Supply Chain Excellence through Practicing Collaborative Business Process Standards

Virgil POPA
ECR Department
Valahia University of Targoviste

Abstract

Collaboration takes place when people from different organizations (or from units of organization) produce something together trough effort, resources and common decisional processes and share product or final service responsibility.

The future evolution of collaborative excellence in the consumer products value chain will likely reside in the attainment of new growth structures founded on innovation.

Strategic alliances are associations between more independent companies which choose to administrate a project or a particular activity trough coordinating of competencies.

To create synergy, we require more than a concept and a strategy. The enterprise value proposition defines the strategy for value creation trough alignment, but do not describe how to achieve it. The alignment strategy must be completed with an alignment process.

Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities.

ECR – Efficient Consumer Response: Working together to fulfill consumer wishes better, faster and at less cost (ECR Europe).

Business process management is a complex management practice that many organizations find difficult to implement and progress to higher stages of maturity.

SCOR combines elements of business process engineering, benchmarking, and leading practices, into a single framework. Under SCOR, supply chain management is defined as these integrated processes: PLAN, SOURCE, MAKE, DELIVER, and RETURN from the suppliers' supplier to the customers' customer, and all aligned with a company's operational strategy, material, work, and information flows.

Key Words: *collaborative management, collaborative excellence, alignment processes, Supply Chain Management, Efficient Consumer Response, Business Process Management, Process mapping, redesign process project, business process maturity, SCOR Model, return process*

1. Collaborative management

Collaboration takes place when people from different organizations (or from units of organization) produce something together trough effort, resources and common decisional processes and share product or final service responsibility.

Consumer goods producers passed, in general, through three fundamental phases of collaboration development and, adding each phase, there is a new potential regarding news value creating and profitability growing.

Phase 1 – Spreading of transactional relationships

This phase focuses on cost efficiency obtaining when consumer goods producers enter short term contracts, including transactional agreements. During this phase, business processes are distinct, having a limited integration between involved companies. The growing trend of outsourcing for business function, as IT, production and storage allows the companies to focus on their core business, obtain benefits from costs, and transform fix costs into variable costs in order to have greater control and flexibility for financial structure. There is a limited opportunity for adding value beyond price in transactional phase and having decreasing margins, reaching a profitable grows being a difficult process. This leads organizations beyond transactional relationships, in order to develop collaborative relationships to reaching mutual gain, productivity and extended capabilities.

Phase 2 – Collaborative relationships – partnerships

This phase is characterized by co-existence of transactional and collaborative relationships which focus on further improving of productivity and utilization of extended capabilities of knowledge, assets and resources. Relationships from this phase focus on common promoting, marketing and selling activities. This is the point where we could start to identify suppliers and customers as strategic partners.

To consumer goods producers satisfying the demands of "new world thinking" needs developing of collaborative relationships which allow companies to grow with reduced costs, supplying in the same time a increasing value for customers. The relationships from value chain which evolved in time either based on short term market transactions, or developed in long term proprietorship solutions.

Phase 3 – Transformational collaboration vs. other business models

Although there are some advantages connected to costs, those types of relations don't offer enough flexibility for a competitive environment of today. In an effort of transformation of adversity relationships into collaboration relationships, sharing knowledge, mutual assistance and business growing, consumer goods producers focus more and more on identifying and developing of strategic relations with suppliers, distributors and customers. Such of relationships tend to rely on smaller number of key partners which benefit from longer term contracts (*Thompson, Jennifer & Co., 2006*).

Nowadays, the companies focus on developing of collaborative transformational innovating relationships in order to obtain long term growth and profitability for everybody involved. These collaborative partnerships are based on the following ideals:

- Collaborative decision process and generation of new ideas;
- Bi-directional data, knowledge and experience exchange;
- Engagement in sharing the knowledge database and extension of thinking beyond organizational limits to accomplish a win-win scenario, which offers more value adding than every single partner may obtain separately;
- Development of *long term strategic plans (the collaboration is switching from operational level to strategic level)*. Need to switch from the easy of "price advantage" to the hard way of "value for customer" and seeing businesses combined from client perspective.

1.1. Collaborative excellence - the next dimension

The future evolution of collaborative excellence in the consumer products value chain will likely reside in the attainment of new growth structures founded on innovation. These will result in more rational profit and loss strategies based on shared models, which will be essential for achieving new value equations. In this context, the concept of collaborative excellence will extend to consumers / and value chain partners.

Consequently, consumer products organizations and retailers are turning their collaborative efforts towards creating a multidimensional environment.

The transition required from a one-to-one collaborative model to the creation of a one-to-many collaborative environment. If consumer products companies are able to achieve this, there is the possibility to create "collaborative-scale economies" for productivity enhancement that will enable organizations to develop, define, apply, and optimize a common set of collaborative best practices for multiple partners. One outcome of this will be that companies will realize further benefits through efficiency improvements, cost optimization, and resource allocation.

There is also the potential to create "collaborative scale of scope" for innovation and value creation, whereby consumer products companies can apply multidimensional collaborative schemes to pursue a high level of innovation through new product development and customer intimacy. Key to achieving enhanced collaborative excellence in the value chain is the ability to collectively pull together, analyze, and use real-time consumer demand information to create innovative products that meet consumer needs and add value. This allows companies to go beyond today's excellence in efficiency, productivity, and resource allocation to reach the next level of collaborative excellence in "continuous consumer value creation" (for increased share of wallet), which includes consumers in the collaborative scenario. This multi-dimensional perspective will add complexity but it has the potential to make collaborative partnerships and value advantage much more powerful (*Thomson, Jennifer & CO, 2006*).

