Performance Management of Supply Chain Using Balanced Scorecard in Nonprofit Organizations

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Abstract
A nonprofit organization is an organization that conducts business for the benefit of general public without shareholders and without a profit motive. Their area includes governmental organizations (education, health and culture agencies) and nongovernmental organizations found in the forms of: clubs, societies, associations, foundations and others. The nonprofit organizations have supply chains that need to be monitored and their performance measured, especially because this type of organization handles public money.

Supply chain management and other similar terms such as network sourcing, value chain management and value stream management have become subjects of increasing interest in recent years. Also, supply chain performance measurement achieved one of the most important places in the supply chain management studies and researches.

Applicable in nonprofit organizations, business performance measurement systems and control systems are the formal, information-based routines and procedures used to maintain or alter patterns in organizational activities.

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**Introduction**

In order to better understand the performance management of the supply chain of the nonprofit organizations, we need to identify this type of organization, its characteristics and role in the society. Nonprofit organizations are not synonymous with nongovernmental organizations even though some authors define them this way. Nonprofit organizations include governmental and nongovernmental organizations and serve public purpose.

**1. Supply chain in NGOs**

A supply chain is the stream of processes of moving goods from the customer order through the raw materials stage, supply, production, and distribution of products to the customer. *Use of the SCM concept entails that the links in the supply chain plan and coordinate their processes and relationship by weighing the overall efficiency and competitive power of the supply chain* [Jespersen & Larsen, 2006]. All organizations have supply chains of varying degrees, depending upon the size of the organization and the type of product manufactured. These networks obtain supplies and components, change these materials into finished products and then distribute them to the customer. Managing the chain of events in this process is what is known as supply chain management.

Most NGOs typically have several different and parallel supply chains—e.g., food relief items, non-food relief supplies, food for development activities, non-food for development activities. Many NGOs do not have formal supply chain units within their organizations and if they do, they are often in the early stages of development. All of the supply chain segments can be served by a common organizing principle, nomenclature, terminology and process. There may be different approaches to executing a process based on the segment, however, the basic structure and over-riding organizing principles can be standard.

Food and nonfood supplies that flow through the supply chain of an NGO usually consist in prepositioned stocks in warehouses, items purchased from suppliers and donations from individuals or other organizations.

They are sent from different locations to a main warehouse situated near a port or an airport. Then they are shipped to a secondary warehouse located in a
larger city. Here the supplies are stored, sorted and shipped to a third warehouse, called local distribution center. From here the supplies are finally distributed to the beneficiaries (fig.1).

Supplies acquired from local sources may be distributed directly to the beneficiaries.

![Nonprofit organization’s supply chain](image)

**Figure 1.**

### 1.1. Characteristics of nonprofit organization supply chain

Between the supply chains of NGOs and those of business organizations there are some similarities in terms of structure and logistic activities, but there are some differences because of the unforeseeable, chaotic and dynamic environment where NGOs operate. One of the major differences consists in their mission: nonprofit organizations have as a mission achieving their social goal and the private ones aim for profit. Financial constraints and the multitude of stakeholders (fig.2) represent major differences between NGOs and business organizations.
Demand characteristics represent another difference between those two types of organizations. While for an NGO the demand refers to supplies and people, in private organizations demand consists in products and services. Type of demand, size and location are unknown at the moment of an emergency situation and the requested supplies can vary based on factors as social and economic conditions of the area, demographic structure and the impact of the produced event. Customers for an NGO are the beneficiaries of the humanitarian aid and they cannot afford the luxury of selecting a specific market.

1.2. Supply chain management in NGOs

NGO logistics is defined as “the process of planning, implementing and controlling the efficient, cost-effective flow of goods and materials as well as related information, from point of origin to point of consumption for the purpose of meeting the ultimate requirements of the end beneficiary.

The efficient management of the supply chain is based on problem anticipation and identification as they arise, and the delivery of specific supplies at the right time exactly where needed. When making decisions regarding required supplies one must take into account the cultural specificities of the country regarding food habits, climate, and also one must identify the cultural and ethnic minorities in order to prevent any form of exclusion.

The problems an NGO confronts are numerous and hard to deal with such as: inappropriate donations, preventing looting and pilfering, deployable logistics systems, logistics of information flow, facilitating movement of people and aid, and so on. Also, regarding the management of the supply chain, the nonprofit organizations are often in difficult situations because they confront a lack of resources, a lack of investments in technology, and managers who do not have experience in management, having backgrounds in the social fields. Also, the supply chain is unstable, and the location is often unknown and the demand hard to predict.

2. Supply chain measures for a nonprofit organization

A performance metric represents a quantified data that measures total or partial efficiency/or effectiveness of a process or system, in relation with a
standard, a plan or an objective determined and accepted within the strategic frame of the organization [Avasilicai, 2001]. A supply chain metric must be based on a data set or a fully-understood documented process for transforming data in metrics. For translating a measure it is necessary to compare it with a pre-established objective. Objectives must be clearly articulated for each metric and represent a challenge for employees. The right set of metrics can tell you how well each plan, source, make, deliver and return supply chain process is performing, highlighting where there’s room for improvement, and help you to diagnose problems and decide where to focus your improvement efforts [Cohen & Rousell, 2005]. The measures must be formulated taking into consideration the actions and behaviors that will be generated after.

Sporadic measurement is better than never measuring at all and it is also critical to know what to measure and what not to bother with. Metrics add value when you do something with them. Measurements should be communicated clearly, early and often [Ackerman & Bodegraven, 2007].

