

SUSTAINABILITY STRENGTH INDEX: AN IMPROVEMENT OF THE DPODE MODEL FOR ORGANIZATIONAL SUSTAINABILITY

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ABSTRACT

Recent developments on the world economy have awakened us for the challenges of sustainability of the economies, countries and economic organizations as well. In this context, the role and responsibilities that all “actors” need to assume for a good and sustainable management is relevant. The questions of sustainability are focused in the relations established between several agents, in management and good use of resources and in the efficiency of the markets in order to guarantee its consolidation and peaceful continuity in society. According to recent studies and beyond several factors that could be enunciated as relevant in the framework of sustainability, there are some pillars that seem to be central and under which businesses management need to develop abilities to ensure the sustainability of their organizations. The “DPODE Model for Organizational Sustainability” is a recent theoretical model (2010, 2011) trying to disclose in an empirical manner the pillars that seem to be crucial for organizations to ensure their sustainability. After its presentation, publication and application to two Portuguese major organizations, the authors are trying to improve the model in terms of the information needed to evaluate with accuracy each pillar and therefore the organizations sustainability. The main objective is to disclose a set of organizational competences and dimensions to be analyzed at different levels of organizations in terms of their objectivity and scope of information, in order to define a “Sustainability Strength Index” that can be measured in each of the pillars of the model (Direction, Posture, Organization, Behavior and Evaluation) and, consequently, measure the global strength of sustainability of organizations. The used methodology includes a brief review about the model and a literature review about several aspects from organizational sustainability, using the focus group research technic as well as the results obtained with the applications already done with this model to set a group of competences and dimensions to be analyzed and the criteria to be used to evaluate sustainability strength.

KEYWORDS

Management, Organizations, Strategy, Sustainability, Sustainability Strength.

1. INTRODUCTION

Recent developments on world's economy have awakened us for the sustainability challenges of the economies, countries and even the human being itself. These challenges have stand out the relevance of the role played by all who assume responsibility for the management of the economic organizations, as well as the challenges associated to its continuity in the market.

Sustainability questions focuses themselves on the articulation from several agents, from management and use of resources to the efficiency of markets functioning, aiming to grant a peaceful and consolidated continuity of society in the environment.

The “current scene” is of permanent change. The permanent “omnipresence” of this feeling of change follows the demand of balance before economic, technological, social, politic and cultural environments, as well as the constant attempt of adjustment, looking for survival in a world-wide economy more competitive each day (Kirkbridge, 1993).

In this context, a new challenge of sustainability for the economic organizations emerges, that demands a balance between differentiated and difference maker skills of the organizational performance, conditioning of the change factors starting from three main axes (Stacey, 1993):

- Discontinuance versus Continuance
- Integration versus Differentiation
- Complexity versus Instability

It's in this economic environment of share and cooperation, also marked with ubiquity, mobility, complexity and interactivity, that we must know how to picture the organizations sustainability (Massey *et al.*, 2000).

All this challenges are present in actual complex structure of businesses, with an intensification of net participations in which we find difficulties that grow according to the requirements related to the integration of the activities in the various value chains, hopping to get a share of objectives, strategies, resources, information, systems and technologies and, over all, commitments.

2. LITERATURE REVIEW

There is no general consensus about the applicability of the concept of corporate sustainability (Coral, 2002).

The importance of this concept has been associated by several authors to an ecological vision, where the company is sustainable if it does not attack the environment, that is, if its use of natural resources for the development of its economic activity does not place in danger the rate of natural regeneration (Epelbaum, 2004; Danich, 2003; Atkinson, 2000).

However, its application to businesses didn't take in consideration other important principles that firms have to satisfy if they want to be truly sustainable, such as eco-efficiency, socio-efficiency, eco-effectiveness, socio-effectiveness, sufficiency and ecological equity (Dyllick and Hockerts, 2002).

This set of principles induced other authors to consider corporate sustainability supported simultaneously in physical, social and economic levels, according to a modern and systemic conception of the environment and based in a culture of social responsibility and ethical principles in development of businesses (Anderson, 2006; Ehrenfeld, 2005; Dunphy, 2003).

This concept goes on with the thinking of those who claimed that the central challenge for this century is to create a sustainable global economy and society supported by organizations that are not only sustainable themselves but also sustaining in their impact on society and the biosphere.

