The Importance of Managerial Control Systems in the Framework of Economic Entities in Romania

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Abstract

Today's economy is characterized by a high degree of globalization and fierce competitive pressure, supported by increasing consumer demands and capital infusions from global financial markets. From unilateral globalization, which involved the outsourcing of production processes in regions with productive potential, to the current situation in which financial markets no longer know borders and the forces of the business environment compete with those of governments, it seems a long way, but one that has been traveled at a pace alert Energy and natural resources, as components of the economic infrastructure, remain key elements of progress, but technology and management techniques gain more and more emphasis. The management and control of industrial processes in the case of multinational companies contains a centralized component, carried out by means of control systems that allow, on the one hand, the monitoring of the industrial process itself as well as the way of managing resources.

The main purpose of the article is to improve existing managerial control systems in multinational industrial organizations as well as to optimize the implementation process, to ensure quick results.

Keywords: *control system, management, quality, performance*

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1. Introduction

The emergence of large companies induced a separation between the status of owner and the function of manager, the size of the company allowing it to be run by a single person or by the family members who own it. The development of the capital market brought the diversification of the shareholding structure and created the need for independent managers to run the company in a transparent way, ensuring the maximum utilization of the controlled resources.

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The emergence and development of multinational companies is closely related to the phenomenon of globalization, a process whose beginning has historical roots, and whose intensification dates back to the second half of the 20th century. Globalization as a phenomenon characterizes all the social, political and economic processes of our days, the economic can be considered the backbone of the process, including capital allocation, production and all additional processes, from logistics to consumption. Along with the development and expansion of organizations, the need for managerial control systems became more and more evident. In the case of companies or organizations where employees do not necessarily have their own interest in achieving the organization's objectives, especially if these objectives are in conflict with personal ones, control systems become essential to ensure the smooth running of the activity. In most companies, employees cannot have a special interest in pursuing the organization's goals, beyond what the organization itself is able to inspire in its members. The control system is the basic tool through which the organization can determine its members for the pursuit of organizational objectives.

The problem of managerial control aroused the interest of specialists in the fields of accounting and management as well as university teachers. The fact that there are several approaches to the concept of control has generated a certain ambiguity, the specialized literature offering alternative definitions and completely different approaches. There are numerous definitions of the concept of control, each adding new points of view and new elements considered to be relevant. The managerial control process being influenced by the environment and the specifics of the targeted company, the researches of the last decades have focused on the study and development of specific control mechanisms (Beckhard et al., 2019).

If we look at the organization as a system made up of two or more people whose common goal is well defined and whose activity is coordinated by clearly defined rules we can affirm that, except for trivial cases, the existence of a system of control and measurement of results and their correlation with the effort exerted by each part of the system is essential to keep the system in balance. Although planning and control are sometimes described as separate functions of management, the contribution of plans to the achievement of the control function justifies their treatment together. The control process begins with the realization of the plans necessary to fulfill the established strategic objectives.

Data, information and knowledge play an important role both in everyday life and in the management process of organizations. Managerial control systems are based on data, by processing which they can provide information to management and create knowledge for the organization. Data is the most basic level and has as its source the observations. They can be captured automatically and cannot be interpreted in raw form. Information is born by adding context, analyzing relationships and creating connections between data. The managerial control system is an open, dynamic system based on communication that collects, processes and provides synthesized information, constantly adapting to the needs

of management, but preserving the coherence and comparability of information (Lawrencey & Lorsch, 2019).

The success of a business in today's highly competitive environment is mainly related to the performance of all management levels of the company. Competitiveness is built up on the integration of different managerial functions that creates the necessary framework for the companies to appropriately address to the market needs (Gabor et al., 2021). In large organizations, effective performance management requires appropriate tools to support objective monitoring and evaluation of results. In most cases, the results are affected by environmental factors, which can diminish or accentuate individual performance. Globalization, by expanding the area of activity or relocating the production units of the most performing actors on the market, has an important role in the development and spread of the most efficient production and management methods. Multinational corporations take advantage of economies of scale in both the development and implementation of best practices in all controlled units. On the one hand, the level of activity allows them to make significant investments in research and development, and on the other hand, through new acquisitions, they include technologies and knowledge, which through proper management can improve the performance of the entire organization.