1.2. Internal and External Strategic Integration

As supply chain members begin to work together, integration must occur between functions both *internal to* the organization (i.e., purchasing, engineering, manufacturing, marketing, *logistics,* accounting, etc.) and *external to* the organization (i.e., end customers, retailers, distributors, warehouses, transportation providers, suppliers, agents, financial institutions, etc.). *Internal strategic* integration that all company members, have access to an integrated information system, spanning multiple functions and locations. This is often accomplished through a company-wide ERP system which links internal groups via a single integrated system. *External integration*

refers to the systems that link external suppliers and customers to the focal company. External integration allows supply chain members to share critical information such as forecast demand, actual orders, and inventory levels across the supply chain. Systems used to integrate supply chain members include advanced planning systems, internet linkages, network communications, and Electronic Data Interchange (EDI).

1.3. Collaboration with Suppliers and Customers

Strategic alliances are associations between more independent companies which choose to administrate a project or a particular activity trough coordinating of competencies, means and required resources instead of:

1. Implementing the project or the activity in an autonomous manner, solely enduring the risk and solely confronting the competition;
2. Merging with each other or proceeding to ceding or acquisition of activities.

The partner companies remaining independent keep their own interests and objectives.

- They must agree with some common goals, more or less explicit, which are precisely the objectives the accomplishment of which caused the alliance forming. This common goals are more partial objectives for each partner and some time can get into conflict with their more fundamental interests.
- There are three main elements of collaborative strategies: formation, control and inter-organizational learning processes.

Beyond the alignment of internal business and service units, an enterprise can exploit additional alignment opportunities by formulating plans and scorecards that define relationship with it's board directors and external partners, such as customers, suppliers, and joint ventures *(Kaplan, S. Robert, Norton, P. David, 2006)*.

In the next stage of evolution, a company must change the nature of its alignment and collaboration not only with first-tier customers and suppliers, but throughout its supply chain. In the future, the best supply chains will win and managers must be aware of the actions and requirements for critical customers and suppliers in the network. Accessing this information is difficult unless the scope and nature of relationships with key supply chain member organizations is established and maintained.

This is not to say that every relationship should be a "long-term strategic alliance." However, the relative importance of the supplier/customer on value and overall supply chain performance should be determined. This assessment should be a primary determinate of the type of organizational relationship that should be pursued for the organization in question. This means that one should have a basic understanding of the performance metrics for the key supply chain member, based on technology, potential for growth, and profitability. It means that the performance of key suppliers in terms of quality, delivery, and technology should be described in financial terms that directly relate bottom-line impact. It also means that key supply chain partners should be aligned with your organization's internal strategies in order to exploit their expertise and knowledge in creating value. Finally, collaborative sharing of forecasting and demand information can better help plan long-term.

1.4. Managing alignment as a process

Each of the activities we have identified is an opportunity to create synergy and value. Most organizations attempt to create synergy, but in a fragmented, uncoordinated way. They do not view alignment as a management process. When no one is responsible for overall organization alignment, the opportunity to create value through synergy can be missed.

To create synergy, we require more than a concept and a strategy. The enterprise value proposition defines the strategy for value creation trough alignment, but do not describe how to achieve it. The alignment strategy must be completed with an *alignment process.* The alignment process, much like budgeting, should be part of the annual governance cycle. Whenever plans are changed at the enterprise or business unit level, executives likely need to *realign* the organization with the new direction.

Are the eight alignment checkpoints for corporate, business units, and support units of typical multi-business organizations to hit during the annual planning process:

1. *Enterprise value proposition:* The corporate office defines strategic guidelines to shape strategies al lower levels of the organization;
2. *Board and shareholder alignment:* The Corporation's board of directors' reviews, approves, and monitors the corporate strategy;
3. *Corporate office to corporate support unit:* The corporate strategy is translated into those corporate policies that will be administered by corporate support units;
4. *Corporate office to business units:* The corporate priorities are cascaded into business unit strategies;
5. *Business units to support units:* The strategic priorities of the business units are incorporated in the strategies of the functional support units;

6. Business units to customers: The priorities of the customer value proposition are communicated to target customers and reflected in specific customers feedback and measures;

7. Business support units to suppliers and other external partners: The shared priorities for suppliers, outsourcers, and alliance partners are reflected in business unit strategy;

8. Corporate support: The strategies of the local business support units reflect the *priorities* of the corporate unit support (*Kaplan, S. Robert, Norton, P. David, 2006*).

1.5. SCM 4 ECR. Supply Chain Management for Efficient Consumer Response

Supply Chain – all the organizations and processes which refer to products and services from the view of buying organization. Supply Chain Management (SCM): as defined by the Council of Supply Chain Management Professionals (CSCMP): "Supply Chain Management encompasses the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third-party service providers, and customers. In essence, supply chain management integrates supply and demand management within and across companies. Supply Chain Management is an integrating function with primary responsibility for linking major business functions and business processes within and across companies into a cohesive and high-performing business model. It includes all of the logistics management activities noted above, as well as manufacturing operations, and it drives coordination of processes and activities with and across marketing, sales, product design, finance and information technology."

ECR – Efficient Consumer Response: Working together to fulfill consumer wishes better, faster and at less cost (ECR Europe).

Efficient Consumer Response (ECR) is a joint trade and industry body working towards making the grocery sector as a whole more responsive to consumer demand and promotes the removal of unnecessary costs from the supply chain.

The ECR movement beginning in the mid-nineties was characterized by the emergence of new principles of collaborative management along the supply chain. It was understood that companies can serve consumers better, faster and at less cost by working together with trading partners. The dramatic advances in information technology, growing competition, global business structures and consumer demand focused on better choice, service convenience, quality, freshness and safety, made it apparent that a fundamental reconsideration of the most effective way of delivering the right products to consumers at the right price was much needed. Non-standardized operational practices and the rigid separation of the traditional roles of manufacturer and retailer threatened to block the supply chain unnecessarily and failed to exploit the synergies that came from powerful new information technologies and planning tools. In other words, ECR allows companies to seek a competitive advantage by demonstrating their superior ability in working together with trading partners to add value to the consumer.

