Business theoretical concepts are being redefined in order to match new value propositions, which are being managed in a multiple stakeholders perspective. These multiple demands that define value, cover economic, environmental and social issues and they are the new design requirements for operations systems. These new concepts result in new models for describing and explaining production processes, operations strategy and performance measurement systems. The main purpose of this paper is to discuss and position these new drivers of value creation in an operations strategic management framework. A model is constructed based on literature review. The framework proposed in this paper shows some evidences on how sustainability factors are related to technical system design, operations strategy decision areas and performance dimensions.

Palavras-chaves: sustainability, operations strategy, performance dimensions
1. Introduction

Companies are improving their consciousness about environmental and social effects of their operations systems outputs. They are reviewing their technical and management systems in order to have a sustainable operation. Nowadays, great attention is being paid to their operations systems’ manufacturing processes, product design and production management in aspects related to environmental issues, quality of working life and social responsibility. Enterprises’ strategic agenda is being built upon topics like: business ethics, local communities development investments, environment preservation, corporate governance, human rights, markets and competition, workplace, corruption and product life cycle responsibility (ZUIDWIJK & KRIKKE, 2008; BOYD et al., 2007; MICHELSen et al., 2006; PORTER & KRAMER, 2006).

Boyd et al. (2007) state that in a general sense, Corporate Social Responsibility – CSR; reflects obligations to society and stakeholders within societies impacted by the firm. It is important to observe the importance to identify companies’ stakeholders.

Porter and Kramer (2006) propose to companies engage in addressing social issues by creating shared value. This will lead to self-sustaining solutions that do not depend on private or government subsidies. They also comment that a well-run business applies its resources, expertise and management talent to problems that it understands and in which it has a stake; it can have a greater impact on social good than any other institution or philanthropic organization. This mindset could be used to rethink the ‘enterprise root’. Margolis and Walsh (2003) argue that we need a better understanding between social performance and real benefits to society. In their opinion, it should be questioned corporate social performance and competing conceptions of the firm down to their very roots.

Based on the presented context, companies are reviewing their management systems. They want to develop a more ‘balanced’, ‘integrated’, ‘linked’, ‘flexible’, ‘multifaceted’ and ‘multidimensional’ management system. These characteristics will contribute to integrate social responsibility to the strategic management system redesign (GOMES et al., 2004).

It could be said that the pointed characteristics had a direct influence in performance measurement systems design, taking this system as an important part of the strategic management system. However, those requisites are not fully developed and incorporated to performance measurement system design. It does not offer proper conditions for companies to better understand their operations dynamics, and consequently to develop improvement

In this revision process it is important to define the social responsibility role, and with this objective several ‘visions’ are being constructed. These visions are grouped in reactive approaches or proactive approaches. It is observed that a strategic vision should in its essence deals with enterprise versus ‘environment’ interaction, and this is the great challenge for modern enterprises, that is, reinvent their strategies in order to have real sustainable operations.

Taking the purpose of regulating and establishing standards for environmental and social affairs, several standards and recommendation are being conceived. Some examples are: Accountability - AA 1000; Social Accountability - SA 8000; Global Reporting Initiative – GRI; Environmental Management Standards - ISO 14000; International Guidelines for Social Responsibility - SR ISO 26000 (CASTKAA & BALZAROVAB, 2008; MITRA & WEBSTER, 2008; PORTER & KRAMER, 2006).

The presented paper intends to discuss a model to improve our comprehension of the social responsibility role in companies’ operations strategic management systems, identifying its contribution for improving operations performance.

2. Strategic performance management

A well known performance measurement frameworks is Kaplan and Norton’s (1992) ‘balanced scorecard’, which provides a planning technique and performance measurement framework within the same system. It can be classified as a strategic management framework since it integrates strategic map processes to performance dimensions. The system creates customer focused value through the improvement and development of business processes. The balanced scorecard model is based on ‘innovation action research’ and uses a methodology that integrates design, implementation and operation of a strategic management system (KAPLAN, 1998). Through the evolution of performance measurement frameworks, the balanced integrated approach expands to a total integrated approach, with evidence of an evolutionary or co-evolutionary process. Some characteristics could be used to define an evolutionary or life cycle model and they are embedded in the following models:

