

Abstract. *Change is an underexplored topic among SMEs. Most studies are concerned with performance as the outcome of a company effort, but when performance is affected (during an economic crisis) it is interesting to investigate whether SMEs changed something in what they previously did. This exploratory research aims to identify what are the behaviors of SMEs in terms of change and performance. Data were collected using an online survey with a self-administered questionnaire and were analyzed using cluster analysis. The initial results revealed the existence of three distinct groups of SMEs. The first group consists of companies that were not significantly affected by the economic crisis and therefore did not initiate strategic changes, being satisfied with the achieved status quo. The second group consists of companies highly affected, which initiated many changes but without any performance improvement. The third group consists of firms which registered high performance level and yet initiated changes constantly as a way to preserve future superior performance.*

Keywords: performance, strategic change, SME clusters, economic crisis.

AN EXPLORATORY RESEARCH ON CHANGE AND PERFORMANCE IN SMALL AND MEDIUM ENTERPRISES IN ROMANIA

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1. Introduction

Small and medium enterprises (SMEs) are the driving force behind the national economy as they create jobs and added value. At the European Union level, SMEs generate more than two-thirds of all employment opportunities and produce more than half (58.4%) of the total value added in the private business sector (European Commission, 2011a). Therefore the development of SMEs is a priority at both European and national level. Starting with 2009, due to deteriorating economic conditions, SMEs performance was affected. The main effect of the economic crisis was the overall negative impact on total demand. Sales fell but there are differences in terms of company size – smaller enterprises are more affected - and innovation - innovative enterprises, as well as enterprises from more innovative countries are less affected (European Commission, 2011b).

In Romania, SMEs revenues decreased in 2009 with 11.3% compared with previous year, while large companies' revenues fell with 9.6%. In 2010, companies managed to improve their performance: SMEs increased their revenues with 3.6% compared with 2009, while large companies were more successful and sales increased with 8.8%. There are also differences based on the nature of the economic activities. While the performance in the construction sector continued to deteriorate, trade and services were able to recover and the industry was the only one which in 2012 exceeded the performance achieved in 2008 (Institutul Național de Statistică, 2012).

To survive during an economic crisis, it is obvious that SMEs with declining performance cannot continue to do things like in the past, hence they need to change. Change becomes the only solution to the problem.

The question is what the behaviors of SMEs in terms of change and performance were during the last years? Unfortunately, entrepreneurship research was focused on high growth as a desired outcome. But most businesses are small and remain small thus, change with growth – slow, moderate and high – as a subset, could be more valuable for research (Hansen and Eggers, 2010).

2. Theoretical background on change and performance

2.1. Literature review on change

When practitioners are concerned about change, this is reflected also in the academic world. For example, restructuring, layoffs and the need to increase efficiency during the 1990s generated a strong focus on change through business process reengineering (BPR) and this was reflected also in the academic literature (Fenton, 2007). The recession from the beginning of the 1990s was another moment when academics were highly concerned with organizational change (Bohman and Johansson Lindfors, 1998). The literature covers several facets of change: strategic change, process change through BPR, technological change, etc.

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Most researchers have focused on change in large companies, while relatively little research was done in SMEs. Two distinct research areas were highlighted in the last twenty years: *strategic change* and *process change* or BPR.

Strategic change means a significant change in a company's strategies, structures, systems, processes and organizational cultures (Balogun, 2001; Balogun and Jenkins, 2003). It can be classified according to the extent of change – transformation and realignment - and the speed of change – incremental or "big bang" - into four types: (1) Evolution: a radical move gradually implemented, (2) Adaptation: a sequential change generated by the need to align with the environment, (3) Revolution: a radical change that is based on simultaneous initiatives on many fronts and (4) Reconstruction: a necessary move to re-align how the company operates, usually reactive and quickly implemented.

Strategic change reasons, benefits and costs have also been investigated (Parnell, 1998). The most *frequently mentioned reasons* were (1) the level of performance, (2) changes in the external environment and (3) a more effective alignment with internal resources.

Regarding the *benefits of change*, the most important are (1) improved performance through a better fit with the environment, (2) placing the business in a better position to take advantage of an undeveloped market segment and (3) improving company's ability to adapt. The *costs of change* which have been most frequently investigated were the financial costs and the risks that a change of strategy may negatively affect organizational culture and confuse consumers.

