

SURVEY REGARDING PROCESS APPROACH AND QUALITY MANAGEMENT SYSTEM IN SMALL AND MEDIUM ENTERPRISES IN ROMANIA

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În această lucrare se prezintă rezultatele cercetării efectuate în România, având ca obiective determinarea modului în care abordarea pe proces, ca element determinant al trecerii către un sistem de management al calitatii, este înțeleasă și folosită de manageri în activitatea lor în întreprinderile mici și mijlocii. Studiul s-a desfășurat cu participarea a 300 de IMM-uri și constituie parte dintr-o încercare mai amplă de a determina caile de îmbunătățire ale proceselor în IMM-uri ca factor de dezvoltare și adaptare permanentă la condițiile externe ale organizației.

The current article presents research results stemming from an investigation performed in Romania, with the target of clarifying the process approach concept, which is a defining element in the transition towards a quality management system; our research emphasizes how the phenomenon is perceived and used by managers in their activity unfolding in SMEs. The study involved 300 SMEs and is part of a larger attempt at determining improvement modalities within SME processes, as factors impacting both their development and constant adjustment to the external conditions of the organization.

Keywords: process, process approach, SME, reengineering, benchmarking, constant improvement, quality management system, business research

1. Introduction

The most important elements defining the success of an enterprise are: profitability, the quick response to clients' needs, and the market share. They all rely on process performance, the key element that has probably become the critical factor in organisations after the year 2000. In the current economic environment, a successful organisation is the one that not only understands how to identify and correct its processes, but also the one that is capable of using the strengths and opportunities of its processes in order to obtain strategic advantages. Organisation analysis from the perspective of its processes uses instruments that researchers have resorted to for decades, such as flowcharts, control graphs, etc. The reason why the process approach of organisations has become so successfully

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extended lately is that it is imperative that we should understand how situations develop and evolve if we want organisational change to be effective and lead to the desired consequence [1]. According to [1], success in such constantly changing business environments is possible only if the organisation is ready to focus on change by using the strategic weapon of processes, in order to attain performance at the required level.

We took as reference points the processes role and relevance within the economy of most developed states, which concentrate not only the majority of economic activities but also the highest number of employees; hence we realised that identifying new means of process improvement in a SME constitutes a way to ensure progress under the current economic circumstances. With a limited number of staff, 249 at most, and a maximum turnover of €49 mil, such enterprises play an essential part in the economic context nowadays, as they prove to be the most dynamic and substantial component of the system. Statistical analysis of their evolution documents shows that their contribution to the GDP is of over 90%, and they employ over 2.6 mil of the total Romanian workforce, thus becoming increasingly active in sectors such as industry and services; therefore SMEs act as a spur in the economic development, and a main means whose improvement leads to progress. [2]

The dynamics of the environment in which they function, alongside with the impact of phenomena such as globalisation, workforce mobility, and swift major changes, lead to an organisational approach centred on process. The process is characterised by measurability, stability, and repeatability, which all make the process approach ever more valuable. In this respect, the elaboration of the ISO Standard was a landmark, ment to support the efforts of organisations focused on quality, thus laying the foundations of process approach in enterprises.

The concept of process approach brings more precision and value in the decision-taking chain because such an approach is in line with the central objective of the organisation, generating the guidelines of the process, at the same time making it accessible and easily understood by all organisation members [3].

As well as this, it allows process development and improvement in a wide range of methods.

2. Relevant aspects in the current stage of research on the topic of « process » used in SMEs

A general definition conveys the fact that a process represents a series of activities or clusters of activities, *it is maintained by entries, provided with resources*, and *adds value* consistent with the purpose, in order to create output. Entries in a process come either from the outside or from another process (upstream process), and output is oriented either towards the exterior or towards a

downstream process. The series of process steps by which entries are transformed into output generates capital gains. All processes are interrelated, as the enterprise is a system. Improvement in one component may have cascading consequences on the others, which might affect the whole company.

Brandenburg and Wojtyna, [4] stated that more often, the concept of 'process' does not refer to the level of 'strategic management'. Numerous managers consider it less important than 'market', 'strategy', 'product portfolio', 'alliance', etc. It is not even regarded as being at the same level as the immediate action – the project – but, rather, it is regarded as a 'task' delegated by the management to the lower levels. However, processes are the key instrument in developing strategies, and a valid tool in policy differentiation, cost policies, partnership, marketing and communication policies, etc.

