SUPPLY CHAIN PERFORMANCE AND COLLABORATIVE MANAGEMENT BY BALANCED SCORECARD

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Abstract

Organizational performance is those step and state of the whole organization in which, as a result of congruent decisions and actions, are reached those targets and elements of strategic vision which satisfy all interested parts.

It's known the fact that performance management is a permanent and evolving process, in which personal abilities and organizational parameters are improving in time, and its goal is to improve the individual and organizational efficiency.

Performance strategic management is a process through which the company drives its performance, a process conforming to organizational and functional strategies and objectives. To consumer good producers, satisfying the needs of "new world thinking", mandatory today in industry, implies collaborative relationships which allow the companies to grow with small costs and to supply products having improved technology.

The companies focus on creating of collaborative innovating relationships in order to obtain growing and long term profitability for all parts.

Using key performance indicators (KPI) it's possible to measure the global performance of alliance relationships in terms of inventories, satisfaction and delivery terms. The main purpose followed by KPI utilization is to measure global performance of relationships between supplier and producer, and between producer and retailer. KPI are directly connected to the control panel for integrated organizations and reflect company's or partner's progresses in implementation.

Jointly Agreed Growth approach generates a considerable leap through: 1. a customer centric approach, for business planning and negotiation; 2. a data approach which allows exact quantification of opportunities and selecting *objectives for growth targets; 3. a co-generated growth plan to stimulating demand by grown satisfaction for both consumers and buyers; 4. three years business plan with annual reviewing.*

The building process of collaborative control panel of ECR alliance between two organizations always begins with establishing of a clear strategy. This strategy has to be an inter-organizational project and, as every effective implementation project of control panel, has to offer the opportunity of cooperation between processes and organizations in order to establish common objectives.

Measuring is the only way to verify the process performance and the need for eventual further actions.

After the performance evaluation for the organizations using the score card, the information and data will be transferred to inter-organizational project team which will incorporate it into the chain control panel.

The turnover –a strategic map, a control panel for measuring, targets and initiatives commonly accepted- offers to the management of alliance project the way to follow and an excellent foundation for governing the joint-venture project.

Keywords:

Collaborative management, transformational collaboration, performance management, strategic management, strategic objectives, key performance indicators (KPI), organizational scorecard, collaborative scorecard, Jointly Agreed Growth, balanced scorecard, performance measurement, alliance scorecard, strategic alliance, strategic-aligned organizations, alliance performance, alignment of the strategic performance, consumer goods, supply chain.

JEL Classification: *M 1*

1. Introduction

1.1 Performance

In our days, the company management complexity forces managers to approach performance under different angles:

- as productivity;
- as profitability;

- as customer or employee satisfaction.

Evolving from a measurement system concerning especially financial matrix to a new measurement system based primary on customer satisfaction is one of the change process aspects. We must also move to a collaborative management turning it in to the main target for every team member.

1.2 Performance management

Performance management is a continuing and evolutionist process insuring personal and corporative capabilities and efficiency improvement over time.

A performance management system is a philosophy aligning all company processes along with human capital, culture, company policies and communicational systems.

The aligning process is achieved trough mission, vision and strategic objectives. Mission is often regarded as a short resume of "what does the company represent and what does she want to achieve on a long time period (10-15 years)". To achieve corporate performance improvement the mission must be communicated and understood by all employees within the company. Beside creating and sharing a common vision on "what the company represents and what does she do" every employee must understand what he must undertake to translate the company vision in to action. This involves fixing strategic objectives to meat organization performance and also deploying these strategic objectives, in context with the specific organization strategy, at lower levels until meeting individual objectives.