Of special interest is the *content of strategic change*, namely the future development alternatives (Bohman and Johansson Lindfors, 1998). During dramatic periods of recession, strategic choices are generated according to the limits of something called space for action. Space for action has an objective dimension, expressed by earnings and a subjective dimension, defined by the way in which a company sees its choices as acceptable-unacceptable or positive-negative.

Beyond the content and process of strategic change, we cannot ignore a significant problem, namely *inertia*. The business model of a company tends to be naturally stable and hard to change. Its stability is further increased by the search for efficiency which characterizes period of rapid growth (Doz and Kosonen, 2010). Therefore strategic inertia in decision-making can be extreme (O'Keefe and Wright, 2010). Even if the company exceeds inertia - usually forced by external negative factors - the trend is to minimize the impact of externally imposed changes. Repeating the same way of doing things has created a pattern that is difficult to change with a new one, which can be costly and risky. That conservatism to change is the result of another process, namely learning (Harrison and Easton, 2002).

Business process reengineering is also a form of organizational change aimed at transforming the organizational subsystems of management, people, information technology and organizational structures. Change is seen in terms of business processes and the main goal is to improve products in terms of costs and quality

(Kettinger, Teng and Guha, 1997). Traditionally, BPR has been used mainly by companies with low business performance. Although there are a variety of BPR projects, most of them were rather operational and generated a performance improvement of working processes without creating radical changes across the entire company (Kallio et al., 1999).

The *drivers of BPR* are similar to those of strategic change: (1) internal inefficiency, (2) changed customer/supplier requirements and (3) unpredictable external changes in an industry (Kallio et al., 1999). Models have been developed for implementing BPR projects (Teng et al. 1996) and a variety of methods, tools and techniques were elaborated. At least 72 techniques are used in BPR projects such as: role activity diagramming, fishbone analysis, process simulation techniques, out-of-the box thinking, and value-chain analysis (Kettinger et al., 1997). Many of them are intellectual property of major consulting firms and have been developed during the 1990s when either for justified reasons or the desire to be "fashionable", large companies started such projects. Even if nowadays the concept of BPR is less used due to its association with the period of restructuring and layoffs, the idea of constantly evaluating the business processes remains valuable (Fenton, 2007).

Although *research in SMEs* is relatively limited, it seems to be related more to strategic change than to BPR. The explanation is simple: their internal processes are simple and flexible and their limited resources did not allow waste.

One of the issues investigated, is the *role of ownership and management* in strategic change (Brunninge et al., 2007). Thus, closely held SMEs exhibit less strategic change than other SMEs. The involvement of outsiders – directors, managers which don't have property rights but have decision power – seems to have a positive effect on strategic change. The value that a team of management/shareholders can bring (e.g., in terms of internationalization or access to foreign markets) is superior compared to firms with only one associate (Loane et al., 2007). More people means extended technical capabilities, greater knowledge of international markets, new business contact networks or access to financial resources.

Another issue investigated is *innovation management* in SMEs, as a process of change (Hotho and Champion, 2011). But SMEs are different so three clusters were identified: the first group innovates by focusing on internal optimization, the second group focuses on the external environment and the alignment to it and the third group needs to crystallize their ambitions in a clear strategic route before they can improve upon internal resources and capabilities (Sluismans et al., 2009). Innovation along with risk-taking and proactiveness is the basis for entrepreneurial orientation and this is higher for those which exhibit a non-linear thinking style (Paunescu and Groves, 2008). Another issue investigated is transferring the *contacts network* from an owner-manager to another person. For SMEs, the contacts network is essential in identifying, creating and delivering value, so the transfer is essential in the evolution of the firm (Gilmore et al., 2000).

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A special case is *strategic change in new ventures*. For these companies, there is no question of changing the strategic direction to another one, but how to develop the initial strategic direction (Nicholls-Nixon et al., 2000). This is the result of experimentation, a trial and error process for adapting to the environment. Experiments can be related to peripheral aspects (product line extension, initiating price changes) or central aspects (product scope or partnership status). As the environment is more hostile, the frequency of strategic experimentations increases. But a higher frequency of changes positively influences firm performance in a less hostile environment.

