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SUPPLY CHAIN INTEGRATION

Is it always a competitive advantage?

What you'll find in the White Paper

- When SC Integration should be implemented
- The 4 stages of SC evolution
- Different levels of SC Integration
- Tips and guidelines for successful implementation from three senior leaders
- Key success factors for a successful implementation

PREFACE

Daniele Meldolesi
President Advance School, ASCM Premier ELITE Partner for Apics training

Advance School is a leading training and consulting company in Supply Chain and Operations Management areas. Part of our mission is to create advanced skills in professional and business organisations.
This White Paper discusses Supply Chain Integration, a major topic treated in depth in the APICS CSCP certification programme. We will be providing answers to the following questions. What is Supply Chain Integration? Which are the environments where it is highly recommended? What are the errors to avoid? Which are the key success factors for a successful implementation?
We have collaborated for many years with the Universities of Padua and Udine, centres of excellence for research in the Supply Chain area. We asked them to draft a White Paper on Supply Chain Integration in collaboration with a Supply Chain Senior Consultant from Advance.

Following our established practice, we called on the assistance of three top managers interviewing them about Supply Chain Integration and asking them to share their experiences in the area and to provide some pointers on the strategic and operational aspects of Supply Chain Integration.
We hope that you will like the White Paper and find it useful in improving the performance of your supply chain.

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WHEN DOES SUPPLY CHAIN INTEGRATION **IMPROVE PERFORMANCE**?

Business success depends on the ability of companies to be competitive on the market, optimizing the exploitation of their human, material and financial resources to best meet customer needs and requirements. However, the increasing levels of complexity, uncertainty and globalization of current markets are making things harder for companies, which cannot operate as isolated entities anymore, but must increasingly rely on their supply chain partners.
In other words, the type of competition has changed, moving from the organizational to the supply chain level. A company acts in the competitive system as part of a specific supply chain and thus competes, together with its partners, against the other supply chains of the market.

In this context, supply chain integration (SCI) becomes a fundamental component of success and providing real value to the customer. SCI can be defined as the level of collaboration between business functions and with supply chain partners in the implementation of organizational processes, tasks and activities, with the aim of creating seamless supply chains where information, physical and financial flows are totally integrated.

In general, collaboration both inside and outside companies helps to improve the competitiveness of organizations and it is beneficial for both operational and financial performance: Firms can achieve better levels of quality, delivery and flexibility and reduce several cost categories thereby improving the overall economic situation. It is no surprise therefore that the word "collaboration" is one of the most used terms in supply chain management research and is receiving increasing attention from both managers and academics.

However, things are not that simple and many companies that decide to implement one or more integration practices do not obtain the expected performance improvements from their investments. For this reason, they should not underestimate the efforts required to develop one or more collaborative forms and, first and foremost, they must not forget that the context in which firms operate may considerably influence the effectiveness of SCI. This is basically the reason why similar levels of integration cannot always be associated with the same performance improvements.

This white paper aims to provide an overview of the SCI concept, identify the main "to-dos" before starting a collaboration project and stimulate a reflection on what contexts and environments offer the biggest opportunities for the success in SCI.

SUPPLY CHAIN INTEGRATION

The first thing that comes to mind when we talk about SCI is the collaboration of a firm with its supply chain partners. But the real meaning of the term embraces two different dimensions, one implemented inside the company and the other developed with supply chain partners. As we will see later in the white paper, it is extremely important to consider both these dimensions, since the latter may be useless and ineffective when the former has not reached an appropriate level of advancement.

- **Internal integration** refers to the collaboration between the personnel belonging to different business departments. It thus depends on the degree to which the functions of a company work together to perform their tasks and solve potential problems or conflicts arising between them.

- **External integration** refers to the collaboration of a company's personnel with the personnel of its supply chain partners. It thus denotes the degree to which a firm develops collaborative relationships, shares information and jointly plans and implements supply chain activities with its external partners. When the collaboration is limited to the upstream network, we talk about supplier integration. When collaboration is with the downstream network we talk about customer integration.

ENTERPRISE MATURITY

There are usually four stages in the evolution of SC:

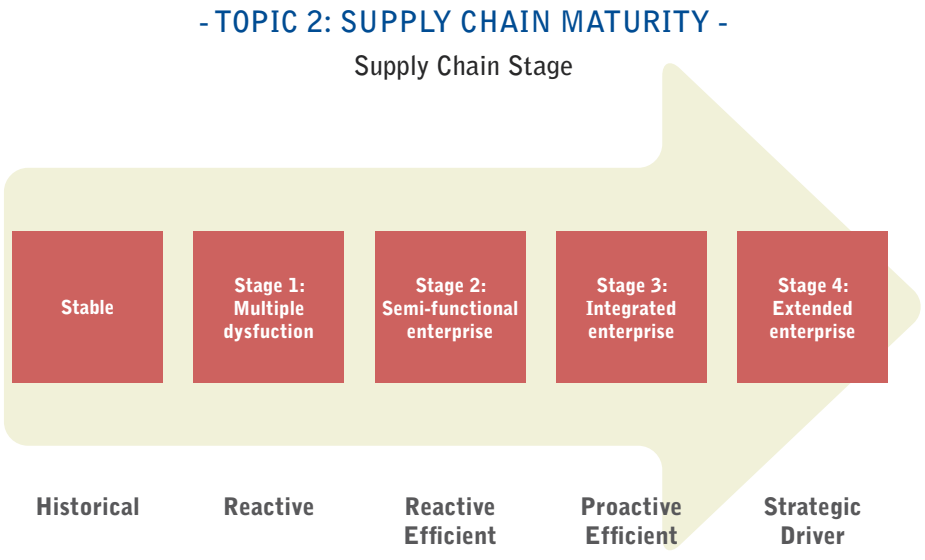
- Stage 1 - Multiple dysfunction
- Stage 2 - Semi-functional enterprise
- Stage 3 - Integrated enterprise
- Stage 4 - Extended enterprise

