

The 2nd International Conference on Integrated Information

## The strategic management of market information to SMEs during economic crisis.

Konstantinos Bourletidis\*

*University of Aegean, Department of Business Administration, Chios 82100, Greece*

---

### Abstract

In periods of prolonged economic crisis the companies and especially the SMEs ones are affected negatively. They show signs such as the decrease of sells, the shrink of profits, the indulgence of financing, the difficulty of covering the obligations towards the suppliers. On the contrary, lots of studies show that there are still some sectors that have been affected a lot from the financial crisis, there are companies which show a remarkable yield and it seems that they get a benefit from the crisis and make use of chances. The difference of the companies' attribution still observed in the same geographical region even though to the same local market. A very important role in connection with the diversification of the companies' attribution seems to play a major role the different face of the information handling. Into this specific paper we will be concentrated to this factor that means the handling of the information as a strategic mean to the face and the handling of crisis of the SMEs. There is going to be examined how SME's that suffer from the financial crisis make a productivity as an advantage of survive the strategic management of information. The analysis will be concentrated to Greek business market and specifically to the SMEs of Greece. There is going to be used empirical data that have been gathered through interviews into Greek SMEs of different sectors and size.

© 2013 The Authors. Published by Elsevier Ltd.

Selection and peer-review under responsibility of The 2nd International Conference on Integrated Information

Keywords: SMEs , Crisis , business opportunity , information, strategic management

---

### 1. Introduction

At present Greece is in the middle of a deep financial and developing crisis that has been expanded to all areas of the country and affects all the parts of business and economic activity. The crisis is absolutely connected with the global economic crisis that started from the United States of America in 2008. The intensity of the crisis led many economists to consider it the most severe recession since the Great Depression of the 1930s [1-2]

The recent clues show that deficit of Greece is 10, 8% of GNP and the public debt 367, 3% billion. The recession about 2011 had to do with the decrease of investments about 20% and the unemployment the first semester of 2012 has been about 22,6% [3-4]. The recent studies [5-7] show that all the sectors of the business activity have been affected by all the effects of economic crisis. To the business repercussions areas the alteration

---

\* Corresponding author. Tel.: 00306937169129; fax: 00302103689691

E-mail address: [mpourle@aegean.gr](mailto:mpourle@aegean.gr)

has been affected negatively, especially to the overwhelming majority of businesses to the first steps of function. The rate of businesses that has been affected very much from the economic crisis overcomes the 80%. In particular, more attention needs to be placed on small and medium-sized entrepreneurial (SME) firms and how they perceive and respond to the crisis. SMEs play an important role not only in Greek and European competitive economic development, but also for the world economy because they account for 97% of businesses worldwide; they employ most of the labour force and are responsible for the majority of the total sales volume [8,9]. SMEs firms are vital, since they are an important part of all economies and are essential for economic recovery.

In general, different authors [10,11,12] affirm that SMEs are the first and the most important victims of a prolonged economic crisis. SMEs may suffer disproportionately from economic downturns, because of their limited financial resources and dependence on banks' lending, paying such high interest rates (Mulhern [13] for the crisis of 1989–1994 in Venezuela, Domac, and Ferri [14] for the 1997 Asian financial crisis and Ozar et al. [15] for the 2001 Turkish financial crisis). Adding to the financial aspect, their relative shortcomings in terms of technological, managerial and human capabilities may reduce their capacity to overcome the economic crisis [16, 17, 18,19, 20, 21, 22]. On the other hand, their greater dependence on (fewer) customers and suppliers [23] and markets [19, 24, 25] may lead to increased difficulties in maintaining their activity in the face of the crisis. Papaoikonomou & all, [9] argue that in this context, most SMEs suffered from demand shock. As mentioned in the Organization for Economic Cooperation and Development (OECD) [25], there has been a drop in demand for goods and services and a tightening in credit terms for SMEs at a global level.