Often organizational change research has been largely acontextual, ahistorical and aprocessual. This approach cannot capture and explain the phenomenon of dynamic change. Therefore change research should explore context, content and process of change together with their interconnections over time (Pettigrew et al., 2001).

2.2. Literature review on performance

Companies measure their results using some performance indicators. A performance indicator is 'a quantitative or qualitative indicator that reflects the state/progress of the company, unit or individual' (Popova and Sharpanskykh, 2010, p. 508). It is characterized by name, type (continuous/discrete) time frame (year/month/day), scale, source (internal/ external), owner, threshold and hardness (soft/hard to measure).

All these indicators form a performance measurement system, but obviously some are more important and relevant than others. These form a *strategic performance measurement system*. The design and the goal of the system may influence its effectiveness (Michel and Manzoni, 2010; Franco-Santos et al., 2012). Thus, a strategic performance measurement system should be linked to the company's strategy. It must allow alignment between the company and its strategy and continuous adaptation. The goal of a strategic performance management system can be to control the activity or to stimulate organizational learning (Michel and Manzoni, 2010).

The roles of a performance management system are performance measurement, strategy management, communication, influencing behavior and learning (Franco-Santos et al., 2007).

The effects of a performance management system can be either positive or negative (Franco-Santos et al., 2012). The positive ones are at people's behavior level (forcing employees to work together and focus on what is important for the company), at organization's capabilities level (improving innovation and organizational learning) and at results level (though the effect is mediated and moderated by a number of internal and external factors). The negative ones refer to internal tensions, increase costs and time-consuming exercise.

By the 1990s, most companies were using financial information to assess performance. Unfortunately these traditional indicators evaluate past activities and fail

to capture other dimensions of firm performance such as operational performance or customer performance (Kaplan, 2010).

Consequently, it was necessary to integrate also non-financial indicators. Thus *the balance scorecard* was developed as a new tool which represented a fundamental change in the underlying assumptions about performance measurement, because it centered on strategy and not on control. The indicators used in a balance scorecard cover both the financial perspective, as well the customer perspective (how do customers see us?), the internal perspective (what must we excel at?) and innovation and learning perspective (can we continue to improve and create value?) (Kaplan and Norton, 1992). The balance scorecard is a valuable tool which can be used to clarify, communicate and improve strategy, to link strategic objectives to annual budgets and to align individual goals to strategy (Kaplan and Norton, 1996).

Over time, more companies have developed and implemented such a tool. By putting at the forefront the company's strategy, it allows each company to define its own set of relevant indicators. Recent research found that the three *most common financial indicators* used are cost control, profit growth and sales growth while the most common indicators - from a *customer perspective* - are service/product quality, customer satisfaction and service timing. From an *internal process perspective*, the most frequently used indicators are information delivery, standard operation procedure and interactions between staffs and clients while employee satisfaction, corporate image and competitiveness are the most emphasized from *learning and growth perspective* (Kuo and Chen, 2008).

Although nowadays the balance scorecard is widely accepted, there are some issues in developing it. How should we assign different priorities between the four perspectives? How should we assign different priorities between performance indicators within each perspective? More specifically, how can we build an aggregate metric to summarize the whole story? (Bentes et al., 2011). A solution can be an Analytic Hierarchy Process which is a structured technique based on decision makers knowledge and experience to build a hierarchy of objectives, criteria and decision alternatives.

Regarding the *relationship between change and performance*, there is evidence that high performance decreases the probability of change while low performance increases it (Audia and Brion, 2007). This contradicts previous research on the relationship between innovation – which assumes change - and performance. Findings show that firms that exhibit high or low levels of satisfaction demonstrate a smaller decrease in their innovation effort, while moderate levels of satisfaction result in failure to innovate (Marinova, 2004).

The situation gets more complicated when the decision maker is faced with conflicting information (one performance indicator is high and another one is low). For instance, when a primary performance indicator is high, decision-makers probability to change is not affected by a diverging secondary performance indicator. If the primary performance indicator is low, decision-makers' propensity to change

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decreases – versus usual prediction of increased change – because the decision-maker gives greater importance to the secondary indicator, which makes him look competent (Audia and Brion, 2007).

