Arabian Journal of Business and Management Review

Merili, Arab J Bus Manage Rev 2015, 5:2
DOI: 10.4172/2223-5833.1000113

Opinion Open Access

Continuous Innovation and Improvement of the Supply Chain an Organisational and Methodological Approach

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Received date: March 20, 2014, **Accepted date:** December 08, 2014, **Published date:** March 18, 2015

Introduction

How can we continuously align the supply chain with the best practice all over the world or even better? The larger and more complex the organisation, the bigger the need for a proper planning process and the right methodology. This bespoke organisational-methodological 'recipe' has to reflect this organisational complexity and the prevailing circumstances.

This article presents a model that has been prepared for a large multinational company in the Consumer Packaged Goods sector. It is a comprehensive and relatively sophisticated solution, from which methodological and organisational 'ingredients' can be gleaned in order to develop an individual approach.

This model is called "2 W+1 H" (Figure 1) and it facilitates the continuous interaction of three synergic dimensions by determining the required performance and target functions, planning how to achieve them and controlling or supervising the ensuing development of the specific supply chain. This is a 'rolling' process in which the 'desired states' and the plans for achieving them are continuously updated, based on what has been attained and any existing gaps. It allows for asymmetric plans if organisations have more diverse supply chains (for example one for each product line/market/client, region or different production network). This all whilst attaining business objectives and managing any on-going problems.

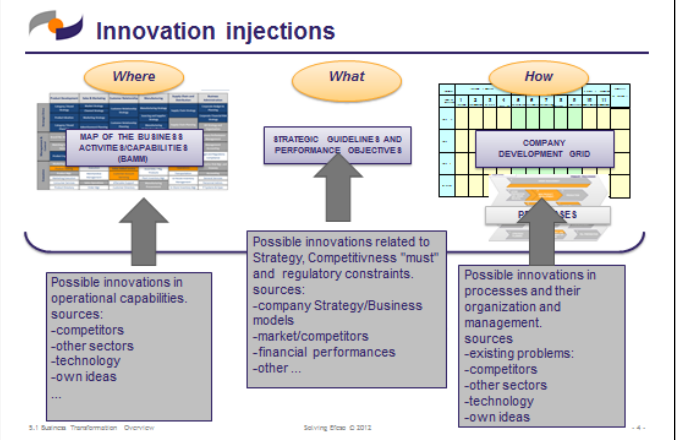

Figure 1: The 2 W+1 H model.

The 2 Ws represent 'what' needs to be achieved in terms of business performance and 'where' the priorities lie (which capabilities need to be strengthened or innovated).

The H represents 'how' this performance can be achieved, by identifying the necessary innovative/better business processes and the plans for implementing them (development steps and policies).

The three streams/dimensions (2W and 1H) can to a certain extent be developed individually as soon as the strategic guidelines (mission and vision) have been shared, but should ultimately be integrated into the operational transformation or improvement processes.

The innovation injections can and should be aimed at all three dimensions and should complement one another.

Obviously they are all different, as summarised in Figure 1.

The three reference dimensions/streams are:

- the Strategic/Business Plan
- the current Business Model of the company and its supply chain
- the supply chain Development Grid.

Examples of possible innovations for and/or arising from the Strategic Plan:

- new business models based on new strategies (i.e. for a more service-oriented business model or for a total revision of the supply chain towards a direct customer/market pull model)
- a different performance level necessitated by new competitors with a clearly superior performance (performance breakthrough)
- the need to comply to new sector regulations (compliance/regulatory norms)
- a requirement from a key customer or from the sector itself (e.g. the traceability requirement in RFID)
- the need for a drastic reduction of the company's working capital.

Possible innovations for and/or arising from the Business Model are primarily aimed at the competencies/capabilities of individual supply chain activities (e.g. inventory control or traceability) and could include the following:

- the performance benchmark and/or the organisational and technological competitor configuration
- requests /stimuli from customers.
- stimuli from other sectors where increased competition has accelerated these developments
- new technological developments (operational and IT, web-based applications in particular)
- own innovative ideas.

Potential innovations for the supply chain Development Grid mainly impact the performance level of the entire process, its constituting elements or its operational configuration. All of this follows a logical development pattern ("from.. to.."). For example:

- change from a push to a pull supply chain
- change from a physical Kanban system to an electronic or (ultimately) web-based Kanban system
- the progressive upstream shift of the 'decoupling point'
- the development of a productive-logistic network
- the change in the relationship with suppliers and all related processes etc....