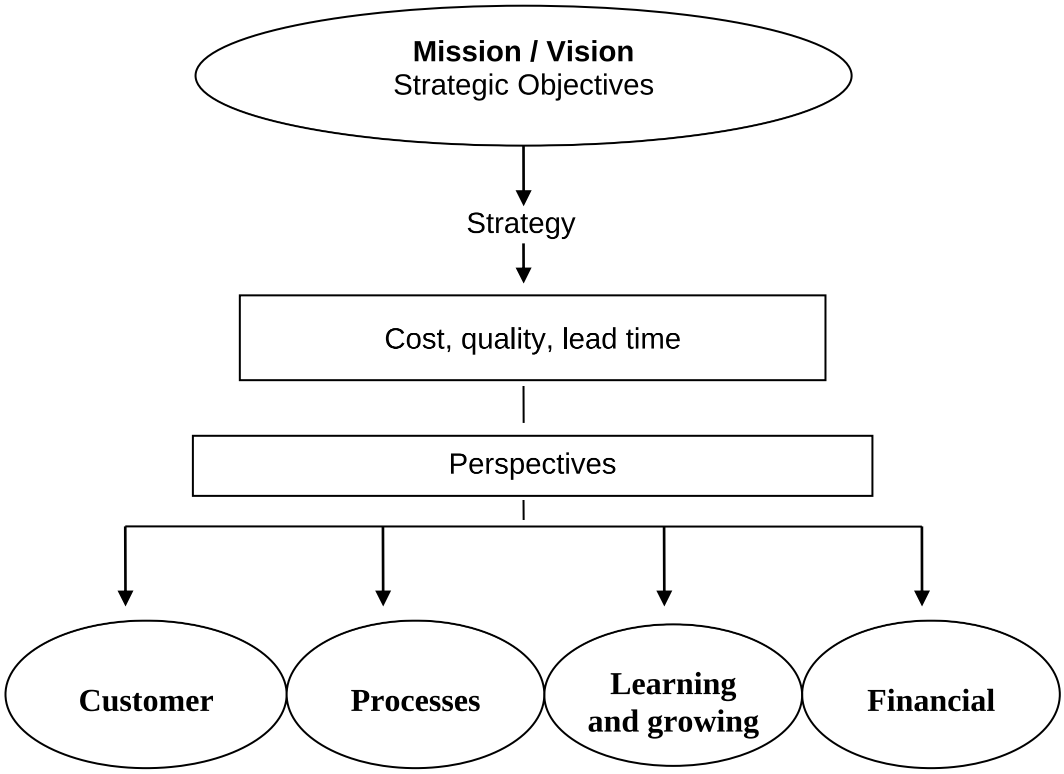
In the mean time, these have to be defined in terms of effort synergy, so the employee overall contribution to represent more than the individual contributions put together.

1.3 Strategic performance management

Strategic performance management is a process concerning the company performance management. This process must be aligned to the organizational and functional strategies and objectives. This can be managed using a variety tools and activities for different organization levels. These activities can consist in: defining and fixing organization objectives, priorities and values.

Figure 1.

The mission and strategic planning on the organization



Balanced Scorecard

Projecting a successful balanced scorecard consists in following the given steps for strategy implementation and explains the strategic following path for value creation.

In other words, the Balance Scorecard is a navigational tool allowing the organization to chart a course, set sale and continually tack and maneuver as required to accomplish the strategy Considering the Norton and Kaplan model for the balanced scorecard, that focuses on measuring four axis, for each of does perspectives few performance matrix are presented in the following:

1. Financial axis.

Every measure ultimately ties to financial results. There are many ways for financial results improvement, such as revenue growth and productivity.

2. Customer axis.

We must always search new opportunities for market share growth and ways for the organization to undertake competition. Taking in to consideration the customer perspective, there are try values for the company to focus on: operational excellence for efficient consumer response, customer fidelity.

3. Internal axis.

Four of the biggest organization processes are presented in the following: new product introduction process; customer relationship management process; order entry to order fulfillment value stream process; corporate citizenship process.

4. Inovation and grown axis

Learning and growing axis consists, among others, in trey important domains: core competencies and skills; enabling technology; corporate culture.

2. The ECR-EUROPE studies regarding Alliance Performance

ECR Europe conducted many studies concerning performance improvement.