2. Through Business process Improvement to Business Process Management

Business Process Improvement (BPI) is a systematic approach to help any organization make significant changes in the way it does business. The organization may be a for-profit business, a non-profit organization, a government agency, or any other ongoing concern.

BPI works by:

-Defining the organization's strategic goals and purposes (Who are we, what do we do, and why do we do it?)

-Determining the organization's customers (or stakeholders) (Who do we serve?)

-Aligning the business processes to realize the organization's goals (How do we do it better?)

The goal of BPI is a radical change in the performance of an organization, rather than a series of incremental changes (compare TQM).

Every organization is defined by the many different business processes that describe the way it conducts its business. Some of the processes are mission critical and essential to the success of the organization and its competitive advantage. Others may not be mission critical, but still important for the stakeholders of the organization. These business processes are the nervous system of the organization. Like the human nervous system, business processes collect information about the status and needs of the internal employees and external customers of the organization and process it into meaningful actions that can satisfy these needs. The health of business processes is as vital to the success of an organization as the health of the nervous system is to the success of the human body. Speed of response and clarity of decision-making are the two most important

measures of the health of business processes as well as the human nervous system.

Business process management (BPM) uses a fascinating technology designed specifically to manage business processes. These new BPM systems are rapidly coming to the forefront of business innovation because of the dramatic potential for improving the productivity and agility of organizations. BPM addresses the problems and challenges faced by every business person in every organization. Despite this broad applicability, BPM and its underlying technology is still shrouded in mystery.

Organizations have numerous business processes that involve people as well as automated systems. A business process can be simply defined as "a sequence of tasks that are performed in series or in parallel by two or more individuals or computer applications to reach a common goal." Common examples of business processes that are readily recognizable include:

■ *Order processing* that dictates how customer orders will be received, entered, manufactured, shipped and invoiced;

■ *Claims processing* that specifies how an insurance company will receive, review and process claims;

■ *Performance renews* that define how, when and by whom employee performance will be reviewed;

■ *Customer complaints processing* that describe the mechanisms for handling complaints issued by customers;

■ *Loan processing* that defines how a bank will process loan applications and the rules and approvals that must be obtained;

■ *Purchase Order processing* that lays out the rules and paperwork that must be processed in order to control the acquisition of goods and services *(Jeston, John & Nelis, Johan, 2006)*.

2.1. Strategic alignment of the processes

Strategic alignment is defined as the tight linkage of organizational priorities and enterprise processes enabling continual and effective action to improve business performance. The five principle capability areas to be measured as part of an assessment of strategic alignment capabilities, as they relate to business process management. These capability areas reflect the average perceived importance weighing assigned by the experts.

1. A strategy-driven process improvement plan captures the organization's overall approach towards the BPM initiative. The process improvement plan is derived directly from the organization's strategy, and outlines how process improvement initiatives are going to meet strategically prioritized goals. The process improvement plan provides information related to the targets for the process improvement project, together with planned review and monitoring processes.

2. A core element of strategic alignment, in the context of BPM, is the entire bi-directional linkage between strategy and business processes.

3. An enterprise process architecture is the name given to the highest level abstraction of the actual hierarchy of value-driving and enabling business processes. Well-defined enterprise process architecture clearly depicts which major business processes exist, how the industry-company-specific value chain looks, and what major enabling processes support this value chain. Well-designed process architecture derives from a sound understanding of organizational structures from a process viewpoint. In addition, it serves as the main process landscape and provides the starting point for more detailed process analysis.

4. In order to be able to evaluate actual process performance, it is important to have a well-defined understanding of process outputs and related key performance indicators (KPIs). A hierarchy of cascading, process-oriented and cost-effectively measured KPIs provides a valuable source for translation of strategic objectives to process-specific goals, and facilitates effective process control. Relevant KPIs can be of differing nature, including financial, quantitative, qualitative or time-based, and may be dependent upon the strategic drivers for the specific enterprise process. Often equally important, but more difficult to measure, are KPIs related to characteristics of an entire process, such as flexibility or reliability.

5. Finally, we recognize that strategies are typically closely linked to individuals and influential stakeholder groups. Thus, how well BPM is aligned to the actual priorities of key customers and other stakeholders such as senior management, shareholders, and government bodies and so on should be evaluated. *(Jeston, John & Nelis, Johan, 2006)*

Business Process Management (BPM) is the intersection between management and information technology, encompassing methods, techniques and tools to design, enact, control, and analyze operational business processes involving humans, organizations, applications, documents and other sources of information.

The term operational business processes refers to repetitive business processes performed by organizations in the context of their day-to-day operations, as opposed to strategic decision-making processes which are performed by the top-level management of an organization.

BPM differs from business process reengineering, a management approach popular in the 1990s, in that it does not aim at one-off revolutionary changes to business processes, but at their continuous evolution. In addition, BPM usually combines management methods with information technology.

PM covers activities performed by organizations to manage and, if necessary, to improve their business processes. In short, Business Process Management is a management model that allows the organizations to manage their processes as any other assets and improve and manage them over the period of time.

2.2. Process Mapping

*Pro*cess mapping is a fundamental tool for understanding supply chains. A processes defined *"as is"* a logical series of related transactions that converts input to results or output. The business process is a chain of logical connected repetitive activities that utilizes the enterprise's resources to refine or transform an object (physical or mental) for the purpose *of achieving specified and measurable results or output* for internal or external customers.

All business processes have a customer, either internal or external to the company. Examples of common business processes include:
• New product development;
• New customer identification;
• Procurement;
• Inbound logistics;
• Production planning and control;
• Manufacturing and assembly;
• Sales;
• Customer order processing;
• Outbound logistics;
• Customer service and after-sales support;
• Product research and development.