Processes results are measurable. People generally claim that only measurable things can be improved, which is perfectly acceptable in the field of management. Therefore it is not surprising that one of the strong points of the management tool, – the process approach to be more precise – should focus on its very capacity of quantifying performance. Nevertheless, in order to be measurable, the finality of the process should be envisaged first.

Processes are stable and repeatable. The process mapping method stemmed from the detailed analysis of fluxes and required activities performed in order to meet an objective. As long as such a target exists, the necessary actions for meeting it will be of the same nature, even if particular ways may vary, according to various changes (technology, regulations...). In addition to this, the stages could be reiterated at any time, once the process has been described, level by level, with all entries and outputs, defining the conditions and the performance indicators. Stability and repeatability of processes in organisations, as obtained via other processes, can never be attained relying on some a priori designed organisation schemes.

A process is characterised by:

- entries (measurable);
- an organised series of activities, which is stable and repeatable;
- provision of resources;
- envisaged final result (measurable output), with added value.

Standards in the series ISO 9000, completely revised in 2000, include norms as far as enterprises are concerned, which should enable any organisation to guarantee consideration and satisfaction for clients' needs. This is the concept of quality assurance, to be defined by: 'managing to provide suitable conditions for best achievements at the first attempt'. The process-based approach plays a fundamental role in ISO 9001: 2000, insomuch as succeeding in it means getting the ISO certification [5].

Management via processes is a transversal organisational approach, which centres on 'the client's universe', as client satisfaction is the key issue in the existence of an enterprise [6]. This reality prompts reconsidering and validating all activities within the enterprise, from the clients' needs to the suppliers, in a downstream-upstream direction.

According to the standard 'obtaining the desired result is most effective when activities and resources are considered as processes', the process is defined only as 'a multitude of inter-connected activities, interacting with each other, thus transforming entries in output'. Again, as previously mentioned, one must take into account that entries in a process are outputs of another process, and processes in an organisation are usually planned and develop for generating added value.

ISO 9001:2000 emphasises the importance of identifying, implementing, managing and constantly improving processes in an organisation, as a pre-requisite of implementing the quality and process management systems in view of meeting the targets of the organisation. Furthermore, ISO 9004:2000 guides the organisation towards performance amelioration, recommending evaluation of both process efficiency and effectiveness. Process efficiency and effectiveness in an organisation can be assessed on a maturity scale, which measures the degree of maturity starting from a 'non formal system' and reaching 'the best performance'. An advantage of this approach is that results can be monitored over time, facilitating the attainment of long-term objectives.

Constant improvement, benchmarking, reengineering, they all constitute the most commonly used methods in process improvement within an organisation.

According to [7], **benchmarking** is the action of measuring and constantly comparing business processes to similar processes in dominant organisations, in order to derive information able to assist the given organisation in identifying and implementing improvement. Typical of this type of process is the outward trend, the constant referral to leaders for changing the organisation. It is a method that points to an organisation which is learning and is continuously adjusting to the environment.

Reengineering deals with fundamentally changing the organisation. The objectives of a reengineering process is to create systems, process and structures that meet customer needs efficiently and in an economically manner [8]. According to [8], reengineering consist of three strategies: streamlining – breaks the core process in segments to eliminate waste; integrating – the unification of systems, processes across functional lines and transforming – involves benchmarking to locate the leader.

3. Research methodology

In the attempt to investigate the way in which Romanian SMEs use the process approach in their management as a means of facilitating the transition to a quality management system, the authors conducted a pilot study on 300 SMEs.

Their managers answered a questionnaire whose objectives were:

- to investigate the degree in which these managers are familiar with the concept of process
- to determine the degree in which ‘the process approach’ is an instrument used by the managers of these organisations
- to determine the way in which such an approach influenced the development of the organisation
- to investigate the level of quality management knowledge among SMEs managers
- to determine the degree in which Romanian SMEs adopted a quality Management System
- to assess management’s opinion on ‘horizontal management’

The target group was selected taking into account the current structure of SMEs on size classes: micro, small and medium. The questionnaires were sent mainly to industrial organisations, but manufacturing and service organisations were not neglected, either.

The response rate was rather low, but, after careful selection of questionnaires, we were able to define a representative sample, relevant for the categories in existence at national level.