There are some researching works that are putting the situation into doubt that all the SMEs take a bigger effect of the economic crisis in connection with the large scale enterprises. Numerous studies have addressed relevant strategic issues with the employment of computational methods and techniques [26 – 40]. Gregory et al. [41] say that Korean SMEs during the Asian financial and economic crisis of 1997 decided that it would be better to strengthen themselves in marketing activities and technology innovation. This adaptation was the easiest for SMEs businesses in connection with the big unites. Shama (1993) mentions that SMEs react using market segmentation tactics much more effectively and quickly than the big businesses, whereas Pearce and Michael [43] comment that investment in sales and marketing improved SMEs' performance during economic recessions. Additionally, lots of studies show that there are still some sectors that have been affected a lot from the financial crisis, there are companies which show a remarkable yield and it seems that they get a benefit from the crisis and make use of chances. The difference of the companies' attribution still observed in the same geographical region even though to the same local market [44, 45]. In the literature, we find valid reasons why small firms may have different effects from larger firms. Smaller enterprises may be more flexible in adapting to an economic downturn because they are less resistant to inertia, rigidity, and sunk costs [46], more able to exploit market niches [41, 24, 47], concentrated on activities characterized by economies of agglomeration, rather than economies of scale [48, 49], and less reliant on formal credits compared with their larger counterparts, which are more burdened by debts [45, 50]. Even their disadvantages at technological and knowledge levels can be overcome by imitation of other firms' best practices [23]. As a result, SMEs may be more able to sustain their sustainability and thus counteract the negative effects of the crisis, helping to stabilize the economy. Indeed, there is robust empirical evidence showing that SMEs, and specifically export-oriented SMEs, are better able to adjust to crises [45, 48, 50, 41, 46, 20].

Furthermore, as Harvie and Lee [51] mention, SMEs are of strategic importance for the economic recovery because they help restructure industries because they can act as a source of competition for larger companies, can promote regional trade, contribute to technology transfer, and also regional development. Entrepreneurs' importance has been historically crucial for economic recovery and growth by contributing to job creation and social progression [52].

To sum up from the above searching works the clues that set the SMEs tougher than the bigger businesses and from other SMEs that lead to six factors. These factors cause variance in SMEs performance during the period of crisis and explain why SMEs in the same country, in the same industry, and in the same location could show quite different performance:

1. Market Orientation: To an economic period of crisis, to the same market there are businesses which can see their sales to be decreasing because of the all the demanding decrease and others that take a benefit from the correspondence to the need of the local market for cheaper substitutes. A part of SMEs have a high level of immediate adaptation. They produce inferior goods to meet market demand, that was shifting toward necessity and used goods, rather than luxuries and new goods, as the crises lowered the level of people's real income.

2. Export Orientation: "*Exporting is a door to heaven*", (in the words of an SME owner interviewed, raising the performance of SMEs instead of domestic market oriented SMEs. Export orientation is measured by the degree that the SMEs have undertaken export-related business in a broad sense. This is the key to their success rather than size factor.

3. Input Materials: Regarding input materials, especially imported inputs, SMEs in manufacturing sector have an obvious disadvantage, compared with larger enterprises, due to their limited capacity to withstand price increases and their weaker position for accessing materials. The SMEs of the sector of services don't face such a problem because they don't have raw materials. A part of SMEs in manufacturing sector in order to survive, follow actions such as substitution of imported raw materials with local alternatives, having lower prices and quality and the establishment of their own production facilities.

4. Location: Production Cost in a place could be lower compared with the equivalent in other areas. Also the purchasing power of consumers in rural markets could be decreased less than in metropolitan areas.

5. Exposure to Debt: During the crises as interest rate rise significantly, the debt burden greatly affect the profitability of SMEs with debts for investment, because they could not repay in the short term, unlike debt for working capital. Some SMEs expend their whole gross profit to repay investment debt and a part of them stop the repayment.

6. Strategic Management of Market Information: A very important role in connection with the diversification of the SMEs attribution seems to play a major role the different face of the information handling. Some companies have as an inseparable part of their activity the gathering and the processing of the information seems to appear better prospects. This information comes from all those who collaborate (clients, suppliers etc) even though the competitors.

Into this specific paper we will be concentrated to the 6<sup>th</sup> factor that means the handling of the information as a strategic mean to the face and the handling of crisis of the SMEs. There is going to be examined how SME's that suffer from the financial crisis make a productivity as an advantage of survive the strategic management of information. The analysis will be concentrated to Greek business market and specifically to the SMEs of Greece. There is going to be used empirical data that have been gathered through interviews into Greek SMEs of different sectors and size.