The reasons why these stimuli /ideas /developments are needed can be extremely varied (equally for the other two dimensions). Often they find their origin in the supply chain competence business communities.

As mentioned, this supply chain innovation process can simply end with the implementation of all necessary changes in the individual dimensions /streams, or can continue with a repeated, interactive, systematic, rolling process, which is integrated in the business planning and management processes of the organisation (Figure 2).

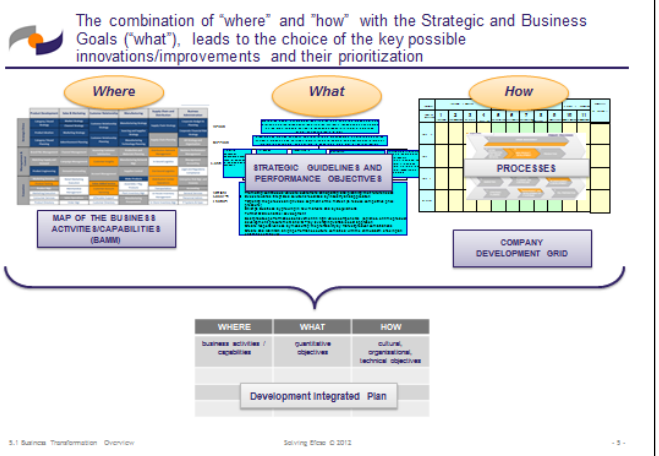

Figure 2: Supply chain development integrated in the strategic and operational planning process of the organisation.

The Strategic/Business Plan ('One Page Strategy')

Leaving the merits of the strategic planning process of the organisation aside, the supply chain can only develop adequately on the basis of a clear definition of the mission and/or vision of the company, its strategic objectives and the key success factors/differentiators. This information is required for the realisation of an efficient and effective supply chain. Often the 'One Page Strategy' that many companies use, is perfectly adequate. This One Page Strategy contains the company's vision/mission statements, its strategic objectives and most importantly, its Critical Success Factors (CSF) and/or differentiators. If one of the differentiating factors is, say, the overall strength of the relationship with the customers, it is necessary to identify the capabilities that will reflect this factor in the supply chain. The flexibility and response time of a company are typical performance factors that are to a great extent dependent on the supply chain.

These performance factors need to be considered within the context of the company's business environment and should be deployed properly. Flexibility could be generated in several business capabilities, like production, its scalability, bring to market process, order processing, demand planning and business planning. Obviously this is fully dependent on the type of business and its characteristics.

In order to identify the areas that require flexibility within the business model, it is therefore a good idea to start with the definition of the factors that impact the flexibility and the response time within the ecosystem in which the company operates. This is how the key factors are identified that impact the flexibility and response time of an organisation.

Irrespective of the business strategy, the aim is to end up with 4 to 6 Critical Success Factors. Once these have been identified, it is possible to design and implement the supply chain development/transformation plan.

With these factors it is in fact possible to measure the strategic and competitive importance of the various activities and their performance levels. Examples of Critical Success Factors are 'the capacity to bring new products/services to market quickly' or 'the capacity to grasp new business opportunities' or usually 'the capacity to deliver faster than the competitors'... Some of these factors refer to competitive capabilities (time to market or innovation), others to business performance (operative costs, efficiency, flexibility, response time, sales volume, etc.), others to financial considerations (working capital, etc.) and again others to matters of Corporate Social Responsibility (carbon emissions, social considerations, etc.). One thing is certain: in one way or another the supply chain is involved in most of these.

Going back to the one page strategy

It offers an excellent overview of the strategic context and the business needs, which can be used for the development of a coherent and business enabling supply chain.

The Company Business Model and It Supply Chain (BAMM = Business Activities Map & Model)

This is a map of the business activities and competencies that the company and especially the supply chain require, in order to support the realisation of corporate business.

The map consists of two dimensions:

- the management level;
- the area of activity.

The management level identifies the type of activity that is carried out and the responsibility level of this activity. It can then be defined as a directional/strategic activity, a management/control activity or an operational/executive activity. The area of activity defines the nature of these activities and creates groups of similar activities based on skills and resources. The areas of activity are obviously typical for the industry sector in which the business operates. For a company that produces consumer products, these are for example: the areas of manufacturing, operations, market/customer, supply chain, business administration and support (which includes finance and control, IT management, HR, etc.). The closer to the actual business reality level,

the more detailed the map. The directional or strategic activities develop the guidelines and strategies for the various areas of activity. A few examples: market and channel strategy, operational industrial strategy, governance, etc. The management and control activities (obviously) include planning, management and control. In general these activities are characterised by a single business area. A few examples: planning and monitoring commercial activities (campaigns, promotions, etc.), planning and controlling procurement, production, asset management and the distribution network.