4. Variables Measurements

In order to obtain a global image on the studied issue we used four types of variables:

- nominal variables
- specialised knowledge
- variables defining the obtained results
- attitudes

The nominal variables [9] focused on information regarding organisation size, field of activity, number of employees, timeframe for market activity, representation, and, last but not least, data on the existence/absence of a Quality Management System and the period in which it was active.

For determining the SMEs managers’ level of knowledge on quality management systems and on the process approach within organisations, we used variables with multiple measurement levels. We implemented a four-level scale: no knowledge, beginner, intermediate, advanced, which allows a more precise hierarchy of the amount of information managers demonstrate in the field of quality management and change management within the organisation.

As far as the questions on results obtained by implementing the process approach are concerned, we used a ‘multiple choice, single response’ scale, which enabled us to adequately rank both results and models used in this process.

In order to determine the attitude, we used a Lickert scale [10] with five levels: disagreement, partial agreement, tendency to agreement, agreement, and total agreement; respondents thus expressed their degree of agreement or disagreement with the statements regarding ‘the process approach on the organisation and the consequences of this action’. Hence we investigated the managers’ attitude on the way in which the process approach generated an upward trend for the business, on the extent to which expenses required by this approach were justifiable, on the ability of vertical management to ensure profit for the enterprise. The table below briefly displays the structure of variables used in the present research:

Table 1

The map of research variables

Research variables		Conceptual description
Nominally Scaled Variables	Informative Variables	Category
		Years of activity
		Industry
		Shareholders
		No. of employees
		Existence of QMS
Specialized Knowledge Variables	Educational Variables	QM Knowledge
		Process approach Knowledge
		Continuous Improvement Knowledge
		Reengineering Knowledge
		Benchmarking Knowledge
Results Variables	Economic Variables	Production Quality
		Efficiency
		Turnover
Attitude Rating Scaled Variables	Process approach	Attitude dimension

5. Data analysis

The questionnaire has a classical structure, beginning with questions on the organisation, then continuing with data regarding the introduction of the Quality Management System, next come items referring to the amount of quality management knowledge, questions on processes in organisations and their classification, and ends with attitude assessment on process approach implementation and its impact on the organisation.

The questionnaire was distributed to 300 SMEs nationwide and only 230 answers were received, among which we selected 212, the relevant pool for our research.

The sample on which the research was performed contained 89% micro-enterprises, 8% small enterprises, and 3% medium enterprises. Out of the total number of SMEs participating in the study, only 18% had implemented a quality management system. (Fig. 1)

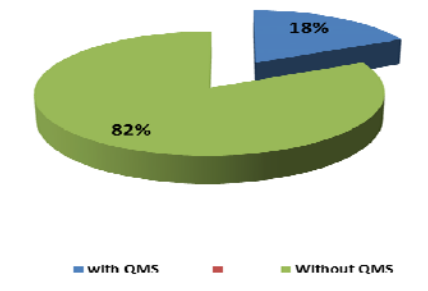


Fig. 1. Percentage of SMEs which implemented the Quality Management System

In what concerns the situation on categories of SMEs, of the 18% enterprises with a quality management system, only 1% are micro-enterprises and 12% are medium enterprises. (Fig. 2)

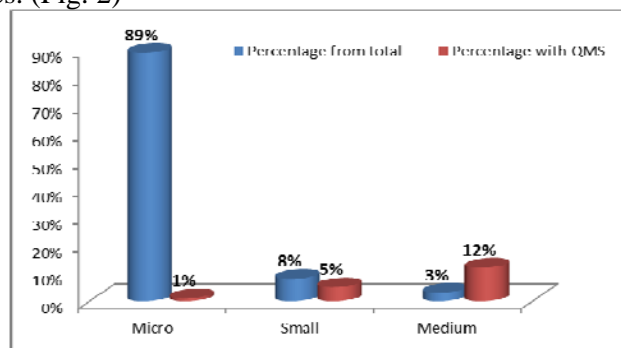


Fig. 2 SMEs with Quality Management System on categories

53% of the firms which implemented a Quality Management System, did it 4-6 years ago, 18% of them more than 6 years ago, 28% 1-3 years ago, and only 1% have made this transition recently.

Out of the total number of enterprises who answered our questionnaire only 7% declared that they used the process approach in the management of their organisation.