Regarding the impact of economic crisis on performance, the following quote is very suggestive:

[...] Then the abrupt change broke in. Sales halved within weeks. Two global market leaders attacked us in the domestic market with prices we could not offer. Many suppliers knocked on my door claiming for payment as to avoid bankruptcy. Bankers which in previous times had been queuing in my antechamber, imploring me to award them with some additional credit request, were sending their youngster deputies to me now. These guys imposed me to fill in endless checklists with top priority, at any time of their convenience, and blamed me for failure. The Authorities suddenly refrained from giving tax payment deferral: either pay or go into liquidation. Some key employees seized the opportunity and left me with the choice of either increasing their pay or having them no longer with me. (Bachmann, 2009, p. 335).

Consequently, firms started to focus mainly on financial performance. Financial indicators and non-financial indicators such as cost reduction, material and labor efficiency, process improvement become more important in the balance scorecard. It is important to note also that companies have started to become more careful with external stakeholders, namely suppliers and customers (Kunc and Bhandari, 2011).

Strengthening relations with them, given that in times of crisis is difficult to deliver on the promises made previously, requires key leadership skills: (1) pay attention to if and what promises are made, (2) gather multiple viewpoints in order to take time for reflection, (3) find people with core turnaround business skills, (4) gain buy-in and support for turnaround strategy and (5) rebuild trust through authentic communication (O'Callaghan, 2011).

During this economic crisis, innovation seems to be a solution, but results are conflicting. While some studies have found a negative correlation between innovation and organizational performance (Makovec Brencic et al., 2012) other studies have shown a positive correlation (Kraus et al., 2012).

Innovation is a sensitive issue under turbulent market conditions and these initiatives should be less risky than under normal circumstances. The conflicting results could be explained by the diverging effects of entrepreneurial orientation during the crisis. Entrepreneurial orientation can be defined in terms of innovation and risk taking. Results show that during a crisis innovative companies are less affected, while high risk-taking companies are more affected (Soininen et al., 2012).

3. Research methodology

The goal of the present research is to explore different types of SMEs in terms of strategic change and performance. The research objectives are (1) to identify homogeneous groups in terms of performance level and the strategic changes made during 2008-2011 and (2) to profile these groups. The studied universe is represented by active SMEs in Romania with at least one employee. The *sampling frame* consists of all active SMEs in Romania at the end of 2011 which declared between 1 and 249 employees and reported a contact email address. Systematic sampling was used and 8,000 companies were selected (the estimated response rate was 5%).

Research was conducted during April-May 2012. Data were collected using an *online survey* with a self-administered questionnaire. Since a significant percentage of e-mail addresses were incorrect (18%) and the questions were sensitive, the response rate was 2.3%. Thus, 148 questionnaires were collected. The *interviewed persons* were entrepreneurs or managers of these enterprises. Data were processed and analyzed using SPSS. The method of analysis used was *cluster analysis*.

The *clustering variables* were selected based on research objectives. Thus, variables which express strategic change and performance were chosen.

Variables that express the *extent of strategic change* refers to the number of changes made by the company in the current year (compared to the previous year) and response options are:

1. We offered new products/services;
2. We modified existing products/services;
3. We targeted another type of customers;
4. We entered on a different geographical area (another city, county, region, country, etc.);
5. We changed the industry.

If for example, a company offered new products to the same type of customers in the same geographical area without changing the industry, it is counted as one strategic change. But if the company offered a modified product to another type of customers from the same geographical area, it is counted as two strategic changes.

Since we investigated the 2008-2011 period, we defined three variables that express the extent of strategic change (Number of changes in 2009, Number of changes in 2010 and Number of changes in 2011).

Regarding performance, *sales growth* was chosen because this indicator is representative for all SMEs irrespective of the industry (Ioniță, 2011) and also reflects the direct impact of external environment. For variables used to express performance (sales growth compared with previous year) the response options were:

- 3 = Decreased with 50% or more
- 2 = Decreased with [25% – 50%)
- 1 = Decreased with [5% – 25%)
- 0 = Same performance (+/- 5%)

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- 1 = Increased with [5% – 25%)
- 2 = Increased with [25% – 50%)
- 3 = Increased with 50% or more.