Operational activities can be found in production, procurement, inbound and outbound logistics, delivery management, etc.

A typical example of a business activity map for the supply chain is shown in Figure 3.

This kind of representation is not only a valid reference for the analysis of the actual capabilities/skills, but proves to be especially useful when a new business model needs to be developed because of new business configurations. In this case the business model map reflects the 'to be' rather than the 'as is', thereby identifying the differences between the actual and desired activities/performances and therefore the transformations that need to take place.

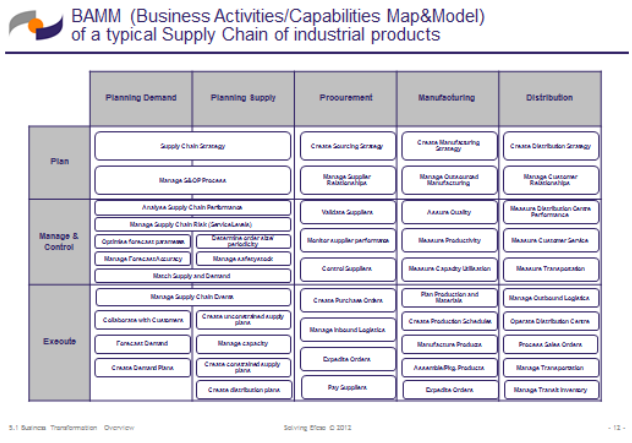

Figure 3: Map of typical supply chain activities.

The Development Grid

The development grid represents all the organisational changes that the company would need to implement in order to realise its vision, or rather its 'desired state'. This is the definition of the desired operational way to run the whole supply chain or its subprocesses or activities. It's the 'how and in which direction' the company wants to develop (the direction of change), i.e. the operational configurations that it wants to pursue and achieve in order to improve its competitiveness. The most qualifying and representative element is the desired change in the medium to long term, usually over a period of about 5 years. It comprises the policies, the fundamental principles and the guidelines that have been determined by the CEO or top management, on which all development activities need to be based and which need to inspire the company managers in their daily activities (including handling urgent situations).

Japanese companies call these guidelines 'policies'. They are the 'ingredients' of their Total Quality Management system: Management by Policy (MBP). Aim of MBP is the deployment of objectives, and configuration of the balanced score cards based on the matching 'what and how'. This allows for short term results ('what') accompanied by ways to achieve them, which guarantee coherence and increased competitiveness in the medium to long term ('how').

The Development Grid is a way to visualise the development of these reference policies. An example of a Development Grid is shown in Figure 4.

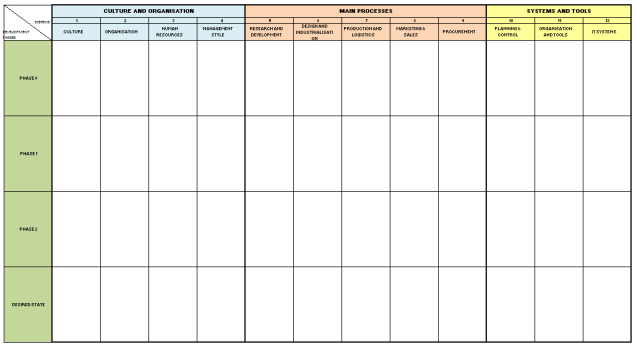

Figure 4: The Development Grid.

For each of the processes and discussed areas, the first thing to do is detail the desired state for each area (vertical columns) on the bottom line. The actual state is then described on the first line, comparing it to the desired state (just the important points). If this is about the area of suppliers /procurement, the desired state could for example be to have 'partner suppliers', compared to the actual relationship, whereby purchases are only 'based on the best price'. The two intermediate phases show the transitions necessary for such a change. These policies describe the 'how' of numeric objectives that will lead to coherent actions aimed at the desired strategic development. Let's look at a Procurement Director whose goal it is to reduce purchasing costs by 10% during the next year. Usually there are two possible actions (policies) he can take:

- increase the number of possible suppliers, increasing competition, and let the best price win
- reduce the number of suppliers and increase the volume for each, guaranteeing future deliveries and thus obtaining quantity discounts.