2.1 The evaluation of the impact improvement over the profit

The first ECR Europe Study concerning Alliance Management Performance is "Assessing the Profit Impact of ECR", through costs and profit measurement.

„Profit Impact on ECR Task Force" (PIETF) created and tested the ABC cost assessment methodology. The ABC cost assessment methodology consists in a six step approach focused on profit impact assessment based on using the activity chart. These instruments enable assessing all activities costs and also the impact on profit improvement. A detailed mapping on the instruments and

methodology used can be found in the ECR Europe Guide "Assessing the Improvement Impact on the Organization Profit".

Based on the PIETF program results, companies are motivated on implementing the type of instrument focused on aligning costs along with activities and also to evaluate costs and profit as a result of implementing these improvement instruments.

The PIETF is a pioneering in the Business Process Management because it manages to identify the common processes and activities so that, through the ABC method is achieved the evolution to Costing Management and Activity Based Profit Management traditionally assessed through DPP (Direct Product Profit).

Regarding on assessing processes performance within a business, PIETF focuses on analysing the common business processes and activities that lead to business success. So it is obvious that PIETF shouldn't analyse internal processes such as the production process (for the manufacturer) or the merchandising process (for the retailer).

In this tandem of processes and organizations we are not interested only in the way they work or how efficient as an effect of the alliance but rather what processes we measure so that the organizations can have the expected success.

2.2 Integrated Suppliers

Other ECR Europe study „Integrated Suppliers off ingredients, raw materials and packaging" (made by Frannhoffer Application Centre Transport, Logistics and Communications Technology") focuses on assessing alliance performance as the result of the good supplier and manufacturer relationship. Integrated Suppliers is a concept for improving the part of the Supply Chain between manufacturers and there tiers of suppliers of ingredients, raw materials and packaging. By sharing information both parties are able to make judgments on costs, quantities and timing of deliveries and production of ordered products to streamline the product flow and to move to establish a partnership. The objective was to analyse the key concepts for integrating business processes upstream and to develop a scorecard for Integrated Suppliers. The scorecard enables companies to identify their current status in implementing the key concepts and to identify areas for further improvements.

Scorecard for integrated organizations

Scorecard for integrated organizations is structured according to the six key concepts of the integrated organization and is applicable to the both parts, the supplier and the producer. Scorecard can be used for self evaluation and to evaluate together with the exchange partners. If the partners agree, in trans-functional terms, for the axes that include the key concepts, then it means they have accomplished the fundaments for the action.

More scorecards must be used continuously to regularly monitor the performance and to establish continue improvement culture within the company and between the exchange partners.

- Scorecards/ measurement instruments for the integrated organizations

Scorecards help with the current implementation degree of the key concepts within the company or the partnership. Therefore, scorecards help identify the difference between the reached level and the best possible to reach performance level. These differences show the need for improvement.

- Key performance indicators

With the help of key performance measurement indicators it is possible to measure the alliance relationship global performance in terms of inventory, serving level and delivery deadline.

- The evaluation of impact improvement over the profit

Before starting any project for organizations integration improvement it is necessary to evaluate the impact of those over the profit.

Key performance indicators for integrated organizations

The main purpose for using key performance indicators - KPI - is to measure the global performance of supplier-producer relations. KPI are directly related to the integrated organizations scorecard and reflects the company or implemented partnership progresses. Even if the KPI are directly linked only to a single key concept, they can be used to verify the axes.

- Important key performance measurement indicators recommended as the most important are:
- Inventory level which is measured through the supplier inventory level of materials as through the producer inventory level of materials.
- Delivery deadline that represents an important performance indicator in the supplier- producer relations and for this is considered a KPI. Order

(command) delivery deadline represents whole time starting with the command initialization by the client and finishing with the receiving of the ordered goods and the whole time from the initialization of a production order until the clients receive the ordered goods. Delivery deadline refers, essentially, at the materials commands, material production and material exchanges.