Since we investigated the 2008-2011 period, we have defined three variables that express performance (sales growth in 2009 versus 2008, 2010 versus 2009 and 2011 versus 2010).

In cluster analysis is necessary to make sure that the sample size is sufficient, compared to the number of variables used for clustering. Formann (in Dolnicar, 2002, p. 4) suggest that the number of cases must be at least 2^n , where n represents the number of variables used for clustering. In our case, sample size must be at least equal to 64 cases (2^6) and this condition is fulfilled. Also, we need to check for collinearity between the six variables as correlation coefficient should not exceed 0.90. (Mooi and Sarstedt, 2011, p. 263) and this condition is also fulfilled.

4. Results

From the total respondents, 65% of companies are micro-enterprises (less than 10 employees), 30% are small enterprises (10-49 employees) and the remaining 5% are medium-sized enterprises (50-249 employees), as it can be seen in Figure 1.

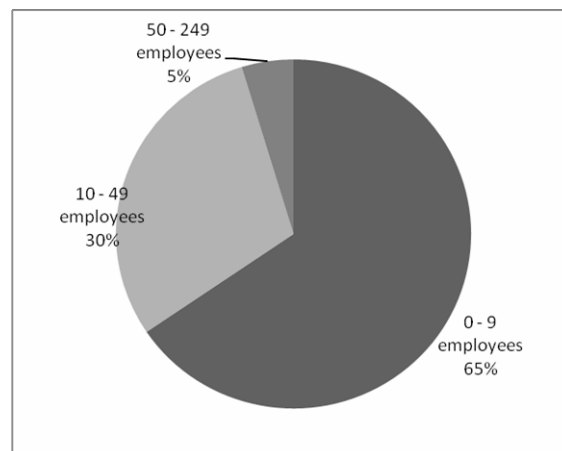


Figure 1. Respondents according to company size

Most firms are operating in services (43%) – professional services, tourism, real estate etc. – and trade (23%), while only a few in transportation (3%) and hotels and restaurants (3%) as we can observe from Figure 2.

In 76% of cases only the shareholders are involved in the decision making process while in 15% of cases the firm has a relationship with a parent-company such as a franchisor.

To identify – based on these initial results - similar groups of firms in terms of strategic changes and performance we used *cluster analysis*. We employed a *partitioning clustering procedure, namely k-means*. To form homogeneous groups, this procedure aims to minimize within cluster variation. Initially cases are randomly allocated to a cluster and then successively re-allocated to other clusters to reduce within cluster variation (the squared distance from each object to the center of the associated cluster).

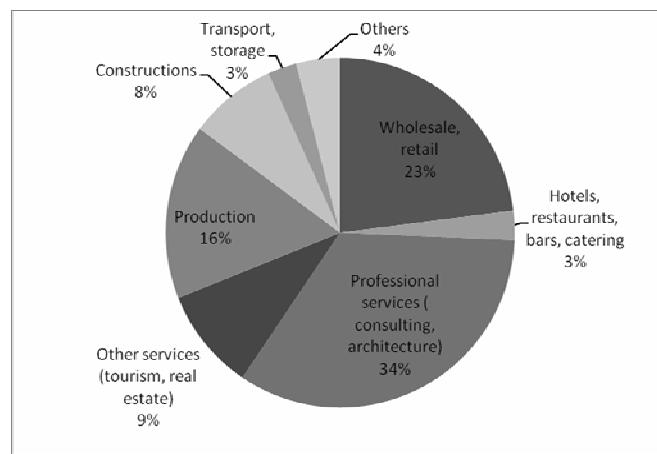


Figure 2. Respondents according to industry

Thus, cases are allocated through an iterative process which stops when convergence is achieved or the maximum predetermined number of iterations reached. Even if k-means procedures should be used on interval and ratio variables, it is accepted also for ordinal variables.