It is impossible to say which is the best policy to follow, but probably, in the case of strategically important suppliers, option b) is the one to choose. However, it is certain that in the short term this Procurement Director has a better chance of realising his objective (and therefore his bonus payment) by choosing option a). It is equally certain, however, that the company cannot put its future at risk by making the wrong short term decision. It is exactly in order to avoid this that the Procurement Director should align his actions with the development policies dictated by the company strategy, as noted in documents like the development grid. Based on this logic, the reference policies for the goal of 'reducing purchasing costs' would probably be 'measuring the total costs' (and therefore not just the best price) and 'reducing the number of suppliers' (and therefore increasing the volumes for each supplier).

By following this course of action the company is guaranteeing that the price reduction will not lead to a loss of quality or a higher

inventory (thanks to the policy 'total purchasing costs', which will prevent this from happening). Simultaneously it imposes the reduction of the number of first level suppliers, and a partnership relationship ('reduction of the number of suppliers' and 'activate Comakership relationships'), ensuring the types of relationships that correspond to the vision and the company strategy.

In practical terms, creating and sharing the content of a Development Grid could for example mean sharing the meaning of 'better' procurement: does better purchasing mean having more alternative suppliers, or less, but 'integrated' suppliers?

It is clear that these policies have to be shared by management in order to guarantee coherence and business synergy. The vision allows for such choices, which should be further explained in terms of vision sub-configurations (desired states), considering the most important aspects of the company (its culture, the way the most important processes are executed, its organisation, etc.). Such explanation and translation of the vision into reference guidelines is called vision deployment. The development grid is one of the possible representations. In practice, this vision is turned into a reference business development model.

It represents a logical development model of the company over time, so that it can effectively pursue its development towards the vision.

Obviously, this vision /desired state is 'rolling', in the sense that it is periodically revisited (including the path to attain it) in order to allow for refinement and revision, including the results that have already been attained or problems /opportunities that have emerged.

The 'development front' that needs to be planned and managed by the transformation and development plans of the company, can be pragmatically determined and implemented on the basis of the energies and opportunities that the business circumstances present. Therefore a continuously aligned horizontal development is not necessary, instead it is better to harness the energies that are found along the way (the best energies to exploit are business goals that need to be matched to the grid policies, with an adequate 'how') (Figure 5).

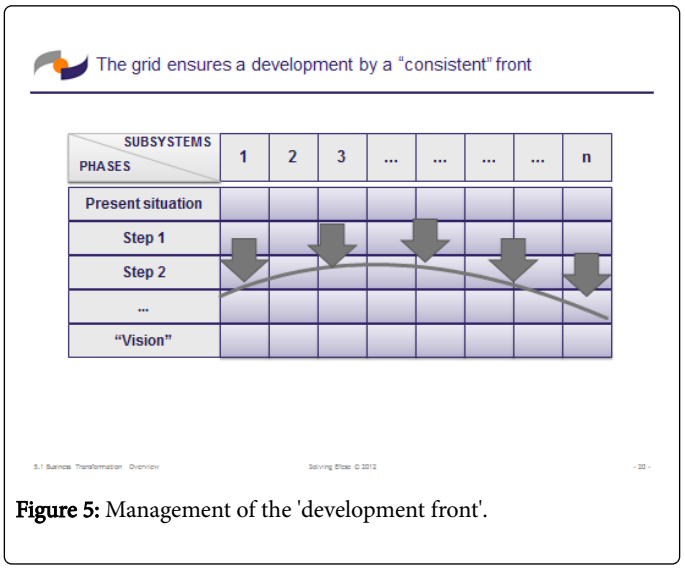

Figure 5: Management of the 'development front'.

In summary, the grid can be compared to the construction of a cathedral. Such a project doesn't just require a number of bricks (the 'what', the numerical goals), but also an organised plan for putting them together (the 'how'), so that the walls conform to the drawings. The erection of these walls according to pre-defined development phases (the time-related dimension of the grid), will make sure that the cathedral (the vision) is realised in the most effective way. This is thanks to the fact that this vision is built using its own unique reference policies in the pursuit of business and operational objectives and improved competitiveness.

Conclusions

This article presents the methodological content of the three suggested streams/dimensions for the innovative and integrated development of supply chains. But these three dimensions can also be developed or used individually. Typically a supply chain manager should oversee the development of skills and configurations for such a process. He could use the activity map and/or the maturity grid, depending on his focus. How to integrate the three illustrated dimensions in the management processes of the company will be explained in a next article 'Cross-eyed Business Planning and Management'.