Improving business processes is at the very core of supply chain management. For one thing, the performance level of most processes tends to decrease overtime, unless forces are exerted to maintain it. In addition, if an organization does not improve its business processes, its competitors, surely will. Finally, today's customers are becoming more and more demanding. The quality of currently available products and services is improving. This causes customer expectations to rise.

Thus, what a customer might have considered quite satisfactory a few years ago, today may not meet his or her requirements. It is therefore irrelevant to discuss whether we *must* improve processes; the question is rather *how much* and *how fast* the improvement should be.

How do we go about improving processes? The process improvement cycle "plan, do, check, act" developed by W. Edward Deming provides an effective approach:
• In the "plan" phase, the firm identifies and analyzes the problem and plans activities to remedy it;
• In the "do" phase, the firm carries out the activities planned In the previous phase. The purpose is primarily to experiment with the solution;
• In the evaluation, or "check" phase, the firm measures whether the corrective activities had the desired effect on the problem;
• Finally, in the "act" phase, the firm modifies the process to fit the activities that were confirmed to give results. After the firm has performed the four phases, the process is considered improved.

Deming noted that in the first phase of the process improvement activity, the firm must document the process. As a general rule, if you want to improve something, you must first determine current performance. If you do not truly understand the process and its current performance, it will be very difficult to know which improvement initiatives can be started and whether they will ever work at all. Documenting the process should therefore always be the first step in any improvement activity. A key part of understanding and documenting a process is accomplished through the development of a "process map." Development of a process map serves several purposes:
• It creates a common understanding of the content of the process: its activities, results, and who performs its different steps;
• It defines the scope of the process, as well as the boundaries of the process relevant to adjacent processes;
• It provides a baseline against which to measure improvements in the future.

3. The redesign process project

Central to BPR is an objective overview of the processes to be redesigned. Whereas information needs to be obtained from the people directly involved in those processes it is never initiated by them. Even at its lowest level, BPR has a top-down approach and most BPR efforts, therefore, take the form of a major project. There are numerous methodologies proposed, but all share common elements. Typically, the project takes the form of seven phases:

Discover

This involves first identifying a problem or unacceptable outcome, followed by determining the desired outcome. This usually requires an assessment of the business need

and will certainly include determining the processes involved, including the scope, identifying process customers and their requirements, and establishing effectiveness measurements.

Establish redesign team

Any organization, even a small company, is a complex system. There are customers, suppliers, employees, functions, processes, resources, partnerships, finances, etc. and many large organizations are incomprehensible - no one person can easily get a clear picture of all the separate components. Critical to the success of the redesign is the make-up of a redesign team.

The team should comprise as a minimum the following:

- senior manager as sponsor;
- steering committee of senior
  managers to oversee overall;
- re-engineering strategy;
- process owner;
- team leader;
- redesign team members.

It is generally recommended that the redesign team have between five and ten people; represent the scope of the process; only work on one redesign at a time; and is made up of both insiders and outsiders. Insiders are people currently working within the process concerned who help gain credibility with co-workers. Outsiders are people from outside the organization who bring objectivity and can ask the searching questions necessary for the creative aspects of the redesign. Many companies use consultants for this purpose.

Analyze and document processes

Making visible the invisible, documenting the processes through mapping and/or flowcharting is the first crucial step that helps an organization see the way work really is done and not the way one thinks or believes it is done. Seeing the process as it is provides a baseline from which to measure, analyze, test and improve.

Collecting supporting process data, including benchmarking information and IT possibilities, allows people to weigh the value each task adds to the total process, to rank and select areas for the greatest improvement, and to spot unnecessary work and points of unclear responsibility. Clarifying the root causes of problems, particularly those that cross department lines, safeguards against quick-fix remedies and assures proper corrective action, including the establishment of the right control systems.

Innovate and rebuild

In this phase the teams rethink and redesign the new process, using the same process mapping techniques, in an iterative approach involving all the stakeholders,

including senior management. A powerful method for challenging existing practices and generating breakthrough ideas is "assumption busting"- see later section.

Reorganize and retrain

This phase includes piloting the changes and validating their effectiveness. The new process structure and operation/system will probably lead to some reorganization, which may be necessary for reinforcement of the process strategy and to achieve the new levels of performance.

Training and/or retraining for the new technology and roles play a vital part in successful implementation. People need to be equipped to assess, re-engineer, and support - with the appropriate technology -the key processes that contribute to customer satisfaction and corporate objectives. Therefore, BPR efforts can involve substantial investment in training but they also require considerable top management support and commitment.

Measure performance

It is necessary to develop appropriate metrics for measuring the performance of the new processes, sub-processes, activities, and tasks. These must be meaningful in terms of the inputs and outputs of the processes, and in terms of the customers of and suppliers to the processes.

Continuous redesign and improvement

The project approach to BPR suggests a one-off approach. When project is over, the team is disbanded, and business returns to normal, albeit a radically different normal. It is generally recommended that an organization does not attempt to re-engineer more than one major process at a time, because of the disruption and stress caused. Therefore, in major re-engineering efforts of more than one process, as one team is disbanded, another is formed to redesign yet another process. Considering that Ford took five years to redesign its accounts payable process, BPR on a large scale is clearly a long-term commitment.

In a rapidly changing, ever more competitive business environment, it is becoming more likely that companies will re-engineer one process after another. Once a process has been redesigned, continuous improvement of the new process by the team of people working in the process should become the norm *(Oakland, S.John, 2004)*.

3.1. Business process maturity

Business process management is a complex management practice that many

organizations find difficult to implement and progress to higher stages of maturity.