- Serving level is evaluated using the perfect command such as KPI. The commands are not necessary anymore in the advanced relations between integrated organizations. Therefore, out-off-stock will be a much more relevant indicator.

The need to share KPI with the partners and using them for the benchmarking analyses is the first reason why cost indicators are not chose as KPI but as internal business measurement indicators, however, the costs represent very important performance measurement indicators. So, information regarding the costs must be monitored for a long time by the companies, but they are not considered KPI for communication or for external benchmarking. KPI referring to costs include indicators about production costs and total supply chain costs or inter-organizational logistics costs.

Therefore, the delivery deadline calculated starting with the good release in production is a complete indicator regarding the supplier flexibility. However, in most supplier-retailer relations and especially in those with high implementation key concepts level, working based on commands is a little old. As a consequence it will not be necessary to measure the time between the time of the product order initiation and the receiving moment, although the delivery deadline calculated starting with the beginning of product fabrication of goods becomes much more relevant.

2. The logistic chain scorecard

Basically, researches refer to the management and alliance performance measurement using indicators that show the consistency of the working together performance. That can be rather put in an working together processes axis.

D. Northon and R. Kaplan refer in "Alignment" to the Scorecard Model of Brewer and Speh. According to them a certain tip of scorecard for the SC cannot be applied for each SC. SC made to reduce the cost of production, delivery and merchandising for current use products with predictable demand has totally different objectives then SC. Some SC demand reduced costs and fast inventory rotation while others SC want flexibility, short response time, previsions and innovation accuracy.

Client perspective

Client perspective must focus on the SC clients but also on the final clients/consumers. The benefices for those clients must include products and services improvements, short delivery deadlines, high availability (including Out-of-Stock and late delivery reduction), high flexibility and more added value. These benefices are measurable along the chain using some indicators as: delivery deadline, order accomplishing cycle duration, client satisfaction rate and satisfied perfect command.

Internal processes perspective

Improved processes along the supply chain lead to benefices as:

- Wais reduction or duplicate processes reduction; processes and systems depreciation; defects, rejected or returned products and repeated processing of inconsistent products reduction; low inventory levels.
- Reduction of command-delivery cycle time and cash-to-cash cycle reduction for all supply chain participants
- Flexible response: the ability to accomplish the unique demands of each costumer regarding products variety, volume, packaging, loading, ordering, and delivery.
- Costs per unit reduced relatively at customizing degree and flexibility expected by the client. The suppliers want cost elimination without added value by eliminating inventory duplicates, multiple product manipulation, inefficient loading, promotions and uncoordinated businesses.
- Innovation: participants monitor new technology, competition or client preferences discoveries, to create and develop together new offers that can continually can win target clients loyalty.

As in the case of clients perspective, internal processes improvements are measurable using a multitude of indicators such as : predictions accuracy, production quality, production flexibility and internal during the internal cycles .

Learning and growing perspective

The objectives regarding human resources include the need for human resources, operations, marketing, sales, logistics and finances, proving the abilities and knowledge for intra and inter-organizational collaboration to obtain supply chain performances and to deliver more value for the final consumers. Informational capital objectives are linked to depreciation and linking the systems along the partner organizations in the supply chain, information protocol standardization, analyze and share information about suppliers and costumers and relevant, real, current and accessible information delivery . Organization culture should sustain the sharing of good practices, continues improvement, opening and transparency along the supply chain and the engagement to eliminate the wais and the in the system by promoting, in the same time, maximum added value offering to the final consumers.

Financial perspective

Financial indicators for the supply chain scorecard are traditional and generics. A functional supply chain must lead to higher profit rates, lower production costs per unit, growing cash-flow, sales figure growth and higher capital results invested by the supply chain participants. Scorecard includes indicators such as transportation cost, command processing level, commands receptions, storage, merchandising, depreciation/wear and price reduction, sold goods / goods costs, human resources spending rates, productivity (of the added value), assets rate.