## 2. Greek SME's in Crisis and the role of strategic management of market information

According to formal clues the 99,66% of Greek businesses are SMEs and micro companies (EOMMEX [53], NCHC [54]). It seems that SMEs and big businesses (50-249 employees) consist just the 0,32% of the total businesses. From the clues of HSA [55] we have, seems that the 75,23% of Greek businesses beyond of the size activates to the 3<sup>rd</sup> sector, the 22,53% to the 2<sup>nd</sup> sector instead of the 2,24% to the 1<sup>st</sup> sector of Greek economy. The effects to the economic crises are especially important and apparent. More specifically in 2009 the restriction of business activity had been located to the manufactures and the industry, whereas 2010 has been expanded to the fields of trade as to other services too, that make an important rate of the total added value of economy.

It has been mentioned to the previous unit that one of the factors that set SMEs stronger than bigger businesses and other SMEs is a strategic management of market information. Taking into account the definition about strategic and the most important searches to the field of strategic management [56, 57], we think that the manipulation of the information is a strategic when it is a process that is characterized of systematic and is combined with the goals of business. This systematic is necessary for four actions that must be materialized without stop: 1) to the collection 2) to the separation and choice 3) to the processing and 4) to the incorporation of the information to the choices and to the procedures. This must also lead to a competitive advantage. This will

be positive for the achievement of the survival plan in periods of crisis, whereas it will take out new entrepreneurial opportunities that will ensure the business success [58, 59]. Especially in periods of economic crisis the Strategic management of market information will must keep in mind some very important meanings and variability:

*(a) Entrepreneurial Opportunity*

Strategic management of market information may be led to see how SMEs might discover, evaluate and create an entrepreneurial opportunity by accumulate information, evaluate this information and identify entrepreneurial opportunities [60]. The entrepreneurial opportunity is related to satisfying a market's need with a new product or with the potential from the creative combination of unexploited resources [61]. Strategic management of market information with emphasis on the pursuit and assessment of entrepreneurial opportunities has its roots in informational economics [62]. This approach is based on asymmetry information principles and contributes to an understanding of why and how some entrepreneurs exploit entrepreneurial opportunities, while others are not able to identify the meaning of information related to the time and place in which it is received and to what extent this might lead to an entrepreneurial opportunity. Relevant market information is extremely useful to SMEs entrepreneurs. Entrepreneurs are decision makers, which seeking about entrepreneurial opportunities.

*(b) See the Wood before Trees*

Information can guide action. However lack of information, should not be an excuse for inaction. While it may sensible to hold back on a move until more information is available and that move can be made with more confidence, there are other times when the entrepreneur must rely on their instincts and go for it [59]. While information reduces risk, the entrepreneur cannot expect to eliminate all risk and sometimes they must make a step into the dark. The entrepreneur must walk a narrow path between making ill-informed and ill-judged decisions and an inertia caused by the venture becoming more interested in gathering and analyzing information than in taking direct action. The founders of organization systems thinking Kast & Rosenzweig [58], called these two extremes "extinction by instinct" and "paralysis by analysis". While entrepreneurs and SMEs Owners would be foolish to shun the insights that can be gained through formal analysis of information, they should not be solely dependent on it. Often it is the overall pattern, not the detail that matters. They must learn to develop their intuition and make judgment based on holistic thinking and their own heuristic approach. The successful entrepreneur and SMEs Owner learn to see the wood before the trees.

*(c) Management Control and Information Accumulation*

From an informational perspective, Galbraith [63] describes management controls as a means to bridge the gap between information needs and actually available information for decision-making. Crisis situations are characterized by immediate and unexpected changes of the environment [64] and, therefore, quick feedback to decision makers on changes in the environment becomes vital to enable them to take corrective action if necessary [65]. Effective crisis management hinges on precise and quick implementation of decisions. Increasing the frequency of informational reporting, helps firms to react faster and more flexibly to new situations and circumstances triggered by external crisis [66].