2. Literature review

In the Romanian management literature, a definition that summarizes the aspects of control and its importance in management is given by Burduș, who defines control in management as the systematic effort to establish performance standards for planned objectives, to design reaction information systems (information, warning), to compare the actual performances (accomplishments) with the predetermined (planned) standards, to determine the deviations and measure their significance, in order to take all the necessary measures to ensure the efficient use of the company's resources to achieve, in conditions of maximum efficiency, of its objectives (Burduș, 1997).

Managerial Control Systems (MCS) serve all levels of management through the two main objectives: support and control. MCS are developed in such a way as to provide useful information to Strategic, Executive and Operative management with the degree of detail necessary for decisions focused on the long, medium or short term (Juran, 2000). Starting from the strategic management level where the MCS has the role of synthesizing the results, providing performance indicators of a more financial nature, based on which the strategy is adapted, up to the operative level which provides physical details related to the process, offering the possibility of efficiency (Mitonneau, 2000).

Both in the development process and in its use, area managers, as beneficiaries of the MCS, have an important role in defining the information they need to benefit to the maximum from its support dimension (Lawler & Rhode, 2017). Once the system is implemented, it will start generating information,

creating a stable reference base for setting goals in the future (Emmanuel et al., 2011). The development of technology, the automation of processes, the appearance of electronic computers and the creation of the possibility to store MCS data have experienced a spectacular development, making it possible to permanently monitor processes at a relatively low cost. Defining a set of parameters characteristic of the process and constantly following their evolution has proven to be extremely useful in the improvement process, resulting in significant savings in energy, consumables and raw materials (Fayol, 2015). In addition to the efficiency of consumption by stabilizing the process, an improvement in quality was also observed, MCS becoming an integrated monitoring system that provides the support and control necessary for effective operational management (Ronen, 2015).

Like any other activity, control is resource-consuming and involves certain costs, as it is necessary to allocate the necessary resources to this activity from the planning stage. Even if control is one of the most important means of achieving objectives, the cost involved in the control process must not exceed the benefits it brings by obeying the law of efficiency (Beckhard et al., 2019).

Looking from a historical perspective Managerial Control Systems have developed from formal, closed systems based on financial and cost control and into complex dynamic and open systems that take into account the psychosocial and cultural aspects of the environment in which the activity is carried out (Morgan, 2011). The development of information technology and computer systems has opened a new horizon for managerial control systems. Increasing the speed of information processing and transfer, as well as expanding the data storage capacity, creates the possibility of permanent monitoring of process parameters and performance indicators. The possibility of automatic data collection and processing resulted in the emergence of Computer Aided Managerial Control Systems. This new trend, characterized by the permanent control of a wide number of performance indicators, ensuring traceability and total control, is in the process of revolutionizing the managerial control process (Lev, 2001).

One of the biggest challenges of our days is the adequate management of the volume of information to which we are exposed. This challenge also appears in the area of management, resulting from the automation of the data capture process. The capacity of the human being is limited and even modest in the sense of the capacity to process raw data. The human mind is not remarkably efficient in this type of processing of significant volumes of data, rather it can provide results in identifying the relationships between events and their causes, following the analysis of a set of synthesized and structured information (Mitonneau, 2000). Computer Assisted Managerial Control Systems by integrating different subsystems, ensuring communication and collaboration between them ensure optimal content management depending on the hierarchical level or the nature of the supported decisions.

The difficulty and complexity of the control problem in management comes from combining the hierarchical control style with the distributed and

decentralized one, ensuring effective control of all key processes without oversaturating central management (Burns, 1994). The problem can be solved by designing a system that allows the correlation of results and the identification of possible incidents with a major impact on global results, avoiding micro-management. Computer Assisted Managerial Control Systems try to restore this link between budgetary and industrial control, by quantifying the effects on the global result of each monitored parameter (Cornescu et al., 2003). By quantifying the overall effect, the system facilitates the ranking of indicators and parameters, ensuring that attention and resources are directed to the areas where the improvement effort will be most rewarding (Pearce et al., 2013).