In fact, it has never been more urgent than actually to realign business and investment practices to value long-term prosperity. The global economy can no longer afford “business as usual”, focusing on short-term gains and ignoring long-term risks (CERES, 2008).

As referred by Mehra (2010), sustainability is a process that continually disrupts the *status quo* and harnesses turbulence to achieve long term goals of the organizations through constant innovation, transparency, commitment, accountability and responsibility.

According to several authors, firms and managers will have to abandon the traditional strategic view, focused essentially in profits and financial performance, and present an alternative vision that pays attention to the interaction with diverse stakeholders, to their interests and to the environmental impact of their activities according to a *triple bottom line* (TBL) approach (Oliveira, 2007; Almeida, 2007; Donaire, 2006; Santoro, 2003; Elkington, 2001).

However, measuring, analyzing and reporting simultaneously the social, economic and environmental performances according to a TBL approach is not enough to grant organizations sustainability, as well as enterprise’s efficiency is not necessarily the result of a proper and efficient management (Svirina, 2009).

Some other questions remain without any conclusive answers:

- The reported sustainability reveals the exact organizations sustainability?
- How to see sustainability in the context of actual information society?
- How to be a true sustainable organization?
- Which are the main features to grant organizations sustainability?
- Which are the competences and dimensions organizations and managers should take in care to achieve sustainability?

The majority of studies and theories focus essentially in “how” to measure the organizations sustainability and “how” to translate these measures in to understandable, suitable and instructive information for the several traditional stakeholders.

Despite this, some studies have been made in order to measure the efficiency of companies and their management. Svirina (2009) proposed a group of managerial efficiency indicators to evaluate a supposed relation between managerial functions and the grant of profit, efficiency and shareholders’ value in organizations.

Many times the financial, social and environmental information claimed by organizations reveal a lack of transparency about their performances, changing the same according to the impact of their

activities on each context and often reflecting interests of individuals, groups and corporations (Santos, 2012).

On the other hand, although many companies seek a sustainable management of businesses and publish their sustainability reports, the real efforts made by them to achieve corporate sustainability remains unclear, more resembling that the same result from a set of factors and lucky coincidences instead of well-defined sustainable strategies aiming internal and external aspects of the organizations.

Achieving profits is not necessarily a result of proper companies' management and shareholders' value and annual profits are not enough to measure corporations' efficiency (Svirina, 2009).

And a good short-term performance of organizations evaluated mainly on accounting figures and other annual information may "cover" difficulties to grant their medium and long term sustainability (Baumgartner and Ebner, 2010).

It's in this framework of absence of reliable information that the "DPOBE Model for Organizational Sustainability" (Gisbert López *et al.*, 2010; 2011) arises, aiming to disclose the main features that seem to be crucial for organizations to achieve their sustainability.

It's a recent theoretical approach already with some empirical applications to major Portuguese firms (Gisbert López *et al.*, 2010, 2011; Santos, 2012) which tries to identify major questions regarding the organizational sustainability, focusing itself in the joint of several agents such as the management of human and organizational resources and markets efficiency, in order to guarantee organizations consolidated continuity in society.

This model is supported in five pillars that are referred as the most important in the frame of organizational sustainability and in which managers and organizations should develop abilities.

Figure 1: The DPOBE Model for Organizational Sustainability (G. López *et al.*, 2010; 2011)



The principles of each pillar of the model are the following:

- Direction, regarding the economic sense that must be given to organizations, the capacity to conceive the future and find the best way to achieve it, the capacity of strategic innovation to facilitate “business new conception”, forcing management to consider in a permanent way “different forms of playing the game in present businesses” (Gisbert López *et al.*, 2010; Santos, 2012);
- Posture, with management conducted by ethical values which will give to organizations credibility and respect, acting with reliability to induce good attitudes and critical behaviors that will help to reach high performance, based on confidence and upon new ideas in order to guarantee their share in a fair and balanced society and economy (Markides, 2000; 1997);
- Organization, an essential activity in management providing a multi-dimensional and multi-contextual answer to deal with so many different organizations, information systems, support technologies, necessities and objectives in different economic contexts, with the alignment between strategies and the organizational dimensions, responsibilities and performances as a central key in the information economy (Kim and Mauborgne, 2003);
- Behavior, with quality as a rule of organizations, with all activities developed following strict standards of quality according to patterns of efficiency and effectiveness, with quality as an instrument to control organizational functioning in order to answer to well-defined strategies and to reach their sustainability (Andrade and Anunciação, 2008, 2009; Anunciação and Zorrinho, 2006; Yang *et al.*, 2005; Grupe *et al.*, 2002; Zeithaml, 2002, 2001; Yoo and Donthu, 2001);
- Evaluation, a procedure to analyze the organizational performance according to the defined strategic options and objectives, requiring the management of the organizational systems and the performance and risk of activities, allowing a quick access to a large and accurate set of information in order to make mobilization of capacities and resources for problems and critical opportunities (Wolfenbarger and Gilly, 2002; Rajkumar and Mani, 2001; Rodrigues, 2000).