Since crisis situations are typically characterized by an increased need for information-sharing and coordination across different hierarchy levels as well as across organizational units [64], it can be expected that the demand for interactive use of accounting data is higher in times of crisis. Moreover, when environmental conditions change rapidly due to the occurrence of an external crisis, fast organizational learning about adequate reactions to changed conditions becomes vital. Lower-level employees are often closer to the market and shortened reporting cycles can ensure that management can make use of up-to-date information that is available to subordinated organizational units and lower-level employees. The increased importance of the current

availability of relevant information in crisis situations is underscored also by Ezzamel and Bourn [67]. Thus, we expect firms that are severely impacted by economic crises to have an increased need for up-to date data and shortening their reporting cycles.

### 3. Methodology – Data - Evidences

During the search there were mentioned SMEs by economic sizes and their general presence to the market that take action seems to resist to the consequences of crisis. The businesses were chosen by four places of business activity: a) Manufacturing Sector b) Services c) Commerce d) High Tech Companies into each one category there were micro firms (0-9 employees), small firms (10-49) and medium firms (50-249). Totally there were chosen twenty businesses. The sample of twenty businesses that took part to the search is separated into two teams: twelve businesses from Piraeus and eight businesses from different areas of Athens. The methodology followed the model of the quality search and was used the technology of the interview with the use of a semi structural questionnaire.

All the businesses that took part to the search said that the management of the information was an advantage of survive to a strong period of economic crisis that they live. They agree to the fact that systematic searching, collection, appreciation and the use of the information contribute to the quick adaptation to the data that have been obliged the recession of the market. But management of the information had been strategic planned for these businesses, in the period before the economic crisis. The benefits have been shown especially to the period of the economic crisis, because the accumulating knowledge for the circumstances of the market, the suppliers and the needs of the clients helped to the quick adaptation of the businesses towards to new data.

#### *(a) Information that have to do with the market where they bring into action*

Successful entrepreneurs must understand the market in which they are operating. This understanding is important because success depends on their ability to serve that market in way which is better than that of their competitors. There are a number of issues about which entrepreneurs should be informed, in order to make effective decisions in relation to their venture. These issues fall in four broad categories: (a) existing marketing conditions and entrepreneurial opportunities they present, (b) the way in which entrepreneurs might innovate and offer something of value to market, c) alternative ways of delivering and showing of goods to the market d) the way in which competitors might react to the new venture.

The businessmen of the sample of SMEs say that they spend 30-50% of the daily working time to the searching of information in connection with new business opportunities, alternative ways of delivering goods with low cost and new ways of showing and advertisement. Two of these businesses that took part to the search and act to the area of clothing the SYNTEXIS S.A. (man's clothing) and the chain of shops ROX (children's clothing), said that through the searching of information about the reduction of the cost towards the suppliers, found out a new method that helped them to face effectively the crisis. This method is called "stock". According to this process the suppliers send goods to the businesses without paying for that. If the goods get sold they will take their money. If not the goods will be turned back to them. In this way the businesses have always stores and renew their shop windows without the demanding to pay the suppliers. They improve their liquidity and decrease the short term of borrowing towards the suppliers.

An impressive clue that comes out from the search is the fact that businesses which took part to the search into a rate of 75% have changed their view, about Business opportunity. More specifically a business activity, which appeared some years ago as a business necessity into an economic crisis seems attractive as a business opportunity. As a catalyst to the position of this change towards the business opportunity is the gathering and the processing of the information. It will be mentioned indicatively two examples of businesses that took part to the search and showed how the handling of information changed their strategic and had a part in the adaptation of their crisis. Mega Motors and Opel Hellas had to do with the sale of cars as subsidiary companies of OPEL Company. The collapse of the market about cars led to the shrink of sales. These companies exploited the fact



that they had gathered important information about clients who had already bought cars; they decided to show interest to them. So, they decided to offer fix services-service reduced the costs and the activities that had to do with the sales of new cars. Today the biggest part of sales become from the new services they developed.