Maturity models are used as an evaluative and comparative basis for improvement, and in order to derive an informed approach for increasing the capability of a specific area within an organization. They have been designed to assess the maturity (i.e. competency, capability, level of sophistication) of a selected domain, based on a more or less comprehensive set of criteria. Therefore, a BPM maturity model is a tool that can assist organizations in becoming more successful with BPM, resulting in the achievement of greater operational and business performance benefits. In addition, the increased success of BPM adoptions will contribute to positioning BPM as an enduring management practice. In particular, maturity models can be used for three purposes:

1. As a descriptive tool enabling an "as-is" assessment of strengths and weaknesses;
2. As a prescriptive tool enabling the development of a roadmap for improvement;
3. As a comparative tool enabling benchmarking to assess against industry standards and other organizations.

Unlike other existing models, the BPM maturity model discussed in the following sections has been developed to enable each of these three purposes.

The proposed BPM maturity model adopts the five maturity stages of CMM in an attempt to differentiate various levels of sophistication of a BPM initiative

Figure 1. The Capability Maturity Model (CMM)

Low maturity		
• Un-coordinated, isolated projects • Low BPM skills • Key personnel • Reactive • Manual • Internal focused • Low resourcing • Naive • Static	5. Optimized 4. Managed 3. Defined 2. Repeatable 1. Initial level	•Coordinated BPM activity •High BPM expertise •Organizational wide involvement •Proactive •(Meaningful) Automation •Extended organization •Efficient resourcing •Comprehensive understanding •Innovative

The Capability Maturity Model (CMM) describes an evolutionary improvement path from an ad-hoc, immature process to a mature, disciplined process. This model applies to new product development as well as software development. The five product development process CMM levels are:

Initial Level (ad-hoc, immature): At the initial level, the organization typically does not provide a stable environment for developing new products. When a organization lacks sound management practices, the benefits of good integrated product development practices are undermined by ineffective planning, reaction-driven commitment systems. Process short-cuts and their associated risks, late involvement of key disciplines, and little focus on optimizing the product for its life cycle. The development process is unpredictable and unstable because the process is constantly changed or modified as the work progresses opr varies from one project to another. Performance depends on the capabilities of individuals or teams and varies with their innate skills, knowledge, and motivations.

Repeatable Level: At the repeatable level, policies for managing a development project and procedures to implement those policies are established. Effective management processes for development projects are institutionalized, which allow organizations to repeat successful practices developed on earlier projects, although the specific processes implemented by the projects may differ. An effective process can be characterized as practiced, documented, enforced, trained, measured, and able to improve. Basic project and management controls have been installed. Realistic project commitments are based on the results observed on previous projects and on the requirements of the current project. The project managers and team leaders track New Product Development (NPD) costs, schedules, and requirements; problems in meeting commitments are identified when they arise. Product requirements and design

documentation are controlled to prevent unauthorized changes. The team works with its subcontractors, if any, to establish a strong customer-supplier relationship.

Defined Level: At the defined level, the standard process for developing new products is documented, these processes are based on integrated product development practices, and these processes are integrated into a coherent whole. Processes are used to help the managers, team leaders, and development team members perform more effectively. An organization-wide training program is implemented to ensure that the staff and managers have the knowledge and skills required to fulfill their assigned roles. Projects tailor the organization's baseline development process to develop their tailored process which accounts for the unique characteristics of the project. A well-defined process can be characterized as including readiness criteria, inputs, standards and procedures for performing the work, verification mechanisms, outputs, and completion criteria. Roles and responsibilities are clearly defined and understood. Because the software process is well defined, management has good insight into technical progress on all projects. Project cost, schedule, and requirements are under control, and product quality is tracked.

Managed Level: At the managed level, the organization establishes metrics for products and processes and measures results. Projects achieve control over their products and processes by narrowing the variation in their process performance to fall within acceptable boundaries. Meaningful variations in process performance can be distinguished from random variation. The risks involved in moving new product technology, manufacturing processes and markets are known and carefully managed. The development process is predictable because the process is measured and operates within measurable limits. This level of process capability allows an organization to predict trends in process and product quality within the quantitative bounds of these limits. When these limits are exceeded, action is taken to correct the situation. As a result, products are of predictably high quality.

Optimized Level: At the optimized level, the entire organization is focused on continuous process improvement. The organization has the means to identify weaknesses and strengthen the process proactively, with the goal of preventing the occurrence of defects. Data on the effectiveness of the development process is used to perform cost benefit analyses of new development technologies and proposed changes to the organization's development process. Innovations that exploit the best integrated product development practices are identified and transferred throughout the organization. Product development teams analyze failures and defects to determine their causes. Development processes are evaluated to prevent known types of failures and defects from recurring, and lessons learned are disseminated to other projects. Improvement occurs because of both incremental advances in the existing process and by innovations using new technologies and methods.

3.2. Process Classification Framework and process modeling

In establishing a core process framework, many organizations have found inspiration in the Process Classification Framework developed and copyrighted by the American Productivity and Quality Center (APQC). The intent was to create a high-level generic enterprise model that encourages businesses and other organizations to see their activities from cross-industry, process viewpoint rather that from a narrow functional viewpoint.

The process classification Framework supplies a generic view of business process often found in multiple industries and sectors – manufacturing and service companies, health care, government, education and others. As we saw earlier, many organizations now seek to understand their inner workings from a horizontal, process viewpoint, rather than from a vertical, functional viewpoint.

