conglomerate of processes, personnel, hierarchization and ICTs, being employed in an organized manner to achieve the strategic objectives of the company. Additionally, it is supported based on BPM as an indispensable tool to define, organize, automate and evaluate processes on an ongoing basis (Ortiz, 2020).

According to another concept, the Workflow consists of a system for the organization of the processes of an organization, from the operational to the top management, with the purpose of delimiting the correct designation of the position and coordination with the other departments, considering the preponderant role of each member of the entity, to achieve an optimal flow of information that assists managers in decision making, by relying on technology (Gutiérrez, 2019).

Workflow Lifecycle and Typology

Regarding the Workflow life cycle, this is determined by a series of components such as the analysis, assessment and structure of the processes that are supported through technological systems, maintaining an optimal workflow, according to a time that can be adjusted to the needs (Polo, 2019). Regarding the design of technologies, this involves the execution of the information process; the orientation to employees is to achieve effective communication with internal and external customers; and as for organizational development, this focuses on the achievement of strategic objectives, involving the remodeling of the overall organizational management (Ortiz, 2020).

At present, several types of Workflows have been developed, based on business needs. The most common are mentioned below: Collaborative Workflow (favors the achievement of strategic objectives), Production Workflow (repetition and complexity of operational processes), Administrative Workflow (assignment of roles and functions to personnel), Ad hoc Workflow (aimed at projects involving resources and specific time). Each one of them and allows obtaining benefits to the organization (Menéndez & Castellanos, 2016).

Workflow model applied to research

In this research, a Workflow model has been chosen that is considered neutral with respect to the technological issue; that is, this model is independent in relation to the technology structure (Marrero, 2016). Now, concerning the dependent variable (associative management), this will be a function of the independent variables (information technologies, processes, and information management tools), where the corresponding dimensions will be established as mentioned below:

Information technology: internal and external communication through software.

Management systems: there are different management systems according to the needs of the company, such as enterprise resource planning systems, supply chain management systems, customer relationship management systems, knowledge management systems (Marrero, 2016).

Interaction: is the exchange of information between functional departments that serves for decision making, generally these areas are production, marketing, finance and accounting, human talent. These processes are executed through office automation systems or products (Chan-Canche & Díaz-Rodríguez, 2017).

Utility: information systems are organized according to the needs and complexity of the different departments, where the following can be found according to their utility: transaction processing system (day-to-day accounting and financial operations), knowledge management system (information search engine for all personnel to find relevant information), office information system (helps personnel

responsible for information processing), management information system (provides information for planning, organizing and coordinating), decision support systems (provides information for decision making), management support system (supports strategic problem solving). In this way, the usefulness of information systems is consolidated (Alvarado et al., 2018).

Processes: is the conglomerate of direct and indirect activities that are performed in the achievement of a result, classified into primary, secondary, and tertiary processes; these activities are complex and arduous (Medina et al., 2019).

Operational process control is the contribution and organization of all organizational processes in order to achieve strategic objectives effectively (Estrada et al., 2018).

Availability of support processes: it is possible to promote workflows suitable for the evaluation of processes and subsequently the information collected can be used for decision making (Castelán, 2016).

Efficiency of strategic processes: tools that allow the interpretation of data and results that contribute to decision making in strategic processes.

Information management tools: these instruments support the development of strategic, operational, and tactical actions; they also allow the collection of data, which are transformed into results for senior management decision-making (Castelán, 2016).

Organizational structure: it is expressed through hierarchy levels, where the position and the respective functions of each member of the organization are designated; additionally, relevant information about the company and what are its organizational objectives and goals are exposed (Bueno et al., 2018).

BPM methodology: through this system, the guidelines and suitable processes are determined for each of the functional areas of the company in accordance with the appropriate quality standards that allow planning, analysis and design, improvements and implementation, monitoring, evaluation and finally feedback (Polo, 2019).

Information analysis metrics: in the planning of metrics, the organizational strategy must be considered, where the indicators necessary to achieve the objectives are defined. On the other hand, they will allow to reduce the uncertainty of the environment and the results obtained will be used for decision making by top management. The indicators are established in economic and financial, marketing, internal and growth indicators for management (Cortés, 2016).