3. METHODOLOGY

3.1 ORGANIZATIONAL COMPETENCES AND DIMENSIONS

To disclose a set of competences and dimensions to be analyzed at different levels of organizations in terms of their objectivity and scope of information regarding each one of the five pillars of the model, the authors used the focus group research technic.

Focus group is a powerful research tool that can provide uniquely valuable insights and also rapid and suitable collection, integration and assembly of different points of view from a wide range of stakeholders around a conceivable theory (Boateng, 2012; Bishop, 2006).

For this proposal and by the joint of academic researchers in the field of management with management professionals, some questions were discussed in each step of the model in order to permit the definition, mainly in a micro-economic approach, of an assortment of skills and parameters suitable to be analyzed in organizations in view of each pillar of the model, already applied to a major Portuguese company (Santos, 2012).

Four levels in organizations were considered to be analyzed:

- Strategic level;
- Operational level (including short and long term planning and organizational and functional planning);
- Top management level (including resolutions and administration written records);
- Activity reports (including sustainability and official accounting, revision and management reports).

For each level, two dimensions were defined to be evaluated:

- Objectivity (concerning the way each parameter and competence is defined or formally declared);
- Scope and Knowledge (related with the disclosure of each parameter and competence).

To rate each one of this dimensions the use of a scale with four possible classifications was proposed.

For the dimension “Objectivity” the evaluation grid “explicitly defined”, “implicitly defined”, “undefined or not declared” and “not applicable” has been suggested.

For the dimension “Scope and Knowledge” the classifications “from public domain (stakeholders)”, “from domain of all corporation's employees”, “from exclusive domain of management board” and “not applicable” were used.

The parameters and competences that should be examined in each of the five pillars concerning the two dimensions above are:

- Direction
 - Mission, values and corporate policies
 - Business strategy and definition of strategic objectives
 - Timeframe and quantification of strategic objectives
 - Integration of business strategy on economic group policies and strategies
 - Action markets (*Where?*)
 - Target customers (*Who?*)
 - Products and services (*What?*)
 - Time-to-Market (*When?*)
 - Products and services placement (*How?*)
- Posture
 - Values and corporate culture
 - Ethical principles
 - Organizational principles and code of conduct
 - Social responsibility principles and code of conduct
 - Environmental principles and code of conduct
 - Principles and codes of professional conduct
 - Principles of relationship with suppliers

- Principles of action and participation in the community
- Legal framework of activities
- Organization
 - Organizational structure
 - Integration and compatibility of organizational structure in economic group
 - Functional diagrams and operational rules
 - Organizational information systems
 - Training and information of employees, suppliers and subcontractors
 - Planning of activities and resource allocation
 - Strategic business partnerships
 - Business units, geographic action areas and subsidiaries/branch offices
 - Outsourcing of activities and functions
- Behavior
 - Certifications and sub-systems of management
 - Level of effectiveness (objectives)
 - Level of efficiency (resources)
 - Productivity levels
 - Internal audits
 - Customers and employees satisfaction analyses
 - Action on internal faults and complaints
 - Continuous improvement processes
 - Conciliation between strategy and operational actions
- Evaluation
 - Indicators and evaluation metrics
 - Evaluation of results
 - Appraisal between expected and obtained results
 - Monitoring of organizational efficiency
 - Monitoring of organizational effectiveness
 - Economic and markets analyses
 - Adjustment of actions according to results
 - Forecasting and development of future scenarios and potential markets
 - Strategic realignment procedures

3.2 MEASURING SUSTAINABILITY STRENGTH

To fulfill a possible quantitative model in order to define and measure the sustainability strength of each pillar and the global strength of sustainability of organizations, the authors propose the redefinition of this set of questions and parameters in order to permit a sole answer regarding both dimensions.