- The performance measurement matrix integrates different dimensions of performance, employing the generic terms ‘internal’, ‘external’, ‘cost’ and ‘non-cost’. The matrix enhances the perspective to external factors (KEEGAN et al., 1989).
- The strategic measurement, analysis, and reporting technique – SMART – developed by Cross and Lynch (1989) uses a hierarchic, performance pyramid structure to represent the integration between organizational vision and operations actions. There is an interplay between external and internal orientations to improve the internal efficiency and the external efficacy.
- The performance measurement model proposed by Fitzgerald et al. (1991) integrates determinants and results of the operations systems performance, exploring causalities between them. Measures are related to results (competitive position, financial performance) or are focused on the determinants of the results (e.g., cost, quality, flexibility).
- The Balanced Scorecard (BSC), proposed by Kaplan & Norton (1992) constitute a multidimensional framework, based on financial, customer, internal processes and learning and growth dimensions, which integrates structural and procedural frameworks for designing a strategic management system.
- The integrated dynamic performance measurement system – IDPMS – conceived by Ghalayini et al. (1997) incorporates the performance the dynamic features and the integrative properties. The integration process involves the management function, process improvement teams and the factory shop floor. The system creates a dynamic behaviour that articulates its specification and the reporting process.
- The dynamics features are presented in the Neely et al. (2002) performance prism. This is a scorecard based system for measuring and managing stakeholder relationships. The framework is conceived to cover stakeholder satisfaction, strategies, processes, capabilities, stakeholder contribution dimensions. The main objective of the strategic management system is to deliver stakeholder value.

It could be noted when analyzing the presented models that they are not directly related to social responsibility issues. The great question is how to integrate social issues to those management models. Environment issues like resources use and deployment, water, air and soil pollution, gas emission, energy and material waste e question related to product life cycle management, as well quality of working life; should be managed in operations strategic management systems in order to strategically manage social responsibility. (MICHELSen et al., 2006, KRIKKEB et al., 2006, KRIKKEB et al., 1999).

The management of a strategic performance measurement system defines its use, stating how the data are acquired, analysed, interpreted, communicated and acted upon the organizational business processes. The literature indicates that the intensity of engagement
and interaction with the performance measurement processes could have a great impact on the business overall performance (Bourne et al. 2005).

Operations mode and design recommendations for operations strategic management systems are suitable and adaptable for managing social responsibility issues. Arasa & Aksen (2007), Walther et al. (2006), Farahania & Elahipanah (2006) e Fleischmann (2000) research works illustrate how to built a social responsible operations, however, they are incomplete solutions as they focus on specific problems as product life cycle management. It is important to recognize that social responsibility issues should have a systemic approach and this could be done when analyzing operations strategy.

3. Strategic management model development

The theoretical development that is presented in this section is founded in a strategic management system redesign process, applied to a company operations function. Particularly, sustainability issues as a broad and social responsibility in specific will incorporated to that construction.

Operations strategy could be defined as a pattern of decisions, both structural and infrastructural, which determine the capability of a manufacturing system and specify how it will operate in order to meet a set of operations objectives which have been derived from business objectives (PLATTS, 2007).

The concept of a strategic control system was presented when performance measurement systems were introduced. The measurement system is a part of a wider system, which includes goal setting, feedback, and reward functions (NEELY et al., 2005).

An operations strategic management system may be defined as a system that uses the information to produce a positive change to organisational culture, systems and processes. In this sense a performance measurement system should be conceived based on consensus about objectives definition, resources deployment, priorities definitions and performance results benefits sharing (AMARATUNGA & BALDRY, 2002).

The initial building blocks of all performance measurement initiatives, as they are materialized in a performance measurement system, are performance measurement recommendations. These recommendations define the content and structures of the measures and they could be organized in a framework that informs the performance measurement system design (FOLAN & BROWNE, 2005).

A framework for the measures selection process may be founded in the competitive
dimensions of manufacturing or service operations: price (cost/operational efficiency); quality
(process and product); time (dependability and agility); flexibility (process and product); and
innovation (process and product). Sustainability issues could create new performance
dimensions as environment (pollution, sustainability); society (quality of working life, life
quality). Performance dimensions define competitive domains and patterns (PLATTS, 1995;
LEONG et al., 1990; SLACK, 1987).

An operations strategy model based on performance dimensions and decision areas
constitute a basic building block for starting to study sustainability issues and operations
strategy. Environmental and social responsibility could be modelled, defining relationships
with performance dimensions and decision areas, in the same way that Porter e Kramer (2006)
did for the value chain. Figure 1 shows schematically three axes that represent performance
categories, based on simple input-output model. These categories define sustainability in
terms of economic, environmental and social aspects.