*(b) Information for the facing up of the asymmetry information problem*

The 85% of the companies that participated to the search said that they collect and work out constantly all the information that have to do with the sizes of businesses and specifically: The evolution of sales in daily, weekly, monthly and annually basis, the evolution of the profit, the functional costs, the rate of collection demands and the payments of duties and predictions about the sizes of business that are in progress

The businessmen say that the collecting and the processing of that information give them an icon for the situation of the business and its progress. Additionally it makes its icon more power towards the banks and to the candidate investors, because it gives them the opportunity to understand the power of the business with real clues. It must be mentioned that the businesses also of the sample weren't obliged to follow and public economical clues, they were making economical situations and watching with details the progress of the sizes because it needed very often recommendations of guarantee from the banks in order to take part into competitions. As a result the gathering and the processing of the information are a necessity and a comparative advantage.

*(c) Information through reports and meetings*

The impact of crisis and the flow of the information leads to the necessity for up to date clues but simultaneously to their direct use and meaning. According to Pearson and Clair [64], into periods of crisis there is the need of spreading information to all the top of the scale and to all the members that are interested.

The above result has been confirmed to our sample. More specifically the 50% of the cases and especially to the businesses that give work to five persons and more, has been ascertained that from the one side changed the periodical of the meetings and from the other side the demands of the executives have been raised for construction of informal exhibitions and the benefit clues to the businessman. More specifically, where as meetings took place every month or every 15 days, it was obvious, that they took place every day or once a week. There had also to be submitted with the style of reports, clues for the progress of the business almost day by day.

The pieces of information were mentioned especially about how the decisions of the management come true and if not what's the problem that the organization of the business has to be improved. There must be mentioned that often meetings and the control of employees' and executives' activity made a sense of intensive intervention and a sense of limit in connection with the autonomy of the employees.

*(d) Information from Stakeholders*

The study of the interviews showed that the businesses of the first team mentioned a bigger dependence of Stakeholders and the information that they were delivered in relation with the second team. The basic reason that is giving the meaning with the intense connection with Stakeholders is the fact that all these 12 businesses belong to a specific "local" market. To the place of this market whatever has to do with the choice of a business (change to prices, alteration to quality, being hired or fired as employees), it's spreading rapidly to Stakeholders with a positive or negative impact for the business depending on its choice. As they said to the interviews the fact that they participated to the local market makes then act as a team. A local businessman told us: "we may be competitors but we give courage to each other.".... "We change information about new products and services that will help us all to decrease the cost or to win something..." To the second team this clue didn't exist. The businesses to the specific case give a bigger emphasis to the route of the field that belongs and not to the route of the local market that bring into act. So they get less information from Stakeholders and their choices are based

more to subjective appreciations and to numerous of data and not to the information that the “neighbor” will transfer, that is to say the local people.

#### 4. Conclusions

The data that came out from the interviews show that the strategic management of market information is an important influence for the SMEs, providing a wide variety of tools and conceptual frameworks to aid crisis anticipation. Market Information is available from a variety of sources. Some of it will be knowledge the entrepreneur / SMEs owner already holds about his or her industry. Some may be obtained from existing published sources such as market reports, internet, and trade publications, and such sources are referred to as secondary sources. Alternatively, primary research involves a bespoke analysis of a market situation using market research techniques in answer to specific questions. The rule must be always to challenge knowledge and assumptions. When deciding in a period of crisis, upon the degree of precision required for information, the handling of the information must follow a process that is characterized of a system and is connected with the goals of a business. This system is constituted to four actions that must be materialized ceaseless: 1) to the collection 2) to the separation and choice 3) to the processing and 4) to the incorporation of the information to the decisions and the procedures.