To rate each one of the parameters and competences that should be examined in each of the five pillars with the use of a Likert scale, we propose the use of the following scale with six possibilities of different answers:

- Explicitly defined and well exposed and applied (Value 5)
- Explicitly defined but insufficiently exposed and applied (Value 4)
- Implicitly defined and collectively recognized (Value 3)

- Implicitly defined but individually recognized (Value 2)
- Undefined or not declared/not applied (Value 1)
- Don't know/don't answer/not applicable (Value 0)

The first possibility (5) shows us a clear and objective definition of parameters and competences, with a proper disclosure and identification in each different organization level and a good evaluation from management.

The second type of answer (4) gives us the sense of concern by management to do a proper and objective definition of parameters and competences but with some lack of effectiveness in their knowledge and disclosure in each organization level, with some problems in their identification in the formal institutional communication means and channels and without any accurate evaluation.

The third one (3) reveals some deficiencies in the definition of parameters and competences and the sole assumption that the same, even if not explicitly presented but subjectively established, are normally recognized and implicitly assumed in each level of the organization by managers and other personal.

The fourth type of answer (2) show us parameters and competences defined and perceptible in a subjective way, without any integration in the general organizational culture and sometimes recognized by managers and other staff.

The fifth one (1) reveals parameters and competences not identified or recognized, both in explicit or subjective ways, without any integration or application in the organizational structure and especially without any presence in their internal culture.

The last possibility of answer (0) reveals, in one hand a total lack of knowledge about the analyzed parameter or competence and its application or utility in the organizational structure and functioning, on the other hand a non-application of the described item in the considered organizational level.

By the sum (or average) of the answers, we can define the sustainability strength of each pillar of the model and also the level of sustainability robustness of the global organization, permitting to rate them according to six categories (presented values for averages – pillars, between 0 and 5 points – and sums – global sustainable level, between 0 and 25 points):

- Extremely robust (equal or more than 5/22)
- Highly robust (from 4/18 to less than 5/22)
- Robust (from 3/13 to less than 4/18)
- Medium robustness (from 2/8 to less than 3/13)
- Low robustness (from 1/4 to less than 2/8)
- Without robustness (less than 1/4)

4. CONCLUSIONS

For the authors and considering the economical, social and the environmental scopes in a medium and long term perspective, there are several dimensions and parameters that seem to be

fundamental and in which managers and organizations must improve their knowledge and develop competences.

The fulfillment of a set of indicators of financial, environmental and social nature according to the TBL approach does not grant itself an effective sustainability of organizations. Also the data and metrics used in accordance with this approach and the showed organizational results cannot translate by themselves the real effort made (or not) to define and pursuit sustainable strategies.

In this framework, the necessity to define and use tools and models suitable to permit an analysis and detection of the fundamentals and purposes of organizations and the principles and strength of the followed strategies in what seems to be an a sustainable organization emerges.

The DPOBE Model of Organizational Sustainability is a recent theoretical approach based on empirical analysis and still with few applications in case studies. However, the authors aim to develop it into a proposal of a quantitative model, which can enable comparative mathematical and statistics analyses such has statistical inference and correlation analysis.

We propose an Organizational Sustainable Strength Index, supported in the sustainable strength indexes of each pillar of the discussed model in the organizations:

$$R_s = f(R_i)$$

R_i : Sustainable Strength Index of each pillar of the DPOBE Model

R_s : Organizational Sustainable Strength Index

This approach can allow a comparison, for an organization, between the levels of sustainability measured according to a TBL approach such as the Dow Jones Sustainable indexes, the accounting rules AA 1000 or the Global Reporting Initiative indexes and the effective strength of the organizational sustainability.

It can also permit to disclose, for a certain group of companies or a business sector, a possible pattern of sustainability and evidence a set of factors that could be representative and illustrative of a similar behavior pattern, of key-conditions and management skills required for the organizations' sustainability.