The representatives of the companies participating in the research were enterprise administrators 54% or general managers (32%) and only (3%) quality managers and (7%) financial directors. Figure 3 illustrates the range of personal opinions of the people involved in our research, on their own level of management knowledge, on quality management, on the process approach within the company, 'constant improvement', reengineering, and benchmarking. The relatively low level in such knowledge is probably one of the factors that generated the high percentage of enterprises which have implemented neither quality management nor the process approach yet. (Fig. 3).

Out of the total number of respondents, 17% stated that they are 'beginners' in what concerns management knowledge, 56% considered their level to be 'intermediate', and only 14% declared being 'advanced level' in this field. Only 3% say they are pleased with their knowledge in quality management, while 63% declare themselves 'beginners' in this domain.

The process approach is mastered by merely 1% of the respondents at expert level, whereas 64% say they are beginners in this approach.

Out of the total number of companies which implemented a quality management system and made the transition to the process approach, 47% use process classification in three main categories: manufacturing processes, management processes and support processes, and 36% use a four-category process classification: management processes, support processes, operational processes and organisational processes, thereby consistent with ISO 15504.

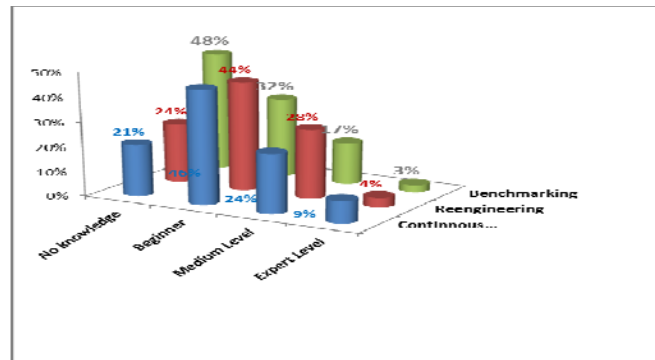


Fig. 3 Self-assessed knowledge level on Quality Management

In most cases (42%) the option for using such a classification belonged to the company which implemented the Quality Management System and in only 11% of the cases the company leadership analysed and took this decision.

Regarding the results obtained as a consequence of the transition to the process approach, 43% declared they had an increase in turnover, whereas 31% stated they made production/services more effective, and only 11% increased the quality of their products and services. (Fig. 4)

68% of the ones who made the transition to the process approach consider the horizontal management to be superior to the vertical one, and 37% of these consider this transition a necessary condition, but not sufficient for success and sustainability in the organisation.

53% of the respondents agreed with the statement: 'the process approach within the organisation generated an upward trend for the businesses', 17% 'tend to agree' and 28% 'totally agree' with the rising trend generated by this action.

As about implementation costs for a Quality Management System – QMS – the most frequently encountered viewpoint was that the expenses were too high for the results obtained subsequently (39%), whereas only 4% believed the costs to be justified and 28% only tend to believe the costs were correct. Mixed feelings are seen in reference to the degree of quality improvement after implementing the QMS: 33% of the respondents partially agree, while 32 % only tend to believe it.

'Vertical management is the only one able to generate profit' – a statement 41% agree with, whereas 36% totally disagree. However, there is unanimous agreement on the number of employees that justifies the introduction of a QMS and the transition to the process approach: suitable for companies with over 50 staff. 46% of the respondents agree, and 29% totally agree with this statement.

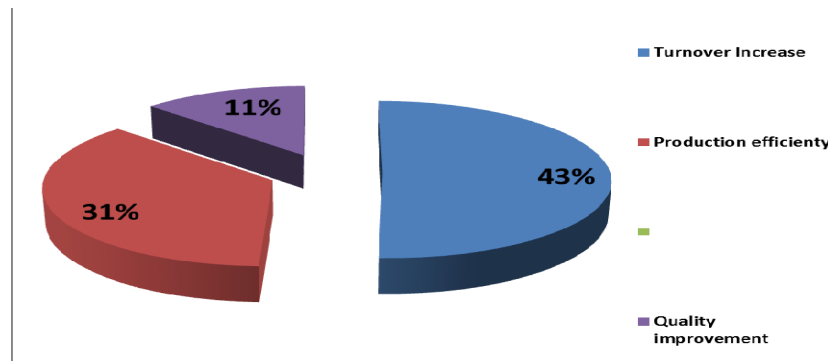


Fig. 4 Impact of implementing the process approach

6. Research findings

The analysis of the data in the questionnaires leads to the idea that a high percentage of SMEs still do not have a QMS, or, if they have one, it was implemented without proper management training. The low percentage of small enterprises which made the transition to this type of management is proof of lack of instruction, and clearly illustrates the difficult situation of Romanian SMEs.