#### References

- [1] World Bank (2009). Global development finance 2009: charting a global recovery [online]. Available from: [http://siteresources.worldbank.org/INTGDF2009/Resources/gdf\\_combined\\_web.pdf](http://siteresources.worldbank.org/INTGDF2009/Resources/gdf_combined_web.pdf)
- [2] International Monetary Fund (IMF) (2009b). World economic outlook update: contractionary forces receding but weak recovery ahead [online]. Available from: <http://www.imf.org/external/pubs/ft/weo/2009/update/02/pdf/0709.pdf>
- [3] (Governor's Annual Report of the Bank of Greece 2011.(2012) Available from: <http://www.bankofgreece.gr/BogEkdoseis/ekthdkth2011.pdf>
- [4] Hellenic Statistical Authority –Unemployment Rate Q1 2012) Available from: [http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p\\_param=A0101](http://www.statistics.gr/portal/page/portal/ESYE/PAGE-themes?p_param=A0101)
- [5] Athens Chamber of Commerce and Industry. Publications. Available from <http://www.acci.gr/acci/Portals/0/Journals/AN/2012/0812/index.html#/67/zoomed>
- [6] Foundation for Economic and Industrial Research (IOBE). The Greek Economy. Available from [http://www.iobe.gr/index.asp?a\\_id=141&news\\_id=1095](http://www.iobe.gr/index.asp?a_id=141&news_id=1095)
- [7] General Confederation of Professionals, Craftsmen and Merchants. SMEs in Greece and Europe. Available from: [http://www.imegseevee.gr/index.php?option=com\\_content&view=article&id=364:2011-10-27-11-30-05&catid=90:2010-09-12-39-43&Itemid=312](http://www.imegseevee.gr/index.php?option=com_content&view=article&id=364:2011-10-27-11-30-05&catid=90:2010-09-12-39-43&Itemid=312)
- [8] Mulhern, A. (1995). The SME sector in Europe: a broad perspective. *Journal of Small Business Management*, 33(3), 83–87.
- [9] Papaoikonomou, E., Segarra, P., & Li, X. (2012). Entrepreneurship in the Context of Crisis: Identifying Barriers and Proposing Strategies. *International Advances in Economic Research*, 18(1), 111-119
- [10] Robbins, K. D., & Pearce, J. A. (1993). Entrepreneurial retrenchment among small manufacturing firms. *Journal of Business Venturing*, 8(4), 301–318.
- [11] Michael, S. C., & Robbins, K. D. (1998). Retrenchment among small manufacturing firms during recession. *Journal of Small Business Management*, 36(3), 35–45.
- [12] Latham, S. (2009). Contrasting strategic response to economic recession in start-up versus established software firms. *Journal of Small Business Management*, 47(2), 180–201.
- [13] Mulhern, A. (1996). Venezuelan small businesses and the economic crisis: Reflections from Europe. *International Journal of Entrepreneurial Behaviour & Research*, 2(2), 69–81.
- [14] Domac, I., & Ferri, G. (1999). Did the East Asian crisis disproportionately hit small business in Korea? *Economic Notes*, 28(3), 403–429.
- [15] Ozar, S., Ozertan, G., & Irfanoglu, Z. (2008). Micro and small enterprise growth in Turkey: Under the shadow of financial crisis. *The Developing Economies*, 46(4), 331–362.
- [16] Gertler, M., & Gilchrist, S. (1994). Monetary policy, business cycles, and the behavior of small manufacturing firms. *The Quarterly Journal of Economics*, 109(2), 309–340.