2.1. Supply chain metrics for NGOs

Metrics for a supply chain of an NGO must cover all the processes of the supply chain: procurement, purchasing, sourcing, forecasting, logistics, and distribution, etc. Examples of supply chain metrics are as follows: self-serving – organization/capability/market oriented; budget used; number of volunteers; tons delivered; order (early vs. late arrival on-site); publicity (e.g. media coverage / mentions / photos); new donations; lives saved; delivered tons used (e.g. meals served, tents lived in, etc.); health care provided; cost; money; loss/leakage.

3. BSC and supply chain management

BSC, invented by Kaplan and Norton in 1992, is one of the most powerful management and measurement systems that emphasize the linkage of measurement to strategy and the cause-and-effect linkages. It considers four different perspectives to evaluate a business, which are Financial, Customer, Internal Processes, and Learning/ Growth.
While the Balanced Scorecard approach was not specifically designed for the Supply Chain, it does give a good guidance for your core measures. The central idea is to focus on key metrics that have real meaning to your company. You don't want to get lost in a sea of numbers that don't really mean anything.

The Balance Scorecard provides the required framework for an organization to move from the decision of having a strategy to its application. And BSC approach helps the organization to keep the measures aligned with strategic objectives. These measures should be tracked over time (usually monthly) with specific targets for each.

### 3.1. The benefits of using BSC

The Balanced Scorecard represents a group of indicators that provide a readable and interpretable presentation, with a regular periodicity [Popa, 2005]. The benefits of using BSC in nonprofit organizations identified by the creators of BSC are: Allows nonprofit organization to create a bridge between strategy and daily operational processes; Supplies a strategic orientation, aligning resources, initiatives and financial support with organizational objectives; The measuring system changes the organization focus from programmes and initiatives to outcomes that must be accomplished; It offers alignment between initiatives, departments and individuals.

### 3.2. BSC perspectives

The scorecard provided a framework for organizing strategic objectives into the four perspectives:

1. Financial—the strategy for growth, and profitability viewed from the perspective of the shareholder;
2. Customer—the strategy for creating value and differentiation from the customer’s perspective; this perspective is populated after the identification and examination of all the stakeholders [Harrison, 2001];
3. Internal Business Processes—the strategic priorities for various business processes that create customer and shareholder satisfaction;
4. Learning and Growth—the priorities to create a climate that supports organizational change, innovation, and growth.
A well constructed BSC must describe how the organization works and what is critical for its success, through a number of objectives and measures linked across the four perspectives [Niven, 2003].

3.3. Implementing a performance management system

Performance management can be defined as a systematic process for improving organizational performance by developing the performance of individuals and teams [Armstrong, 2006]. A performance measurement system is the concrete tool designed to quantify performance...a set of connected measures or key performance indicators designed to quantify the efficiency and effectiveness of an action [Kotzab et al., 2007]. In order to implement a performance management system it is necessary to follow the steps:

1. Set supply chain strategy objectives – developing supply chain objectives to support the strategy;
2. Choose metrics and targets that support the objectives – identifying the specific metrics and targets to monitor progress;
3. Identify supporting initiatives – performance-improvement programs to support achieving of supply chain objectives;
4. Implement the programs – gather data and develop tools for reviewing data and to support the decision making process.

Figure 3

BSC for NGO Supply Chain

<table>
<thead>
<tr>
<th>Perspectives</th>
<th>Objectives</th>
<th>Measures</th>
<th>Targets</th>
<th>Initiatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Perspecti</td>
<td>Supplies delivered on time</td>
<td>Nr. of items delivered on time</td>
<td>Delivery in 24 h</td>
<td>Local transporters</td>
</tr>
<tr>
<td></td>
<td>Customer satisfaction</td>
<td>Nr. of complaints</td>
<td>10% reduction of complaint number</td>
<td>Fair assessment of customer needs</td>
</tr>
<tr>
<td>Internal Perspecti</td>
<td>Unsolicited goods</td>
<td>Nr. of unsolicited goods</td>
<td>20% reduction of unsolicited goods</td>
<td>Tracking system</td>
</tr>
<tr>
<td></td>
<td>Provision on time</td>
<td>Tons of food on time</td>
<td>20% delay reduction of food provision</td>
<td>Local warehouse</td>
</tr>
<tr>
<td>Financial Perspecti</td>
<td>Cost reduction of supplies</td>
<td>Amount saved per item</td>
<td>20% cost reduction per item</td>
<td>Local partnership</td>
</tr>
<tr>
<td></td>
<td>Revenue growth</td>
<td>Nr. of fundraising events</td>
<td>10 fundraising events/year</td>
<td>Local and regional advertising</td>
</tr>
<tr>
<td>Learning &amp; Growth</td>
<td>Communication improvement</td>
<td>Nr. of devices</td>
<td>50% Increase in device number</td>
<td>Agreements with suppliers</td>
</tr>
<tr>
<td></td>
<td>Improving personnel competencies</td>
<td>% personnel needs training</td>
<td>30% increase in competencies</td>
<td>Training programs for volunteers</td>
</tr>
</tbody>
</table>
In building a balanced scorecard, the first step is transposing of the mission, values, vision and strategy (fig.4). For each perspective the balance scorecard team develops objectives, measures, targets and initiatives. Targets must be aggressive, but achievable and must have an owner. Initiatives must be chosen in such a way that only those initiatives which lead to the objective accomplishment be selected.

**Conclusion**

NGOs confront increasing pressure from donors and governments regarding their accountability for the impact and quality of the programmes they develop, resulting in a critical need for measuring performance. Given the fact that logistics represents the centre of NGO operations and the most expensive part, measuring the performance of supply chain became crucial for all the nonprofit organizations.

The Balanced Scorecard of the supply chain can have numerous benefits in an NGO activity. This approach allows management to align the core metrics of the supply chain with the general objectives of the organization, being a good method of focusing on the key indicators that have a direct influence on the organizational performance.

**References**