According to the pillars of the DPOBE Model, the sustainability of a set of companies can be “translated” into a mathematical function, such as:

$$S_R = R_0 + a_D.R_D + a_P.R_P + a_O.R_O + a_B.R_B + a_E.R_E$$

R_0 : Independent coefficient

$R_{D,P,O,B,E}$: Sustainable Strength Indexes of each pillar of the DPOBE Model

$a_{D,P,O,B,E}$: Coefficients of each Sustainable Strength Indexes.

However, there is the need to emphasize some aspects from the present proposal.

This evolution of the DPOBE Model for Organizational Sustainability and the pretended definition of the concept of Sustainable Strength require hard testing, analysis and comparison among several organizations.

In the future, there will be the necessity to develop some studies around this subject aiming to validate this mathematical application of the model, adjusting or changing it if necessary according to new aspects and characteristics that may be considered as relevant to reach a deepen knowledge on organizations that aims to follow sustainable strategies and grant their sustainability.

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BIBLIOGRAPHY

- Almeida, F. (2007). *Os desafios da sustentabilidade: uma ruptura urgente*. Rio de Janeiro: Elsevier.
- Anderson, D.R. (2006). The critical importance of sustainability risk management, *Risk Management*, 53(4), 66-74.
- Andrade, M.J.F., & Anunciação, P.F. (2009). Customer Perception of Web Quality in Services, *6th International Conference on Management of Technological Changes*, Alexandroupolis, Greece.
- Andrade, M.J.F., & Anunciação, P. F. (2008). De la Calidad de los Portables Web a la Excelencia en los Servicios Públicos, *XIII Congreso Internacional del CLAD sobre la Reforma del Estado y de la Administración Pública*, Buenos Aires.
- Anunciação, P.F., & Zorrinho, C.D. (2006). *Urbanismo Organizacional – Como Gerir o Choque Tecnológico nas Empresas*. Lisboa: Edições Sílabo.
- Atkinson, G. (2000). Measuring corporate sustainability. *Journal of Environmental Planning and Management*, 43(2), 235-252.
- Baumgartner, R.J., & Ebner, D. (2010). Corporate sustainability strategies: sustainability profiles and maturity levels. *Sustainable Development*, 18(2), p.76.
- Bishop, T.M. (2006, February). Nonprofits, lawyers adopt 'focus group' research tool. *Tribune Business News*, 5.
- Boateng, W. (2012). Evaluating the efficacy of focus group discussion (FGD) in qualitative social research. *International Journal of Business and Social Science*, (3)7, 54.
- CERES (2010). *Annual Report 2007–2008*, Coalition for Environmentally Responsible Economies. Retrieved 18.09.2010, from <http://www.ceres.org>.
- Coral, E. (2002). *Modelo de planeamento estratégico para a sustentabilidade empresarial*, Universidade Federal de Santa Catarina, Brasil.
- Danich, V.A. (2003). *Uma contribuição à gestão empresarial socialmente responsável fundamentada no comportamento ético das organizações*, Universidade Federal de Santa Catarina, Brasil.
- Daniels, N.C. (1997). *Estratégias Empresariais e Tecnologias de Informação*. Lisboa: Caminho.
- Davis, S. (1987). *Future Perfect*. Reading–Massachusetts: Addison-Wesley Publishing Company Inc.
- Donaire, D. (2006). *Gestão ambiental na empresa*. São Paulo: Editora Atlas.