The developed monitoring and control systems allow access to the smallest detail, for all levels of management, but at the same time ensure information filtering and user guidance on critical aspects. By processing and filtering collected data, control systems facilitate total control, creating competitive advantage by highlighting the strong and weak points of the organization (Berry et al., 2005). From the point of view of management, the main challenge is related to filtering the large volume of information generated by the system and drawing the border up to which managers can get involved in operational issues. With the technological development, it has become feasible to permanently monitor all processes allowing access to the smallest details of the process, creating a prolific environment for micro-management (Anthony & Govindarajan, 2007). A well-designed control system allows and at the same time prevents micro-management, facilitating collaboration between management and executive staff to ensure a favorable decision-making environment. The automation of industrial processes and the computerization of business management has favored the development of control, each area trying to develop its own control mechanisms to eliminate possible operating or data recording errors. Specialized management modules appeared on the different business functions, streamlining industrial and management processes (Drucker, 2001). As the degree of automation and computerization advanced, the volume of data and control parameters available for analysis and control increased (Amat, 2001). The role of computer-assisted managerial control systems is to efficiently manage this volume of data, to process and correlate them in order to identify any discrepancies. Computer-assisted managerial control systems are based on a set of performance indicators through the evolution of which the system will allow a clear diagnosis of performance and enable the triggering of the alert and self-control mechanism in the event that significant deviations or inconsistencies between the monitored parameters are found (Barnard , 2003).

3. Research methodology

The purpose of the article is to determine how managers from several companies in Romania perceive the importance of the managerial control system (MCS). The managerial control system was analyzed from three perspectives: quality assurance (QA), quality control (QC), product technology (PT), customer

support (CS). The main functions and responsibilities of each division are detailed below.

Quality Assurance (QA): this division is responsible for the adaptation, implementation and improvement of the integrated quality management system, with the following functions:

- ✓ Development, management and control of all quality documents, such as: quality policy, manual, procedures, operative instructions and quality plans.
- ✓ Establishing and implementing indicators that allow effective monitoring of processes (control charts, quality indicators)
- ✓ Collection and analysis of statistical data to identify trends and identify opportunities to improve product quality
- ✓ Implementation, follow-up and control of action plans, aiming at continuous improvement
- ✓ Effective management of customer complaints: identification of the problem, primary investigations and establishment of corrective actions
- ✓ Testing and calibration and certification of measuring devices used in different processes
- ✓ Management of product and process certification processes

Quality Control (QC): This division is responsible for process monitoring, ensuring that controls are performed according to specification at all stages of the production flow. The department is divided into two teams, one for the control of products and processes during the production process (verification team) and another for random control of products ready for delivery (final control team). Main functions and responsibilities:

- ✓ Random control, with a pre-defined frequency, of the various operations performed in the various stages of the production process and reporting of any detected deviations. The detected and reported deviations will be analyzed by the person in charge of the process involved. The effectiveness of the implemented corrective actions will be re-verified before the case is closed.
- ✓ Random control with a low, pre-defined frequency of the goods in the warehouse of finished products. The checks that the end user will do upon receiving the products will be carried out. Non-conformity reports will be considered and managed as customer complaints. The frequency of these inspections is established based on the commercial importance of the product class and the history of promised complaints from customers.

Product Technology (PT): this division is responsible for identifying the technology needed to implement new product ranges: collecting and prioritizing product and customer requirements in collaboration with the sales, marketing and technical department. To fulfill these tasks, the division is organized into two subdivisions: technical and material feasibility. Due to the very close collaboration

with the materials division, the product technology division will also supervise the testing laboratories. Main functions and responsibilities:

- ✓ To generate and maintain the list of standard products
- ✓ To carry out the technical feasibility analysis of the requirements received from customers, through the commercial structure. To be the connection between the commercial and production areas of the company.
- ✓ To develop and implement materials and work practices that maximize operational efficiency
- ✓ Evaluation of current and potential processing and control methods.

Customer Support (CS): main functions and responsibilities:

- ✓ Management of relations with customers and their representatives in the enterprise, as well as interaction with third-party control companies
- ✓ Organizing and participating in pre-production meetings, preparing and validating quality control plans

Based on the purpose of the scientific research, the following objectives were drawn up:

1. Analysis of the managerial control system (MCS);
2. Analysis of the elements that make up the managerial control system (MCS);
3. Identification of the links between the elements of the managerial control system (MCS).