The process Classification Framework seeks to represent major processes and sub-processes, not functional, through its structure and vocabulary. The framework does not list al processes within any specific organization. Likewise, not every process listed in the framework is present in every organization (Oakland on Quality Management)

Figure 2. Process classification
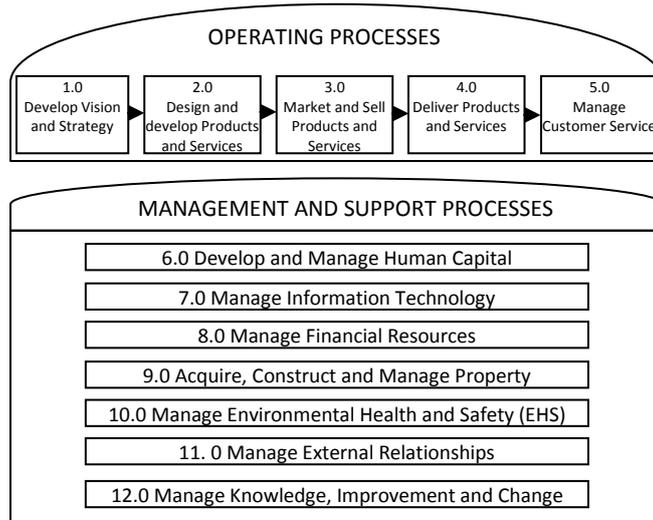
For the process "Deliver products and services I propose an analyses of its maturity on sub-processes and activities using the Benchmarking instrument (Figure 2). To make an analyses and an improvement for the processes by measuring the level of maturity (Scorecard) imposed as a step by the benchmarking, I recommend using the approach of project management to redesign this project. In the Figure 4 we generate, using Microsoft Project, from the Gantt Chart (Figure 3), the WBS (Work Breakdown structure) (Figure 4).

Figure 3. Gantt Chart of Deliver process (SCOR Model)

Figure 4. Work Breakdown Structure of Return process (SCOR Model)

3.3. SCOR Model

Supply Chain Processes Management uses SCOR Model (Supply Chain Operation Reference).

SCOR model has four level of particularization, the first three of them – *processes, sub-processes and activities* – being described in the model. *Operational processes*, or level 4, are tasks detailed of working flux level and are always particularized to strategy and specific requirements of the organizations. In this way, they are not included in the published version of the model.

SCOR combines elements of business process engineering, benchmarking, and leading practices into a single framework.

Under SCOR, supply chain management is defined as these integrated processes: PLAN, SOURCE, MAKE, DELIVER, and RETURN from the suppliers' supplier to the customers' customer, and all aligned with a company's operational strategy, material, work, and information flows.

Here's what's included in each of these process elements:

PLAN. Assess supply resources; aggregate and prioritize demand requirements; plan inventory for distribution, production, and material requirements; and plan rough-cut capacity for all products and all channels.

SOURCE. Obtain, receive, inspect, hold, issue, and authorize payment for raw materials and purchased finished goods.

MAKE. Request and receive material; manufacture and test product; package, hold, and/or release product.

DELIVER. Execute order management processes; generate quotations; configure product; create and maintain customer database; maintain product/price database; manage accounts receivable, credits, collections, and invoicing; execute warehouse processes including pick, pack, and configure; create customer-specific packaging/labeling; consolidate orders; ship products; manage transportation processes and import/ export; and verify performance.

Figure 6. SCOR framework.
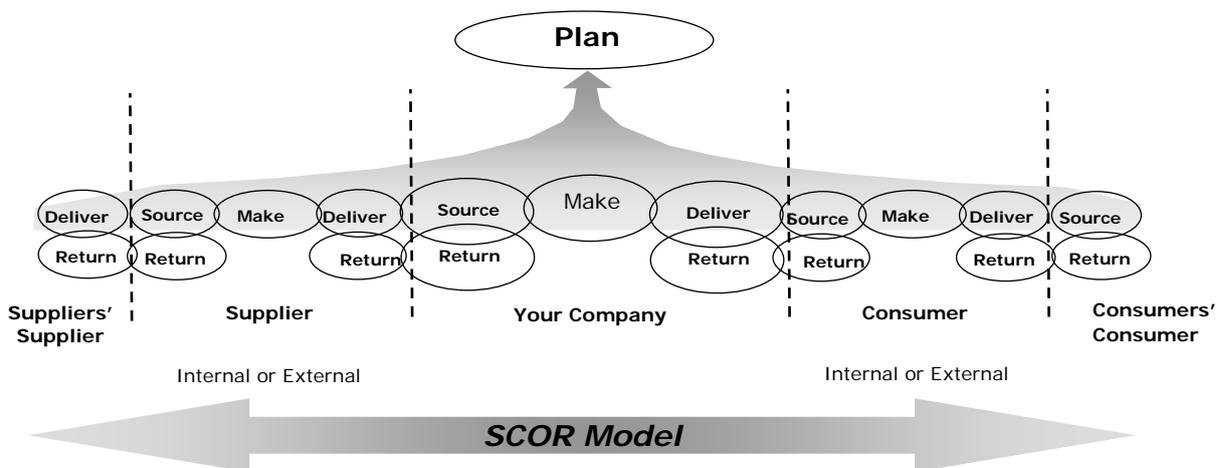
Source: Supply Chain Council, 2003

© Profesor Virgil POPA Ph. D

RETURN. Defective, warranty, and excess return processing, including authorization, scheduling, inspection, transfer, warranty administration, receiving and verifying defective products, disposition, and replacement.

3.3. Return Process of SCOR Model

The *return* process ensures that previously sold products are supported, collected, and dispositional according to business policies and customer agreements and covers all activities from return authorization to financial settlement. The primary drivers behind *return* differ by industry but typically include the return of defective, wrong, or unsatisfactory products; maintenance, repair, and overhaul (MRO) based on service agreements; excess channel inventory returns; and recycling/refurbishment/reuse.

Different activities may be associated with each of these *return* "types."

Return is a *reverse* supply chain process and has specific requirements and characteristics that differ from the *forward* supply chain. For example, *return* involves capturing item-level data from the point of return, tracking a product until disposition, and managing warranties for the complete product life cycle. It also requires capturing a range of analytics, including the causes of returns, originating locations, costs, and credits.

In addition, the *return* physical network entails specific challenges.

For example, returns typically feature small volumes of many different items with irregular frequency. Companies must find a way to collect, sort, and distribute this array of items as efficiently and economically as possible.

Often, central collection points provide a way to aggregate volume in a cost effective manner.