The companies which made the transition to such a system did it in the prosperous interval 2005 – 2008 and only a few had the financial power and the ability to make the transition during the economic crisis. Few are the firms which thought that the transition to a new approach might trigger company recovery. Even if enterprises use quality management, the process approach remains widely unknown among managers, thus proving the fact that the transition to quality was performed only to check a political or organisational requirement, and not out of the conviction that such approaches can cause company revival.

Field knowledge assessment revealed insufficient awareness of the topic and of the way in which it might lead to success.

Inasmuch as the impact of the approach on the organisation is concerned, very few were the ones who focused on the economic and financial sides, many sensing only the rise in effectiveness and product quality.

The management's attitude towards the costs of such change is generally reticent, pointing to the conclusion that such expenses have not been justifiable so far. Nevertheless, the unanimous opinion focused on a rising trend generated by the transition to the process approach.

7. Conclusions

Under unstable economic circumstances, where change is granted and repeated, rethinking the organisation according to new principles allowing agility, efficiency, and constant adaptability, should be a priority for any company's management. SMEs, especially, are the most vulnerable organisations in times of change, but they are also the most flexible ones [11].

Managers should permanently be focused on acquiring new principles for running their business successfully.

The results of the current research revealed certain aspects of quality management as it is understood and applied by SMEs managers, and lead to the following conclusions:

- in Romanian SMEs, the concepts of quality and quality management are still far from being mastered;
- better knowledge of concepts and of the opportunities they provide when implemented is required;

- reorganisation costs are too high and immediate effects are not visible for the concerned parties;

The authors recommend promoting these methods via specialised training and courses in universities, simultaneously cultivating entrepreneurship skills for the future graduates, potential business leaders, thus enabled to understand the environment and run a successful company.

As well as this, SMEs managers should be coached in specialised educational frameworks, in order to better understand the competitive advantage they might get by implementing this method.

REFERENCES

- [1] *Ralph Smith*, Business Process Management and the Balanced Scorecard – Using Process as Strategic Drivers, Wiley, 2007
- [2] *Byrd Mary Jane, Megginson C. Leon*, Small Business Management: An entrepreneur's Guidebook, McGraw Hill International Edition, 2009
- [3] *Colquitt A. Jason, LePine A. Jeffery, Wesson J. Michael*, Organizational Behavior: Essentials for Improving Performance and Commitment, McGraw Hill International Edition, 2010
- [4] *Hans Brandenburg, Jean Pierre Wojtyna*, L'Approche Processus, Edition d'Organisation, 2005
- [5] *Gitlow S. Howard, Oppenheim J. Alan, Oppenheim Rosa, Levine M. David*, Quality Management, McGraw Hill International Edition, 2005
- [6] *Octavian Ion Negoitã, Anca Alexandra Purcãrea, Olivia Negoitã, Cecilia Gostin*, Aspects of Advertising as Part of Communication Process in Small and Medium Enterprises (Services Sectors) in Time of Economic Crisis, Proceedings of The 2nd Review of Management and Economic Engineering Managent Conference "Management of Crisis or Crisis of Management, 15th – 17th, September, , Cluj Napoca, Romania, ISSN 2247-8639, ISSN-L 2247-8639, 2011
- [7] *B. Andersen, P.G. Pettersen*, The Benchmarking Handbook, Chapman and Hall, London, 1996
- [8] *Ivanchevich J.M., Konopaske R., Matteson M*, Organization Behavior and Management, McGraw Hill, 2011
- [9] *Donald R. Cooper, Pamela S. Schindler*, Marketing Research Methods, MC Graw –Hill, 2006
- [10] *Donald R. Cooper, Pamela S. Schindler*, Business Research Methods, MC Graw –Hill, 2011
- [11] *Anca Alexandra Purcãrea, Octavian Negoitã, Olivia Negoitã, Simona Albulescu*, Evolution of Thinking on Change in Organizations, Proceedings of The 7th International Conference on Management of Technological Change, September, 1st – 3rd, Alexandroupolis, Greece, ISBN 978-960-99486-1-6, ISBN vol II 978-960-99486-3-0, 2011