Associativity and aspects of associative management

Associativity is conceptualized as the conglomerate of the potentialities of companies or organizations with the purpose of making strategic alliances, which allow them to obtain benefits to this group, by being more competitive

and being able to offer differentiated products in the globalized market (Vélez et al., 2019). In addition, it is stated that the participants of the associativity and therefore the value chain have a preponderant role in creating sources of employment and progress in the environment. Hence, the relevance of generating strategic alliances to improve their processes, products with which they can compete efficiently in the markets and finally rely on the use of technology and knowledge development (Fonseca-Carreño et al., 2020).

On the other hand, associative management is made up of two elements: associative/organizational and economic/productive. The first component is composed of the general guidelines of an organization; that is, the strategic objectives, mission and vision are defined together with the values. Meanwhile, the second element considers the management of administration such as planning, organization, direction, evaluation, and control (Altamirano et al., 2019).

Characteristics of associative management

As an essential characteristic of associative management, it perfects the planning process of companies; it also admits the delimitation of integration strategies to achieve the creation of a competitive advantage of the sector and that it optimizes and potentiates both its resources and activities, managing to minimize the weaknesses that may affect productivity (Maldovan, 2019).

The following are the relevant characteristics of associative management:

Integration strategies:

Business competitiveness

Productivity

Forms of Associativity

About the existing forms of associativity, the following are presented below and then each of them is defined for a better understanding: cooperation networks, business networks, productive alliances, cluster alliances, joint ventures, consortiums (García, 2021).

Cooperation networks: is the grouping of organizations that unify to share relevant information. In addition, they must maintain common objectives and goals, as well as seek to minimize risk.

Business networks: to solve problems related to insufficient technology, deficient production systems, insufficient levels of negotiation, productivity, and competitiveness.

Productive alliances: it consists of forming alliances to solve shortcomings in a specific productive area, considering the optimization of resources and strengths.

Cluster alliances: these are alliances that are made based on geographic convenience and type of business.

Joint venture: consists of the creation of a company, in which the parties involved contribute with equal resources to generate a new business.

Consortiums: this is the linking of companies that are legally organized to jointly create a common product (García, 2021).

Advantages of associativity

With regard to the advantages offered by the development of associativity, the most representative ones are shown below: it contributes to research and development, allows achieving efficiency in the value chain, fosters the development and opening towards new markets and types of association, reduces costs and decreases risk, improves negotiation processes, increases and establishes a continuous improvement of the productivity/competitiveness of the associations (Rodríguez & Ramírez, 2016).

Methodology

In the present research, a descriptive study (to describe the qualities of the variables and the evaluation of their results, based on what was proposed in the study) and a correlational study (to determine the level of relationship between the variables) are implemented as a type of study. The scope of the research will be given by the impact of the Workflow model on the associative management of the group under analysis. As for the approach, it is qualitative and quantitative, since both qualitative and numerical aspects will be analyzed, with which information will be collected to reach a final consensus. Likewise, in terms of research methods, the following methods will be used: analytical (through the analysis of a scenario and its decomposition, the alternatives for the solution of the equivalent are found) and heuristic (this system allows the researcher a certain freedom to find the solution to the problem in different ways by using algorithms).

For the unit of analysis, only legally constituted agricultural organizations in Manabí were considered. The population of this study is composed of 30 agricultural associations in Manabí. For the sample size, because the population is finite, the census will be used; that is, the entire population will be investigated for greater reliability of the results. The research variables and operationalization are defined as follows:

Dependent Variable: Associative Management (VD01).

Independent Variables:

Information Technology (VI01)

Processes (VI02)

Information management tools (VI03).

As for the sources of information, we will use primary information (agricultural organizations registered with the Superintendence of Companies, Securities and Insurance; Ministry of Agriculture, Livestock, Aquaculture

and Fisheries; National Institute of Statistics and Census) and secondary information (academic search engines; graduate theses, indexed journals; books). The data collection techniques for this research are: statistical technique (to quantify and verify the results of the study variables), documentary research technique (to use information for the development of the theoretical part) and field technique (application of surveys in the places where agricultural organizations are developed). The instruments to be used are: direct observation, questionnaire and survey. The following instruments are used to process the information:

RESULTS AND DISCUSSION

Table 1. below presents the general results of the study for subsequent discussion:

Table 1: Research results

Independent Variable	Dimension	Questions	5	4	3	2	1	Weighting
Information technology	Management systems	Does the organization's budgets include items for technological innovation?			x	x		Medium
		Do you agree that technological innovation improves the organizations productivity and competitiveness?	x	x				High
		Do you consider Workflow to be important for the development of the organizations? management?	x					High
	Interaction	Do you consider that technological applications generate better communication in the functional areas of the organization?	x	x				High
	Utility	Is the information provided by the workflow easy to interpret for the people in the organization?	x	x				High
Processes	Operational process control	Do you consider that the control of operational processes improves the productivity of the organization?	x	x				High
	Availability of support processes	Do you believe that the support processes are carried out correctly and in a timely manner?		x	x			Medium
	Efficiency of strategic processes	Do you believe that the efficiency of the strategic processes improves the quality of the organization's associative management?	x	x				High
	Organizational structure	Do you consider that the hierarchical structure correctly assigns tasks, resources and people?	x	x				High
	PBM Methodology	Do you consider the use of strategic tools for the associative management of agricultural organizations to be important?	x	x				High
	Metrics for information analysis	Is the human talent involved in the organizational culture (mission, vision, principles and values) to achieve the strategic objectives of the organization?				x	x	Under
		Does the organization apply indicators and metrics for information analysis to support decision making?		x	x			Medium

Source: Own elaboration

SPSS version 24 (Statistical Package for the Social Sciences), will be used to process the information collected, organize it, analyze it and represent it graphically and carry out the correlational analysis.

Microsoft Excel for the entry and organized registration of the information collected from the surveys carried out.

Likert scale, with the purpose of weighting the variables with a score from 5 (strongly agree) to 1 (strongly disagree) for the questions.

In Table 1 of the research results, first of all, it can be seen that points were weighted by Likert scales from 5 to 1 (totally agree to totally disagree) for each of the questions of the dimensions and independent variables, which in turn verify the impact of the Workflow model from a high, medium and/or low level.

Regarding the current situation of agricultural organizations, 53.3% use customer relationship systems; 46.7% have enterprise resource planning systems; and 83% state that the control of operational processes contributes to increased productivity. Seventy percent of those interviewed about support processes indicate that if they are executed correctly, they contribute to decision making. 53.3% agree that strategic processes develop associative management. In these organizations, 16.7% of the finance and accounting activities are systematized and efficient; while 83.3% in the production area, the technician processes are effective.

In the independent variable called information technology, a high score was found in its three dimensions (management, interaction, and usefulness), obtaining the maximum weighting between 5 and 4, respectively. Therefore, it is evident that this variable has a high impact on the model proposed. Meanwhile, in the process variable, the dimensions control of operational processes and efficiency of strategic processes obtained the highest score; however, the performance of support processes was lower, i.e., it obtained a medium weighting.

Finally, in the information management tools variable, it was found that: in the organizational structure and strategic tools dimensions, a maximum score was achieved, demonstrating its high impact on the model; on the other hand, the existence of a deficiency was demonstrated in the metrics dimension for information analysis, since the minimum score was obtained in the compliance of human talent on organizational culture. However, this indicator is not considered a high impact risk, since it would not significantly affect the associative management of agricultural organizations in Manabí.

CONCLUSIONS

The proposed Workflow model is made up of information technologies to improve the management of activities; organizational processes to define jobs and responsibilities using the correct hierarchy; and finally, information management tools to improve the information flow process for decision making by senior management in the associative management of agricultural organizations.

The Workflow model was evaluated through descriptive and correlational analysis, demonstrating an intense relationship between the workflow information that is the basis for the interpretation of the personnel and the use of strategic tools for the associative management of the agricultural organizations of Manabí, it was verified with the Pearson Chi-square statistic by obtaining a value of 30.000 with 1 degree of freedom; additionally, a probability of asymptotic significance of 0.000; with a V. Cramer's Coefficient of 1, and a probability of significance of 0.000,

demonstrating the high impact of association between the application of the parameters for the analysis of the information that helps in the decision making process, as long as the hierarchical level of the parameters for the analysis of the information that helps in the decision making process. Cramer's V. Coefficient of 1, and a significance probability of 0.000, demonstrating the high impact of association between the application of the parameters for the analysis of information that assists in decision making, as long as the hierarchical level optimally designates responsibilities, activities, resources and people. Therefore, it is concluded that this model has a high impact on the associative management of agricultural organizations in Manabí.

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