The accent on some financial indicators is influenced by strategy. For the production and distribution of mature products, the main indicators will be cash-flow, costs per unit and ROA. For differentiated strategies the indicators playing an important role are sales figure grown measurement, market share grown, wear degree reduction and prices reduction.

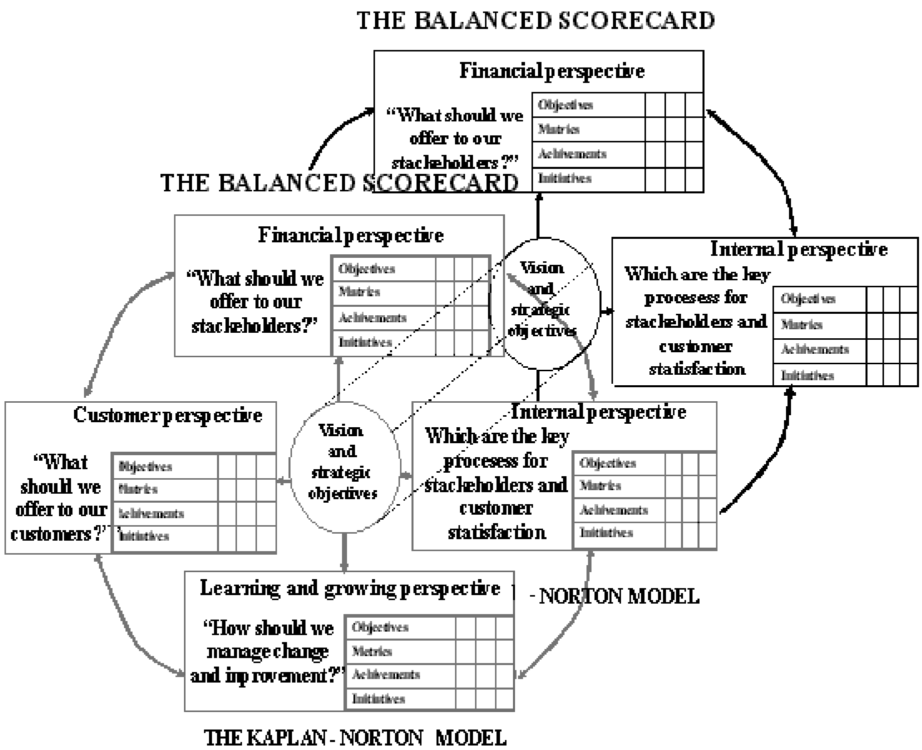
3. Alliances scorecard

ECR alliance Scorecard building process starts always by establishing the key strategy. This has to be a multi-organizational project, and as any efficient scorecard implementation project, has to offer the opportunity, for all actors from different processes and organizations, to collaborate for establishing commune objectives. As soon as the team members have established the strategy they can proceed with the construction of the scorecard aligned to this strategy.

A tool, able to operate within different alliance structures / substructures and also to integrate de efforts of each structure / substructure to be aligned to the supply chain is the variant of the balanced scorecard of the ECR alliance from Figure 2. BS connects in a formal way, global objectives of the alliance and the strategies chosen to reach these global objectives helped by general performance measurement indicators. Objectives, strategies and measurement indicators can be aligned at organizational levels. Here, the organizations develop objectives at the level of these, strategies for reaching this objectives and association performance measurement indicators. This process is repeated as well at the interest axis level within the organizations members of the alliance.

Figure 2.

ECR Alliance Scorecard



Using the SCOR (Supply Chain Operations Reference) as a performance measurement tool

Performance measurement tools are hard to define and especially hard to measure. A few of these instruments give a clear image about the global performance, underlining the performance problems or identifying improvement opportunities. Between all the alliance performance strategic objectives, the most effective, offering a base of system understanding, influencing components along the system and offering information regarding alliance members' efforts can be listed in Table 2.