For *return* process excellence, follow these four key principles:

• *Create a distinct supply chain for return,* such as deciding whether a product can be returned, how it will be disposed of, and how to manage supplier or customer credits and other financial transactions. *Return* requires a separate supply chain, with its own end-to-end processes, information systems, performance scorecard, and organizational responsibilities.

• *Feed back return information quickly.* Provide timely information on returns to guide both disposal and preventive actions. For example, procurement will deal with suppliers appropriately, based on *return* information. Production, engineering, and logistics will learn from *return* information and use it to take corrective action in their respective areas. *Return* managers will use data on costs, credits, and revenues to manage reverse supply chain operations.

• *Base returns policies on total cost of returns.* Set up an explicit return policy for each item sold, whether manufactured internally or purchased for resale. Consider using an external returns specialist depending on the nature of the return, the total costs of the return—including assessment, collection, sorting, and disposal— and your company's existing *return* capability.

• *Maximize revenue opportunities.* Define your company's *return* processes and policies with an eye toward revenue enhancement.

Identify multiple revenue-generating disposal paths, including resale, supplier return for credit, recycling, auction, and so forth.

For purchased items, disposal policies should integrate business rules that are present with suppliers.

To be effective, your company's *return* process must be integrated with other supply chain processes. For example, by integrating with *the, plan*

process, *return* makes sure that the resources it needs are available. By integrating with the *source* and *make* processes, *return* can provide information on defects and faults to ensure the quality of purchases and manufacturing.

Return also provides information to *deliver* on products to be picked up from customers and brought into the reverse supply chain. For MRO items, *return* provides information to *source, make,* and *deliver* for execution of the activities needed to process returns according to customer agreements.

An effective *return* process also requires integration with other core business processes. For instance, integrating *return* with the technology, product, and service development process ensures that information on product defects and poorly understood product features is used to improve existing products and develop better new products. Integration with the marketing and sales process ensures that returns policies are consistent with customer terms and conditions.

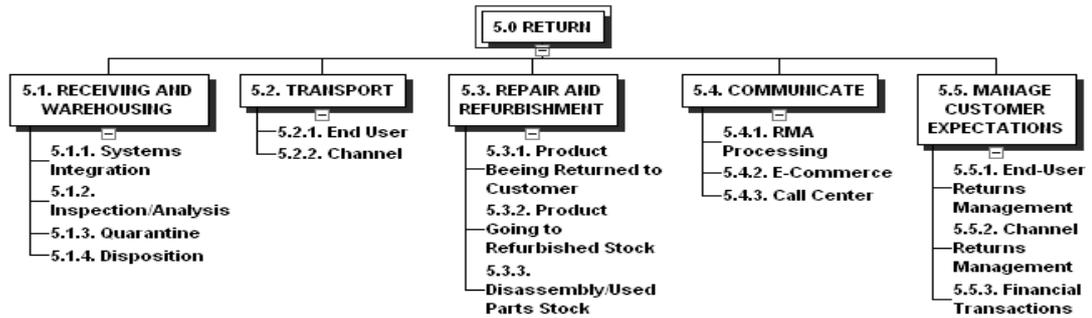*Figure 7. Work Breakdown Structure of Return process (SCOR Model)*

Figure 8. Gantt Chart of Return Process (SCOR Model)

	❶	Task Name	Duration	Start	Finish	Predecessors	May 31, '10
							S M T W T F S S
1		⊟ **5.0 RETURN**	**1 day?**	**Thu 6/3/10**	**Thu 6/3/10**		
2		⊟ **5.1. RECEIVING AND WAREHOUSING**	**1 day?**	**Thu 6/3/10**	**Thu 6/3/10**		
3		5.1.1. Systems Integration	1 day?	Thu 6/3/10	Thu 6/3/10		
4		5.1.2. Inspection/Analysis	1 day?	Thu 6/3/10	Thu 6/3/10		
5		5.1.3. Quarantine	1 day?	Thu 6/3/10	Thu 6/3/10		
6		5.1.4. Disposition	1 day?	Thu 6/3/10	Thu 6/3/10		
7		⊟ **5.2. TRANSPORT**	**1 day?**	**Thu 6/3/10**	**Thu 6/3/10**		
8		5.2.1. End User	1 day?	Thu 6/3/10	Thu 6/3/10		
9		5.2.2. Channel	1 day?	Thu 6/3/10	Thu 6/3/10		
10		⊟ **5.3. REPAIR AND REFURBISHMENT**	**1 day?**	**Thu 6/3/10**	**Thu 6/3/10**		
11		5.3.1. Product Beeing Returned to Custo	1 day?	Thu 6/3/10	Thu 6/3/10		
12		5.3.2. Product Going to Refurbished Stoc	1 day?	Thu 6/3/10	Thu 6/3/10		
13		5.3.3. Disassembly/Used Parts Stock	1 day?	Thu 6/3/10	Thu 6/3/10		
14		⊟ **5.4. COMMUNICATE**	**1 day?**	**Thu 6/3/10**	**Thu 6/3/10**		
15		5.4.1. RMA Processing	1 day?	Thu 6/3/10	Thu 6/3/10		
16		5.4.2. E-Commerce	1 day?	Thu 6/3/10	Thu 6/3/10		
17		5.4.3. Call Center	1 day?	Thu 6/3/10	Thu 6/3/10		
18		⊟ **5.5. MANAGE CUSTOMER EXPECTATIONS**	**1 day?**	**Thu 6/3/10**	**Thu 6/3/10**		
19		5.5.1. End-User Returns Management	1 day?	Thu 6/3/10	Thu 6/3/10		
20		5.5.2. Channel Returns Management	1 day?	Thu 6/3/10	Thu 6/3/10		
21		5.5.3. Financial Transactions	1 day?	Thu 6/3/10	Thu 6/3/10		