- [17] Forbes, K. (2002). How do large depreciations affect firm performance?. NBER Working Papers 9095, National Bureau of Economic Research, Cambridge, MA.
- [18] Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2005). Financial and legal constraints to growth: Does firm size matter? *The Journal of Finance*, 60(1), 137–177.
- [19] Butler, J., & Sullivan, J. (2005). Crisis response tactics: US SMEs' responses to the Asian financial crisis. *Journal of Business and Entrepreneurship*, 17, 2.
- [20] Re'gnier, P. (2005). The East Asian financial crisis in Thailand: Distress and resilience of local SMEs. In C. Harvie & B. Lee (Eds.), *Sustaining growth and performance in East Asia—The role of small and medium-sized enterprises* (pp.148–160). USA: Edward Elgar Publishing, Inc.
- [21] Marino, L. D., Lohrke, F. T., Hill, J. S., Weaver, K. M., & Tambuna, T. (2008). Environmental shocks and SME alliance formation intentions in an emerging economy: evidence from the Asian financial crisis in Indonesia. *Entrepreneurship Theory and Practice*, 32(1), 157–183.
- [22] Das, K., & Pradhan, J. (2009). Externally-oriented small and medium enterprises: Predicament and possibilities. Munich Personal RePEc Archive, MPRA Paper No.15522.
- [23] Nugent, J., & Yhee, S. (2002). Small and medium enterprises in Korea: Achievements, constraints and policy issues. *Small Business Economics*, 18, 85–119.
- [24] Narjoko, D., & Hill, H. (2007). Winners and losers during a deep economic crisis: Firm-level evidence from Indonesian manufacturing. *Asian Economic Journal*, 21(4), 343–368.
- [25] Organisation for Economic Co-operation and Development (OECD) (2009). The impact of the global crisis on SME and entrepreneurship financing and policy responses [online]. Available from: <http://www.oecd.org/dataoecd/40/34/43183090.pdf>
- [26] Sakas, D.P., Simos, T.E., A fifth algebraic order trigonometrically-fitted modified Runge-Kutta Zonneveld method for the numerical solution of orbital problems, (2005) *Mathematical and Computer Modelling*, 42 (7-8), pp. 903-920.
- [27] Konstantopoulos, N., Sakas, D.P., Triantafyllopoulos, Y., The strategy of stakeholder briefing during merger negotiation in the bank market, (2009) *Journal of Management Development*, 28 (7), pp. 622-632.
- [28] Konstantopoulos, N., Sakas, D.P., Triantafyllopoulos, Y., The dimension of communication in the merger: Simulation with dynamic model (2007) *AIP Conference Proceedings*, 963 (2), pp. 1062-1065.
- [29] Triantafyllopoulos, Y., Konstantopoulos, N., Sakas, D.P., The role of leadership in high tech manufacturing companies in a changing environment (2012) *Key Engineering Materials*, 495, pp. 176-180.
- [30] Triantafyllopoulos, Y., Konstantopoulos, N., Sakas, D.P., The performance management after mergers and acquisitions in high technology manufacturing business (2012) *Key Engineering Materials*, 495, pp. 171-175.
- [31] Vaxevanou, A.Z., Konstantopoulos, N., Sakas, D.P., Outsourcing or insourcing in the high technology systems sector in a maritime company (2012) *Key Engineering Materials*, 495, pp. 163-166.
- [32] Terzi, M.C., Sakas, D.P., Vlachos, D., Marketing dynamic simulation modelling in high tech laboratories (2012) *Key Engineering Materials*, 495, pp. 23-27.
- [33] Terzi, M.C., Sakas, D.P., Seimenis, I., Pricing strategy dynamic simulation modelling within the high-tech sector (2012) *Key Engineering Materials*, 495, pp. 167-170.
- [34] Markaki, E.N., Sakas, D.P., Chadjipantelis, T., Selecting the project teams' members. A challenging human resources management process for laboratory research (2012) *Key Engineering Materials*, 495, pp. 159-162.
- [35] Sakas, D.P., Vlachos, D.S., Simos, T.E., Adaptive neural networks for automatic negotiation (2007) *AIP Conference Proceedings*, 963 (2), pp. 1355-1358.
- [36] Sakas, D.P., Vlachos, D.S., Simos, T.E., Fuzzy constraint based model for efficient management of dynamic purchasing environments (2007) *AIP Conference Proceedings*, 963 (2), pp. 1351-1354.
- [37] Sakas, D.P., Vlachos, D.S., Simos, T.E., Adaptive techniques for online auctions (2007) *AIP Conference Proceedings*, 963 (2), pp. 1359-1362.
- [38] Sakas, D.P., Konstantopoulos, N., Triantafyllopoulos, Y., Contribution of the executives in bank sector mergers: Application with a simulation model (2007) *AIP Conference Proceedings*, 963 (2), pp. 1054-1057.
- [39] Vlachos D.S., Simos T.E., Partitioned Linear Multistep Method for Long Term Integration of the N-Body Problem (2004) *Applied Numerical Analysis & Computational Mathematics* Volume 1, Issue 2, pages 540–546.
- [40] Kosmas O.T., Vlachos D.S., Simulated annealing for optimal ship routing (2012) *Computers & Operations Research* Volume 39, Issue 3, 576–581.
- [41] Gregory, G., Harvie, C., & Lee, H. (2002). Korean SMEs in the wake of the financial crisis: Strategies, constraints and performance in a global economy, mimeo, University of Wollongong.
- [42] Shama, A. (1993). Marketing strategies during recession: a comparison of small and large firms. *Journal of Small Business Management*, 31(3), 62–72.
- [43] Pearce, J. A., & Michael, S. C. (1997). Marketing strategies that make entrepreneurial firms recessionresistant. *Journal of Business Venturing*, 12(4), 301–314.