Based on previous research, we have established a priori three clusters. In order to verify if “k” represents the right number of clusters, Calinski and Harabasz (in Mooi and Sarstedt, 2011, p. 255) elaborated the Variance Ratio Criterion (VRC):

$$VRC_k = (SS_B / (K - 1)) / (SS_W / (N - K)),$$

where SS_B is the overall between-segment variation and SS_W the overall segment variation for N cases and K clusters. To determine the correct number of clusters, we calculated the difference between variance of two successive solutions $\omega_k = (VRC_{k+1} - VRC_k) - (VRC_k - VRC_{k-1})$ and select the minimum one (see Table 1).

Table 1

Variance Ration Criterion for different solutions

No. of clusters	VRC	ω_k
2	235,9696	
3	208,7165	6,726969
4	188,1904	24,39871
5	192,063	-23,6591
6	172,2764	21,29195
7	173,7818	

Comparing ω_k for different solution – with 3, 4, 5 and 6 clusters – we see that the minimum one correspond to three clusters. Running the k-means procedures in SPSS with three groups we find that the process stops after three iterations because converge is achieved. The three clusters contain 44 companies (Cluster 1), 25 companies (Cluster 2) and 37 companies (Cluster 3). The final cluster centers (see Table 2) reflect the characteristics of the typical case for each cluster.

Table 2

Final clusters center

Clustering variables	Cluster		
	1	2	3
Sales growth 2009 vs. 2008	,03	-1,25	1,97
Sales growth 2010 vs. 2009	,08	-,88	1,43
Sales growth 2011 vs. 2010	,13	-,71	1,28
Number of changes 2009	1,30	2,56	2,62
Number of changes 2010	1,10	3,00	2,35
Number of changes 2011	,98	3,38	2,52

The ANOVA table (see Table 3) indicates that the variables with high F – namely, Sales growth 2009 vs. 2008, Sales growth 2010 vs. 2009 and Number of changes 2011 – are those that contribute most to the clustering process and that the variables used differ significantly between groups (p value = 0,000).

This does not mean that the clustering variables are significantly different for all groups but that at least one group is significantly different from the others with respect to the clustering variables.

To evaluate whether all clustering variables used to construct the three groups are significantly different, we apply pairwise comparisons using post hoc tests. In order to select the proper post-hoc tests, we checked for homogeneity of variance using Levene's test. While variables *Sales growth 2010 vs. 2009*, *Sales growth 2011 vs. 2010*, *Number of changes 2009* and *Number of changes 2010* have equal variance, variables *Sales growth 2009 vs. 2008* and *Number of changes 2011* show unequal variance.

Table 3

ANOVA table

Clustering variables	Cluster		Error		F	Sig.
	Mean Square	df	Mean Square	df		
Sales growth 2009 vs. 2008	78,614	2	1,310	95	60,013	,000
Sales growth 2010 vs. 2009	39,742	2	,893	94	44,494	,000
Sales growth 2011 vs. 2010	29,892	2	1,276	96	23,418	,000
Number of changes 2009	18,576	2	,892	85	20,820	,000
Number of changes 2010	25,875	2	1,008	84	25,665	,000
Number of changes 2011	40,215	2	1,172	84	34,306	,000

For variables with equal variances we use Hochberg’s GT2 test which is recommended when the number of cases for each group is not equal (Mooi and Sarstedt, 2011), while for variables with unequal variance we use Tamhane’s T2 test. The results show that all three clusters are significantly different in terms of *Sales growth 2009 vs. 2008*, *Sales growth 2010 vs. 2009*, *Sales growth 2011 vs. 2010* and *Number of changes 2011*. But in terms of *Number of changes 2009*, even if cluster 1 is significantly different from cluster 2 and cluster 3, the last two clusters are not significantly different between them (see Table 4).

Table 4

Multiple Comparisons (Number of changes 2009)
Hochberg’s GT2 post-hoc test

Number of changes 2009						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.265250*	0.27941	0.000	-1.9426	-0.5824
	3	-1.32500*	0.22402	0.000	-1.8703	-0.7797
2	1	1.26250*	0.27941	0.000	0.5824	1.9426
	3	-0.06250	0.28921	0.995	-0.7664	0.6414
3	1	1.32500*	0.22402	0.000	0.7797	1.8703
	2	0.06250	0.28921	0.995	-0.6414	0.7664

* The mean difference is significant at the 0.05 level.

The situation is similar for *Number of changes 2010*: cluster 1 is different from cluster 2 and cluster 3, but the last two clusters are not significantly different between them (see Table 5).