Figure 9. Benchmarking of Return process (SCOR Model)

Sub-processes	Level of importance for the sub-process in the process	Activities	Analytical Hierarchical Process	Level of maturity					Manufacturer	LIDER
				0%	25%	50%	75%	100%		
5.1. Receiving and Warehousing		5.1.1. System Integration 5.1.2. Inspection/Analysis 5.1.3. Quarantine 5.1.4. Disposition								
5.2. Transport		5.2.1. End User 5.2.2. Channel								
5.3. Repair and Refurbishment		5.3.1. Product Being Returned to Customer 5.3.2. Product Going to Refurbishment Stock 5.3.3. Disassembly/Used Parts Stock								
5.4. Communicate		5.4.1. RMA Processing 5.4.2. E-Commerce 5.4.3. Call Center								
5.5. Manage Customer Expectations		5.5.1. End-User Returns Management 5.5.2. Channel Returns Management 5.5.3. Financial Transactions								

Conclusions

Excellence in supply chain management can be achieved by:

1. Understanding and practicing collaborative management philosophy by all organizations and especially the component of the pairs (supplier-producer, producer/distributor, distributor-retailer)
2. Leadership oriented to teamwork as organizations
3. Generating a commune strategic plan
4. A perfect determination of the processes in each organization
5. A level of maturity of the return process by comparing (benchmarking) with the best companies that have the best practices and excellent results.
6. An alignment of the collaborative processes of these organizations through Business Process.

Redesign for a performance of the whole logistic chain compared with other chains (Supply Chain).

To succeed and to have a chain of excellence, each organization, and both of them in commune, can and must use instruments like: CMM (Capability Maturity Model), Process Classification Framework for Process Modeling, SCOR Model and others. Using project management thinking, through WBS (Work Breakdown Structure) we can use Microsoft Project to refine the architecture processes - sub-processes - activities - sub-activities

Using project management help us with specific tools (WBS, Gantt) to ordering activities and we believe the benchmarking tool may be useful in measuring the maturity level of activities and sub-processes (0 - processes / activities inexistent in the organization until 4 - processes / activities of excellence).

The project provides the organization with an alternative way of achieving results where the work to be done is likely to cross functional boundaries. The project is a powerful mechanism for achieving success, is something special by its nature and by the fact that is perceived as being outside normal operations. It may be defined as a collection of linked activities carried out in an organized manner with a clearly defined start point and finish point, to achieve specific results that satisfy the needs of an organization as derived from the organization's current business plans.

Successful project management uses planning techniques to define the project objectives in sufficient detail to support effective management of the project. The work breakdown structure (WBS) provides the foundation for defining the work to its complexion.

Also, very interesting pragmatic conclusions can be obtained using Benchmarking for processes.

Our proposal of instruments is centered on the SCM process in the case of raw materials flow - product and reversive SCM – for RETURN process.

References

Cook, Sarah & Macaulay, Steve *Change Management Excellence*, Kogan Page, London, 2002.

ECR Europe – *Collaborative POS Data Management*, Deloitte, 2003.

ECR Europe - *Jointly Agreed Growth. New ways of working Together in Europe*, Report, 2008.

Global Commerce Initiative – *2016 The Future Value Chain*, 2006.

Global Commerce Initiative – *2016 Future Supply Chain Report*, 2007

Global Commerce Initiative –*How to succeed in a volatile market: The 2018 Future Value Chain*, 2008.

Global Commerce Initiative – *New Ways Of Working Together. Why is it important to prepare our people for the New World*, 2009.

Global Commerce Initiative – *Information Sharing Report*, 2009.

Handfield, Robert B.; Nichols, Ernest L. - *Supply Chain Redesign: Transforming Supply Chains into Integrated Value Systems*, Financial Times Prentice Hall, 2002

Harrington, James H., & Co – *Business Process Improvement Workbook*, McGraw-Hill, New York, 1997

Jeston, John & Nelis, Johan – *Business Process Management,* Butterworth-Heinemann, Oxford, 2006

Kaplan, S. Robert, Norton, P. David – *Alignment*, Harvard Business School, Publishing Corporation, USA, 2006.

Kerzner, Harold – *Strategic Planning for Project Management using a Project Management Maturity Model*, John Wiley & Sons, New York, 2001

Levy, Michael & Weitz, Barton, A., - *Retail Management*, VIIth edition, McGraw-Hill-Irvin, New York, 2009.

Markides, Constantinos, *GameChanging Strategies,* Jossey-Bass,New York, 2008. Oakland, S. John – *Total Organizational Excelence,* Butterworth-Heinemann, Oxford, 2001

Oakland, S. John – *Oakland on Quality Management,* Butterworth- Heinemann, Oxford, 2004

Pietersen, Willie – *Reinventing strategy,* John Wiley & Sons, Inc. New

York, 2002

Robert, Michael – *The New Strategic Thinking,* McGraw-Hill, New York, 2006.

Segil, L., Goldsmith, M., Belasco, J., *Partenering,* AMACOM, USA, 2003.

Stanford, Naomi – *Organization Design: The Collaborative Approach,* Oxford, Elsevier Butterworth-Heinemann, 2005.

Supply Chain Council – *Supply Chain Operations Reference Model,* Ed. Supply Chain Council, 2003.

Thomson, Jennifer, Ivano, Ortis & Giorgio, Micheletti – *Collaborative excellence, in the consumer products value chain,* EXECUTIVE OUTLOOK, Elsevier Food International, Volume 3,October 2006.

Templeton College - *The contribution of Food Retailing to Society and the Economy,* Templeton College, University of Oxford, 2004.

Urban, Sabine et Vendenini, Serge – *Alliances strategiques cooperative europeennes,* De Brek Universite, Bruxelles, 1994.

Wahyuni, Sari – *Strategic Alliance Development,* Labyrint Publication, Capelle, The Netherlands, 2003.