- [44] AKATIGA and the Asia Foundation (A-AF). 1999. "The Impact of Economic Crisis on Indonesian Small and Medium Enterprises." Project paper supported by the United States Agency for International Development, Jakarta.
- [45] Sato, Y. (2000). How did the crisis affect small and mediumsized enterprises? From a field study of the metal-working industry in Java. *The Developing Economies*, XXXVIII(4), 572–595.
- [46] Tan, H., & See, H. (2004). Strategic reorientation and responses to the Asian financial crisis: The case of the manufacturing industry in Singapore. *Asia Pacific Journal of Management*, 21, 189–211.
- [47] Hodorogel, R. (2009) The Economic Crisis and its Effects on SMEs. *Theoretical and Applied Economics*, 05(534), 79-88
- [48] Berry, A., Rodriguez, E., & Sandee, H. (2001). Small and medium enterprise dynamics in Indonesia. *Bulletin of Indonesian Economic Studies*, 37(3), 363–368.
- [40] Hall, C., & Harvie, C. (2003). A comparison of the performance of SMEs in Korea and Taiwan: Policy implications for turbulent times. mimeo, University of Wollongong.
- [50] ter Wengel, J., & Rodriguez, E. (2006). SME export performance in Indonesia after the crisis. *Small Business Economics*, 26, 25–37.
- [51] Harvie, C., & Lee, B. C. (2002). The role of SMEs in national economies in East Asia. Cheltenham: Edward Elgar Publishing.
- [52] Elmore, L. (2009). Entrepreneurs will save the world. *Women in Business*, (2009), 12–14.
- [53] Hellenic Organization of Small and Medium Sized Enterprises and Handicraft (EOMMEX). SMEs in Greece. Available from <http://62.1.176.205/ArticleList.aspx?menuID=153>
- [54] National Confederation of Hellenic Commerce. Annual Report on Hellenic Commerce (2011). Available from <http://www.esee.gr/page.asp?id=3824>
- [55] Hellenic Statistical Authority. Latest Stat. Data Available from: <http://www.statistics.gr/portal/page/portal/ESYE>
- [56] Mintzberg, H. (1990). The design school: Reconsidering the basic premise of strategic management. *Strategic Management Journal*, 11, 171–195.
- [57] Porter, M.E. (1990.) "The Competitive Advantage of Nations", Free Press, New York,
- [58] Kast, F.E. and J.E. Rosenzweig (1970) *Organization and Management: A Systems Approach*. New York: McGraw-Hill
- [59] Wickham, P.A., (2001). *Strategic Entrepreneurship*. (2nd ed.). Financial Times –Prentice Hall. (Chapter 16)
- [60] Christensen, P.S., Madsen, O.O. & Peterson, R. (1989). *Opportunity Identification: The Contribution of Entrepreneurship to Strategic Management*. Denmark: Aarhus University Institute of Management.
- [61] Ardchvily, A., Cardozo, R. & Sourav, R. (2003). A theory of entrepreneurial opportunity identification and development. *Journal of Business Venturing* 18(1), 105–23.
- [62] Fiet, J.O. (1996). The informational basis of entrepreneurial discovery. *Small Business Economics*, 8(6), 419–30.
- [63] Galbraith JR (1973) *Designing complex organizations*. Addison-Wesley, Reading
- [65] Pearson, C. M., & Clair, J. A. (1998). Reframing crisis management. *Academy of Management Review*, 23, 59–76.
- [65] Smart C, Vertinsky I (1977). Designs for crisis decision units. *Adm Sci Q* 22:640–657
- [66] Davila A, Foster G et al (2009). Reasons for management control systems adoption: insights from product development systems choice by early-stage entrepreneurial companies. *Acc Organ Soc* 34:322–347
- [67] Ezzamel M, Bourn M (1990) The roles of accounting information systems in an organization experiencing financial crisis. *Acc Organ Soc* 15:399–424