Based on studies and theories in the field of specialized literature as well as personal observations, the following hypotheses were formulated that are the basis of scientific research:

Hypothesis 1: There is a strong correlation between Quality Assurance (QA) and Quality Control (QC);

Hypothesis 2: There is a highly significant positive relationship between Quality Assurance (QA) and Product Technology (PT);

Hypothesis 3: Between Quality Assurance (QA) and Customer Support (CS) there is a highly significant positive relationship;

Hypothesis 4: There is a positive relationship between Quality Control (QC) and Product Technology (PT);

Hypothesis 5: There is a highly significant positive relationship between Quality Control (QC) and Customer Support (CS)

Hypothesis 6: There is a significant positive relationship between Product Technology (PT) and Customer Support (CS).

Data collection was carried out between November 2022 ÷ January 2023, with the help of the questionnaire. A total of 512 valid questionnaires were obtained. In the processing phase, processing and analyzing the collected data, the special statistical research software S.P.S.S. was used. (Statistical Package for the Social Sciences), with which the Spearman rho correlation coefficient was calculated;

4. Findings

To validate the hypotheses, we used the most common and by far the most useful, the Spearman rho correlation coefficient, with the help of the special statistical research software S.P.S.S. (Table 1).

Table 1. Spearman rho correlation coefficient values

Correlations					
Spearman's rho		Quality Assurance (QA)	Quality Control (QC)	Product Technology (PT)	Customer Support (CS)
Quality Assurance (QA)	correlation coefficient	1.000	.921**	.837**	.823**
	Sig. (2-tailed)		.000	.000	.000
	N	512	512	512	512
Quality Control (QC)	correlation coefficient	.921**	1.000	.800**	.784**
	Sig. (2-tailed)	.000		.000	.000
	N	312	312	312	312
Product Technology (PT)	correlation coefficient	.837**	.800**	1.000	.895**
	Sig. (2-tailed)	.000	.000		.000
	N	512	512	512	512
Customer Support (CS)	correlation coefficient	.823**	.784**	.895**	1.000
	Sig. (2-tailed)	.000	.000	.000	
	N	512	512	512	512
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: processing data obtained through SPSS program

Following the analysis of the Spearman rho correlation coefficient, we can observe the following correlations between the different process elements that make up the public management system:

1. There is a highly significant positive relationship between Quality Assurance (QA) and Quality Control (QC) (rho=0.92, df=310, p<0.001). From the scatter diagram (Figure 1) it can be seen that the spread of points is relatively limited, which indicates a strong correlation (R2=0.81). The slope of the scatterplot

of results is relatively a straight line, indicating a linear relationship rather than a curvilinear one. It can be stated that Hypothesis 1 has been validated.

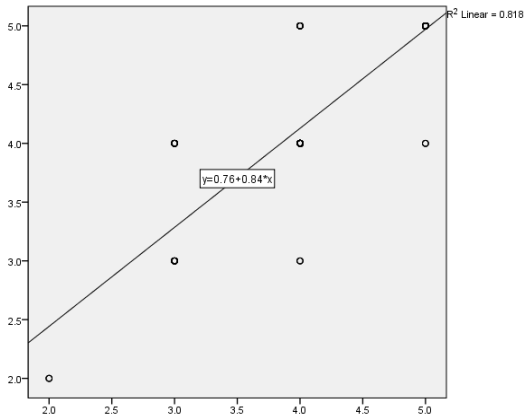

Figure 1 - Scatter diagram – correlation between Quality Assurance (QA) and Quality Control (QC)

Source: processing data obtained through SPSS program

2. It can be seen from Table 1, that there is a very significant positive relationship between Quality Assurance (QA) and Product Technology (PT) (rho=0.83, df=310, p<0.001). The scatterplot (Figure 2) reveals that the spread of points is relatively limited, indicating a strong correlation (R2=0.67). The slope of the scatterplot of results is relatively a straight line, indicating a linear relationship rather than a curvilinear one. In conclusion, Hypothesis 2 is validated.

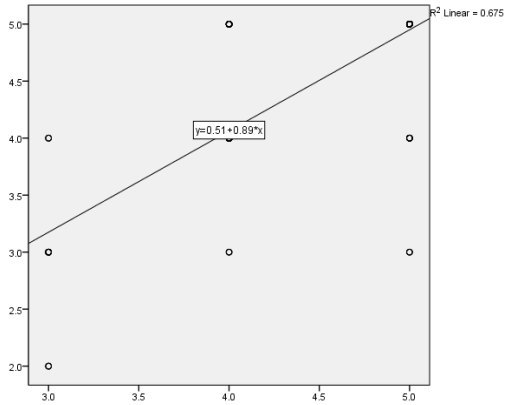

Figure 2 - Scatter diagram – correlation between Quality Assurance (QA) and Product Technology (PT)

Source: processing data obtained through SPSS program

3. Between Quality Assurance (QA) and Customer Support (CS) there is a very significant positive relationship (rho=0.82, df=310, p<0.001). From Figure 3,

the scatterplot reveals that the spread of the points is relatively limited, indicating a strong correlation. The slope of the scatterplot of results is relatively a straight line, indicating a linear relationship rather than a curvilinear one. It can be stated that Hypothesis 3 is fully validated.