- Dunphy, D. (2003). Corporate Sustainability: challenge to managerial orthodoxies, *Journal of Australian and New Zealand Academy of Management*, 9(9), 2-11.
- Dyllick, T., & Hockerts, K. (2002). Beyond the business case for corporate sustainability. *Business Strategy and the Environment*, 11(2), 130-141.
- Ehrenfeld, J.R. (2005). The roots of sustainability. *MIT Sloan Management Review*, 46(2), 22-25.
- Elkington, J. (2001). *Canibais com garfo e faca*. São Paulo: Pearson Education do Brasil.
- Epelbaum, M. (2004). *Influência da gestão ambiental na competitividade e sucesso empresarial*. Universidade de São Paulo, Brasil.
- Gisbert López, M.C., Mendes, J.C., Anunciação, P.F., Andrade, F.J., Fernandes, C.R., & Santos, J. R. (2010). Main challenges in organizational management for a sustainable development: a new perspective. 8th *ATINER Annual International Conference on Business*, Athens.
- Gisbert López, M.C., Mendes, J.C., Anunciação, P.F., Andrade, F.J., Fernandes, C.R., & Santos, J.R. (2011). Main challenges in organizational management for a sustainable development: a new perspective, in Papanikos, G.T., (ed.) *International Developments in Management Research*, Athens Institute for Education and Research, Athens, 63-82.
- Gisbert López, M.C., Mendes, J.C., Anunciação, P.F., Andrade, F.J., Fernandes, C.R., & Santos, J.R. (2010). Main challenges in organizational management for a sustainable development: a case study of the DPOBE Model for Organizational Sustainability. *GIRA 2010 - Corporate Governance, Innovation, Environmental & Social Responsibility*, Lisbon.
- Grupe, F.H., Garcia-Jay, T., & Kuechler, W. (2002). Is It Time For An IT Ethics Program?. *Information Systems Management*, 19(3), 51-57.
- Kim, W.C., Mauborgne, R. (2003). Fair Process: Managing in the Knowledge Economy. *Harvard Business Review*, 81(1), 127-136.
- Kirkbridge, P. (1993). *Pensamento Estratégico e Gestão da Mudança*. Lisboa: Publicações Dom Quixote.
- Krovi, R. (2001). Surveying The E-Landscape: New Rules Of Survival. *Information Systems Management*, 18(4), 2-30.
- Markides, C. (2000). *All the Right Moves: A Guide to Crafting Breakthrough Strategy*. Boston: Harvard Business School Press.
- Markides, C. (1997). Strategic Innovation. *Sloan Management Review*, 38, 31-42.
- Massey, A.P., Wheeler, B.C., & Keen, P.G.W. (2000). Technology Matters. *Information Technology and the Future Enterprise*, 25-48.
- Madev, M. (2010). *Sustainability Strategy – The Centrality of Transparency*. World Council for Corporate Governance, London.
- Oliveira, P.H.D. (2007). *Sustentabilidade empresarial: aplicação do modelo UNEP/UNESCO (1987) para avaliação do equilíbrio socioeconómico e ambiental das empresas*. Programa Multi-institucional das Universidades de Brasília, Federal da Paraíba, Federal de Pernambuco e Federal do Rio Grande do Norte, Brasília.
- Rajkumar, T.M., & Mani, R.V.S. (2001). Offshore Software Development – The View From Indian Suppliers. *Information Systems Management*, 18(2), 63-72.
- Rodrigues, S.N. (2000). Comércio Electrónico e Valores Mobiliários. *Cadernos do Mercado de Valores Mobiliários*, 9, 80.
- Santoro, R.C. (2003). *Modelo para Implantação de Sistema de Indicadores Estratégicos, visando a Sustentabilidade Empresarial*, Escola Politécnica da Universidade de São Paulo, Brasil.
- Santos, J.C.R. (2012). *Sustentabilidade Empresarial: o Estudo de Caso da MSF-Engenharia, S.A.*, Faculdade de Economia da Universidade do Algarve, Faro.

- Stacey, R. (1993). *Organizações em Aprendizagem e Estratégias Emergentes, Pensamento Estratégico e Gestão da Mudança*. Lisboa: Edições Dom Quixote.
- Svirina, A. (2009). Measuring Managerial Efficiency: a Balanced Approach. *Global Conference on Business and Finance Proceedings*, 4(1), 24-28.
- Wolfenbarger, M.F., & Gilly, M.C. (2002). .comQ: Conceptualizing, Measuring and Predicting e-Tail Quality. *Marketing Science Institute*, Working Paper, Report #02-100
- Yang, Z., CAI, S., Zhou, Z. & Zhou, N. (2005). Development and validation of an instrument to measure user perceived service quality of inmodotion presenting Web portals. *Inmodotion & Management*; 42, 575-589.
- Yoo, B., & Donthu, N. (2001). Developing a scale to measure he perceived quality of internet shopping sites (SITEQUAL). *Quarterly Journal of Electronic Commerce*, (2)1, 31-47.
- Zeithaml, V.A., Parasuraman, A., & Malhotra, A. (2001). A conceptual framework for understanding e-service quality: implications for future research and managerial practice. *MSI Working Paper Series*, 00-115, 1-49.
- Zeithaml, V.A., Parasuraman, A., & Malhotra, A. (2002). Service Quality delivery trough Web sites: a critical review of extant knowledge. *Journal of the Academic of Marketing Science*, (30)4, 362-375.