Table 5

**Multiple Comparisons (Number of changes 2010)
Hochberg's GT2 post-hoc test**

Number of changes 2010						
(I) Cluster Number of Case	(J) Cluster Number of Case	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-1.89744*	0.29181	0.000	-2.6079	-1.1870
	3	-1.25227*		0.000	-1.8405	-0.6641
2	1	1.89744*	0.29181	0.000	1.1870	2.6079
	3	0.64516	0.30303	0.104	-0.0926	1.3829
3	1	1.25227*	0.24160	0.000	0.6641	1.8405
	2	-0.64516	0.30303	0.104	-1.3829	0.0926

* The mean difference is significant at the 0.05 level.

In conclusion, all variables except for two (Number of changes in 2009 and Number of changes in 2010) differ significantly between all clusters. Overall we can say that the solution generates a significant grouping on the basis of these six variables.

5. Interpretation of results

Based on these initial results, we can conclude that SMEs in Romania can be divided into three groups, based on their behavior related to change.

Cluster 1 consists of those companies that were not been affected by the economic crisis. Their performance is relatively stable in all those years (2009, 2010 and 2011) and slightly positive. Regarding the number of strategic changes made, these companies are those that initiate the fewest changes, and the number decreases over time. These companies seem to be complacent in a situation of status quo as long as performance is similar to previous years.

Cluster 2 is composed of companies that have experienced decrease in revenues each year. The number of strategic changes initiated by them is the highest. One possible explanation would be that, dissatisfied with the achieved performance level, these companies are testing various new solutions - like searching for new customers, introducing new products to their offering, seeking new markets. It should be noted that this propensity to change is amplified year by year, but without improvement in performance. This raises the question about the quality and quantity of changes.

Cluster 3 is formed of enterprises that have consistently recorded superior performance during 2009-2011. The number of changes initiated by them during this period is the most "stable". In general, the number of changes is higher than that of cluster 1 and smaller than cluster 2. Companies in this group are neither inert nor chaotic and seem to evaluate more carefully the implemented changes before deciding

whether to initiate new ones. What is interesting is that changes are not triggered by a negative performance.

In order to profile the three clusters we tried to identify demographic variables that best mirror the partition of the cases. Therefore, variables such as company size, industry, involvement of external management and relationship with a parent-company were used to investigate if there are some associations between these variables and the clusters type. The results show that there is no association, which means that those variables cannot explain belongingness to a certain cluster. Maybe other variables – such as strategy, resources and competencies - are more relevant than the demographic variables.

6. Conclusions and further research

In conclusion, if we analyze change in relation to performance, we find that companies with a moderate number of changes are in a better position. These companies “know” that in order to preserve performance, they should continuously make changes, without exaggerating. Companies with the highest number of changes have a negative performance. Although it seems natural that when something does not work you should change it, it seems that “excess” is not recommended. The most deceptive situation is for companies that initiate a small number of changes and performance is “stationary”. It seems that such a context favors inertia, but long term effects may be negative.

Future research may clarify other aspects of the relationship between performance and change: what others performance indicators are relevant to the relationship between performance and change, how various change alternatives influence performance level, if there is an optimum time to initiate change, how resources, skills and strategy can influence the success of change.

The results of this study contradict previous findings that high performance decreases the probability of change whereas low performance increases it (Audia and Brion, 2007). Instead the results look similar with research done on innovation and performance, that firms that exhibit high or low levels of performance demonstrate a smaller decrease in their innovation effort, while moderate levels of satisfaction result in failure to innovate (Marinova, 2004). Our findings are also aligned with the results of the relationship between innovation and performance in SMEs during crisis (Kraus et al., 2012). Under turbulent market conditions, innovation still pays off, but it should be less risky than under normal conditions. Even if our research focuses on changes, not innovation (targeting a new type of customers is a change, not an innovation) specifically on the extent of change (the number of changes not the magnitude) the results are comparable.

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In terms of managerial implications, it seems clear that change should be encouraged. Consequently, decision makers should be aware of its importance and willing to make efforts to implement it. But the solution is not changing anytime and anyway. Change must be planned, tested, evaluated and adapted according to the effects it produce it.

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