These ECR alliance performance strategic objectives can be thought as the center of the alliance vision. Graphically they can be represented as two "circles" containing the vision and the strategic objectives. They are, also, the commitment of those leading the organization.

Table 2.

Strategic objectives and supply chain measurement indicators (SCOR Model)

STRATEGIC OBJECTIVES	DEFINING THE CRITERIA	MEASUREMENT INDICATORS
Alliance delivery availability	Alliance performance in deliveries: the right product, at the right place, at the right moment, in good delivery and packaging conditions, at the right quantity and the corresponding documents.	Delivery performance
		Perfect answer to the demands
Alliance answering speed	The speed to which an alliance makes available a product for the client.	Better answering time
Alliance eligibility	Alliance agility to answer to the market demands to gain or to maintain the competitive advantage	Alliance answering time
		Production eligibility
Alliance costs	Associated alliance costs	The cost of sold goods
		Total costs of the alliance
		Warranty and return costs
Alliance efficiency – Goods	The efficiency of an organization in goods management to sustain demand satisfaction. This includes the management of all good: fixed and circulating capital.	Cash flow
		Bought organizations inventory
		Goods value

Source: Supply Chain Operations Reference – Model (SCOR 6) – Version 6.0, Supply Chain Council, Pittsburgh, 2003

To implement an Alliance Scorecard as a supply chain performance leading tool, it starts with defining it's vision, the major objectives and the targets to which they will align their own strategies, objectives and targets, following which, based on the scorecard schedule, each enterprise will develop measurements and indicators along the four axis of their own scorecard.

Each of the organization's objectives, targets and actions are created to sustain a commune strategy and the key performance indicators drift from its strategic objectives. Every scorecard of each organization is integrated and aligned at the commune scorecard.

Many are those who share the idea that "if you can't measure a phenomenon, then you can't control it". At this point, some measurement systems are providing a clear image of the global performance, are highlighting the performance problems causes or improvement opportunities. The reason is simple: realizing a robust and useful measurement program is difficult. Establishing an agreement between the organizations regarding what has to be measured, defining the measurement system and how often they must be measured can implicate a big effort. Also, management accept over the fundamental proposal of the measurement program can be the most contentious activity of all.

Alliance performance measurement tools can be difficult to define and even more difficult to measure. At the higher level, alliance operations are expected to participate at the financial performance of the company. For this, alliance performance measurement tools must accomplish three major objectives: first, must transform the financial objectives and the targets into efficient activity operational measurements. Second, they must do exactly the opposite, transforming the operational performance into exact future predictions of incomes or sales. And finally, must lead the affiliate organizations compartments to sustain the commune business global strategy.

Measuring it's the only way to check if the processes performance is growing or is decreasing and if is necessary to take measures. Much too often, companies find out about the problems regarding the performance or the failure in accomplishing objectives after they happened, when the income is decreasing, the clients move the business somewhere else or when the results are under the expectations.

More and more, companies use alliances to compensate the lack of their abilities and to extend to new markets and regions. Agreeing with these partners is not always easy; many venture alliances end up by bringing disappointments and failures.

Having a commune set of indicators for the alliance partners is not easy. Each part has its own reporting and measuring process and its own perspective regarding its contribution to the alliance (as low as possible) and the gain as a part of the alliance (as big as possible). To overcome these informational and motivational asymmetries a transparent is necessary, in which both parts to clearly articulate the expected contributions as well as the expected results, from which to result a document that synthesize the strategic situation of the alliance.

Developing a scorecard of the alliance can lead to reduce the conflict, also natural, between the alliance partners. The process of building the alliance strategic map and the scorecard puts face to face the decision makers from the two sides to clearly establish the alliance objectives and the strategy to accomplish these objectives.

For example, an alliance for sale and marketing may highlight the reduce cost of getting new clients, the minimum deadline for new product introduction and the sales growth as a result of having new clients and improving the relationship with the existing clients. An alliance based on development and innovation is focused on the quality and the new product innovation degree, the duration of a complete cycle "from the idea to the product" on the alliance and the technology transfer impact on the main companies. A production alliance can pursue to obtain production costs reduction, quality improvement, the reduction of time between the client's order initialization and the delivery and the reduction of the late deliveries.