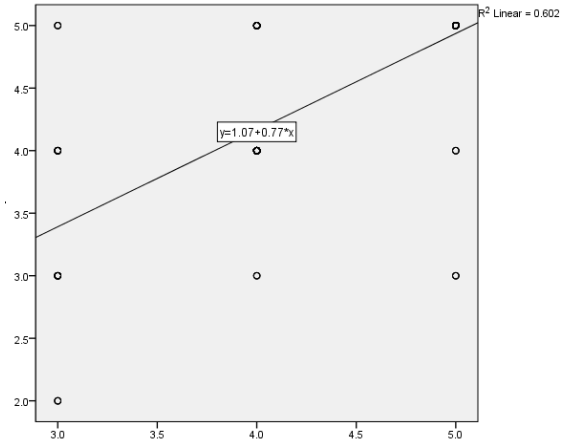

Figure 3 - Scatter diagram - between Quality Assurance (QA) and Customer Support (CS)

Source: processing data obtained through SPSS program

4. Analyzing Quality Control (QC) and Product Technology (PT) results in a very significant positive relationship (rho=0.80, df=310, p<0.001). The scatter diagram (Figure 4) reveals that the spread of points is relatively limited, which indicates a strong correlation (R2=0.61). The slope of the scatterplot of results is relatively a straight line, indicating a linear relationship rather than a curvilinear one. It can be stated that Hypothesis 4 is validated.

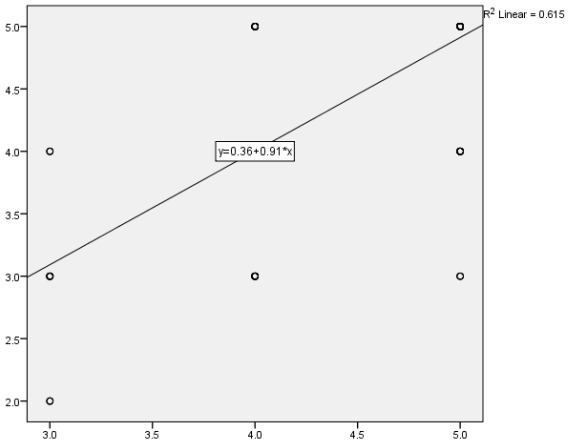

Figure 4 - Scatter diagram – correlation between Quality Control (QC) and Product Technology (PT)

Source: processing data obtained through SPSS program

5. Between Quality Control (QC) and Customer Support (CS) there is a highly significant positive relationship (rho=0.84, df=310, p<0.001). The scatter diagram reveals that the spread of points is relatively limited, indicating a moderate to strong correlation (R2=0.54) - Figure 5 The slope of the scatter of the results is relatively a straight line, indicating a linear relationship rather than a curvilinear one - Hypothesis 5 is validated.

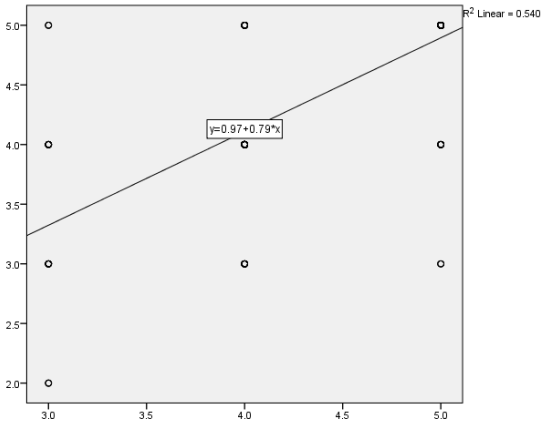

Figure 5 - Scatter plot – correlation between Quality Control (QC) and Customer Support (CS)

Source: processing data obtained through SPSS program

6. There is also a highly significant positive relationship (rho=0.89, df=310, p<0.001) between Product Technology (PT) and Customer Support (CS) (Table 1). The scatterplot (Figure 6) reveals that the spread of points is relatively limited, which indicates a moderate to strong correlation (R2=0.74). The slope of the scatterplot of results is relatively a straight line, indicating a linear relationship rather than a curvilinear one.