![Figure 1 – Performance dimensions and decision areas](source: adapted from Platts (2007))

Having defined the role of the performance measurement system, in the context of
operations strategic management system, the core ‘functionalities’ associated to that system
are identified next. The association between roles, functions and capabilities of the operations
strategic management system are very useful for its design specification by establishing
causality between roles and organisational resources. Globerson’s (1985) performance criteria define the system functionalities as: strategic orientation as performance criteria are chosen from the organization’s objectives; evaluated organizational unit has control over the performance criteria; and the performance criteria definition should be a result of a participative interaction of the involved actors (e.g. customers, suppliers, employees, managers). There may be a strategic realization function, as the criteria follow the organization’s objectives. Another function emerges from the management definitions, which state that the system should have a participative conception process and also have ‘control’ over the evaluated organizational unit. A strategic management function can be identified based on those assumptions.

Having discussed questions related to performance measurement systems functional aspects, it is important to have a process view from organisational performance.

There are four main processes related to performance measurement: design, implementation, operation and ‘refresh’, the latter process being a continuous system redesign or review (BOURNE et al., 2005; NEELY et al., 2000; BOURNE et al., 2000).

The performance measurement system is the motive power that moves the strategic management system and social responsibility practices effects should be evaluated by that system. It should be noted that when an action is evaluated, it could evolved as result of a learning process. It could be established an evolutionary cycle for social responsibility as it is being integrated to the strategic management system and their performance indicators (CASTKAA & BALZAROVAB, 2008; ZUIDWIJK & KRIKKE, 2008; BOYD et al., 2007; PORTER & KRAMER, 2006; MICHELSVEN et al., 2006).

The recent literature on performance measurement systems is looking for an in-depth understanding of why performance measurement initiatives fail, in order to improve the understanding of the main role of a performance measurement system, which is in the last instance the development of a strategic management system (BOURNE, 2005; NEELY, 2005).

A performance measurement system may lose its effectiveness over time if it is not redesigned to better attend new environmental and organisational demands (BOURNE et al., 2005; FRANCO-SANTOS & BOURNE, 2003).

The strategic management of the performance measurement system will enable an organisation to develop continuous improvement and organisational learning capabilities through continuous reviews of the measurement system (KENNERLEY & NEELY, 2003;
The measurement system should sustain their importance and utility for the organisation and its users (MANOOCHEHRI, 1999). The refreshing process can be settled as an embedded functionality of a strategic management system. Its main role is to co-ordinate review or redesign of the performance measurement system as a result of its use and interaction with its environment.

The presented work is founded in a strategic management system constituted by multiple feedback loops. This system develops capabilities related to learning process and also assuring strategy realization. Figure 2 shows the strategic management system that embraces performance measurement and creates the scenario for strategic social responsibility management integration.

Source: adapted from Pinheiro de Lima et al. (2008)

Figure 2 – Operations strategic management system

The strategic management system should be designed and studied in a perspective that goes far beyond strategic control, that is, it should be able to help organisations management system to identify and develop change process, using performance results for that purpose. Historic charts, scenarios and statistical analysis are tools that could be informed by performance information. This information could also be used to generate social
responsibility reports.

It has a special importance for the purposes of this article, understand and figure how to position social responsibility in management system domain and it could be proposed two actions. The first one is related to strategic alignment of operations strategic management system and performance dimensions, as social responsibility could be defined as one of them. The second action is associated to learning and improvement process and the capabilities that result from them, as the strategic management system evolves. There are capabilities that are related to social responsibility practices. These capabilities could be organised in a maturity model.

4. Conclusion

A strategic management model proposition is not a trivial task as complexity and dynamics are strong intervening variables between strategy formulation and environment demands. Stakeholders should be identified and their demands managed, however they also an active role in providing necessary conditions for business strategy development.

There are many questions to be answered when the subject is sustainability, particularly those associated to social responsibility and its integrations to operations strategic management system. In order to develop sustainable operations is important to know what are the enterprise value creation drivers, defining new performance dimensions or competitive patterns; rethink and redefine the firm concept, enhancing the economic approach to focus on benefits for its stakeholders; define the capabilities that an operations system should develop to be social responsible; develop design recommendations for an operations strategic management system, based on social responsibility; standards and recommendations as AccountAbility - AA 1000; Social Accountability - SA 8000, Global Reporting Initiative - GRI, Environmental Management Standards - ISO 14000, International Guidelines for Social Responsibility - SR ISO 26000, they should studied with the objective of extracting fundamentals or premises for strategic management of sustainable operations.

Finally, it could be concluded that social responsibility strategic management and its integration to operations system imply: in reviewing the enterprise strategic management system design; in conceiving a new operations strategy vision; and in renewing operations capabilities and competences. It seems that managing sustainability as a performance dimension integrated to other performance dimensions categories as economic and environmental ones could provide an interesting framework for operations strategy
development.

References