The resulted product - strategic map, a scorecard for measuring and targets, fundamental initiatives and mutually accepted – offers to the alliance project management a path and an excellent fundament to govern the venture project. McKinsey study shows that only a quarter of the alliances have suitable alliance measurement indicators. The McKinsey study proposes a scorecard of the alliance with four perspectives: financial, strategic (instead of the client's one), operational and of relationships (instead of the one for growth and learning).

The Appendix 1 shows some of the key objectives that can be included in such an alliance scorecard. Also is projected a suite of measurement indicators whose producer-retailer double aggregation leads to a correct measurement of the strategic approach.

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Appendix 1

MANUFACTURER

	Importanc	Strategic objectives	Hierarchy Objectives	Measurements / indicators	Analitycal hierarchy	Values		analysis (%)	Weighted Score (%)
						Target	Effecti		
Customers		1. Cycle order duration	100	1. Number of days between order and replenishment	15			95	14,25
	150	2. Out-of-stock	200	2. Number of days of product absence on shelf	30			95	28,50
		3. Price competitivity	400						
			300	3. Price competitor rapport	60			90	54
		4. Brand image		4. Classification rank	45			80	36
Processes		1. Inventory management	400	1. Average inventory level	70			95	66.50
	175	2. Deliveries reliability	200	2. Percent of on time delivery	35			90	31,50
		3. Number of days for supply	200	3. Number of days for supply	35			95	33,25
		4. Returned materials	200	4. Value of returned materials	35			98	34,30
Learning		1. Percent of EDI integration	400	1. Percent of information treatment with EDI	30			90	27
	75	2. Percent employees trained in ECR	200	2. Percent employees trained persons	15			100	15
		3. Standardisation level/Best practice	400	3. Percent of personnel that follows standards	30			85	25,50

Financial	100	1. Costs of sold goods	350	1. Product costs	35			88	30,80
		2. Percent of costs with staff	250	2. Percent of costs with staff	35			96	24
		3. Labor productivity	200	3. Turnover / number of workers	30			94	28,20
		4. ROA	200	4. Net profit / Assets	20			97	19,40
Total	500				500			-	468,30

Appendix 2

RETAILER

	Importanc	Strategic objectives	Hierarchy Objectives	Measurements / indicators	Analitycal hierarchy	Values: Target	Values: Effecti	analysis (%)	Weighted Score (%)
Customers	150	1. Consumers satisfaction	350	1. Index of satisfaction	52,5			98	51,45
		2. Consumers service level	100	2. Number of complains	15			95	14,25
		3. Transaction size	50	3. Transaction values (EURO)	7,5			90	6,75
		4. Price competitivity	500	4. Price - similar product rapport	75			90	67,5
Processes	100	1. Stock rotation	350	1. Number of days/ stock	35			96	33,6
		2. Out-of-stock	250	2. Number of days of product absence on shelf	25			94	23,5
		3. Shrinkage	275	3. Loss volume	27,5			98	26,95
		4. Food safety and traceability	125	4. Product recolls	12,5			97	12,12
Learning	75	1. Percent of EDI integration	300	1. Percent of information treatment with EDI	22,5			100	22,5
		2. Percent of employees trained in ECR	300	2. Percent employees trained	22,5			85	19,12
			400						

		3. Level of service		persons 3. Percent of disloyal customers	30			92	27,6
Financial	175	1. Sales growth 2. Gross margin 3. ROI 4. Operational costs	300 200 150 350	1. Turnover growth 2. Gross margin / gross profit 3. Net profit - capital 4. Percent of operational costs (Costs / Turnover)	52,5 35 26,25 61,25			88 99 89 87	46,2 34,65 23,36 53,28
Total	500				500			-	462,25