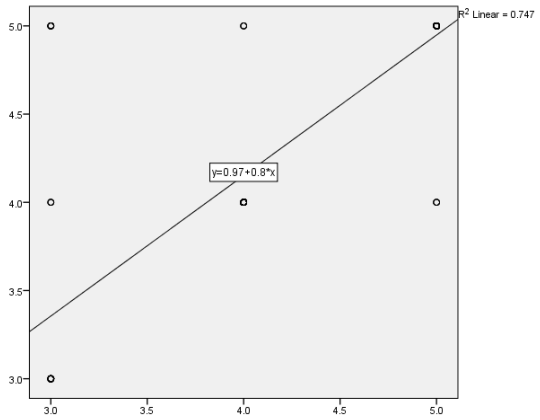

Figure 6 - Scatterplot – correlation between Product Technology (PT) and Customer Support (CS)

Source: processing data obtained through SPSS program

One of the main reasons for the implementation of control systems is the difficulty of coordinating the activities of the organization's members. Performance measurement involves the translation of the organization's strategy into objectives and partial results, so as to create a formal monitoring platform that allows tracing the evolution of the results. The difficulty of monitoring and control is highlighted especially when the organization grows in size and expands its activity in distant geographical areas. The lack of information about everything that takes place in the various units of the organization makes effective management impossible.

5. Conclusions

Globalization through the development of multinational companies has generated a profound change in economic and social life, in people's habits and tastes, remaining a controversial phenomenon, but it can be considered the engine of technological development, control and management methods. The emergence and development of the global financial market in the 1960s is the beginning of a new era in the development and expansion of companies, by limiting government control over capital movements, multinational companies becoming dynamic factors of globalization. Corporations begin expanding into emerging countries with the hope of exploiting cheap labor, outsourcing production processes, and penetrating developing markets, gradually adapting their products to local requirements.

The sustainability, economic completeness and technological performance of an organization depends on its ability to innovate and adapt to environmental changes. The IT revolution, the emergence and improvement of new communication channels, the speed of data transfer have created new opportunities and challenges for companies, making it possible to relocate services (IT, Financial, Logistics, etc.) optimizing operational costs. The justification for implementing a control system in a large organization is that it is the only effective method to ensure that the organization's objectives are achieved and the resources used to achieve them are used effectively. Control systems, in addition to their main role of ensuring visibility on operational performance, can serve as tools for the accumulation and propagation of knowledge or mechanisms for managing organizational changes.

Global competition, the economic crisis of recent years have brought more changes in social and economic life, both in emerging countries and in the Western world. The development of the capital market led to the diversification of the shareholding structure and to the separation of the status of owner from the function of manager, creating the need for independent managers to lead the company in a transparent way, ensuring the maximum utilization of resources. To ensure transparency in the management of companies and to ensure their effective control Management control systems have become the key tools of corporate

management being adapted to the needs of each entity but keeping the formal, centralized character.

Like any other activity, control is resource-consuming and involves certain costs. Even if control is one of the most important means of achieving objectives, it must be subject to the law of efficiency, the cost involved remaining below the benefits it brings. The emergence and development of computer systems, the decrease in the cost of computers, the increase in transfer speed and the significant increase in data storage capacities created new possibilities in managerial control and revolutionized MCS. The current trend is the permanent monitoring of processes, creating the possibility of total control and traceability. MCS are in the transition phase, soon becoming fully computerized, the results being very promising.

Expanding the activity over large areas, including areas that are not economically or infrastructurally developed, affected by conflicts or exposed to diseases, presents a challenge for multinational management. Allocating the necessary human resources represents a difficulty even for the integration period, when the transfer of experience and knowledge is essential for improving performance, through the training of the local team. Managerial control and technical support remain essential even in the later phases, to ensure the efficient operation of the unit. Computer-assisted managerial control systems and digital communication platforms promise a solution for the need to centralize the management process and concentrate knowledge bases in favorable locations from an economic and organizational point of view.

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