STAGE 1 - MULTIPLE DYSFUNCTION

This is a typical reactive supply chain but not in the virtuous sense. Reactive in this case has more the impulsive meaning. This SC fulfils demand, but without much attention to costs and without important investments on IC technology. **In this kind of SC, internal activities tend to be undertaken impulsively, rather than according to a plan and forecasting tends to be mostly guesswork.** Consequently, warehouses have very full inventories, especially when a promotion campaign has been launched, but there is no real awareness of data analysis. The MRP process is performed at a basic level and information flow is minimal at any level of the SC. Products are designed without paying attention to the advice of other departments (not to mention supplier suggestions). Companies operating at this SC stage can only survive in very predictable markets with low levels of competition.

STAGE 2 - SEMI-FUNCTIONAL ENTERPRISE

This SC stage shows improved information flows and functional areas with respect to the Multiple Dysfunction stage but there are no partnerships with the various SC actors yet. This is a reactive-efficient SC, supporting competitive positioning by serving as an efficient, low cost and integrated unit. It focuses efficiency and cost management on the total delivered cost of the finished goods. It invests aggressively to implement and improve transactional processes and production and, also thanks to this approach, inventory and warehouse management are much improved.



This is also an effect of the high level MRP and MRPII implementation. **In this stage it is still not possible to find mutual collaboration between different departments on matters such as product design and the selection of alternative materials.**

STAGE 3 - INTEGRATED ENTERPRISE

In this stage of supply chain evolution, companies begin to focus on companywide business processes rather than on individual compartmentalized functions. Characteristics of this SC stage are the introduction of manufacturing and enterprise wide software, increased cross-functional communication and collaboration and the development of a S&OP process with periodic interdepartmental reviews. **This SC can be defined as proactive-efficient also thanks to the promotion and support to all the cross departmental collaboration initiatives such as material reviews, product design reviews, production system reviews and quality reviews.**

A lot of emphasis is placed on business process implementation and improvement. Warehouse, inventory and logistic strategies are strongly integrated with sales in order to sustain company competitiveness and the resulting value chain, lowering costs as much as possible.

STAGE 4 - EXTENDED ENTERPRISE

What moves the SC from the previous stage 3 to this stage 4 is the decision to extend at least one business process beyond the boundaries of the individual corporation. When the company decides to collaborate on planning, design, procurement, logistics or another business processes with one of its suppliers or customers, the barriers to developing the extended enterprise from end to end of the supply chain have been overcome.

Consequently, the company integrates its internal network with the internal networks of selected supply chain partners to improve efficiency and effectiveness. Usually, the starting point is one partnership that points the way toward the completely networked enterprise and the involvement of other partners.

This is a strategic driver supply chain, where demand generation and fulfilment are fully integrated and the supply chain itself contributes to development of the organization's overall strategy.

Forecasting, planning and procurement are fully integrated and visible and technological improvements and knowledge are shared with supply chain partners. This could also be typical fertile terrain for e-procurement, e-commerce and generally web-based collaborative applications.

LEVELS OF SUPPLY CHAIN INTEGRATION

The Supply Chain can pass through different levels of integration that can be variously combined and mixed together. Usually it is possible to find the following three main levels.

1. Information sharing

Different types of information can be exchanged, from production, inventory and schedule information, to demand changes and demand forecasts, to sensitive data including financial or proprietary process information.

2. Technological integration

Information systems can be integrated using specific technologies (e.g. EDI) or simply Internet-based applications. They can be used to share information, but also to transfer purchase orders and invoices or to track and despatch shipments.

3. Strategic collaboration

Strategic collaboration can be implemented through the cooperation in demand and production planning, the joint management of inventories, the creation of cross-functional or cross-organizational teams and the sharing of risks and rewards.

All these forms of integration can be developed into various tasks in both daily and monthly operational activities and new product development (NPD) processes.
A good example of SCI involving all the three integration levels quoted here, but with a different mix depth, consists in the development of a collaborative planning system. We will discuss this topic in more depth in the following sections where we will talk about the relationships between supply chain integration, complexity and agility.

CRITICAL SUCCESS FACTORS
IN SUPPLY CHAIN INTEGRATION

There are many critical factors acting as enablers of integration. These factors foster collaboration inside and outside the company and so represent a fundamental basis for its implementation. Investing in these factors before starting a process of SCI thus becomes critical not only to **optimising the investments in integration practices**, but also to **avoiding potential problems and obstacles** that may hinder the achievement of the expected SCI benefits.

These factors belong to three main groups:

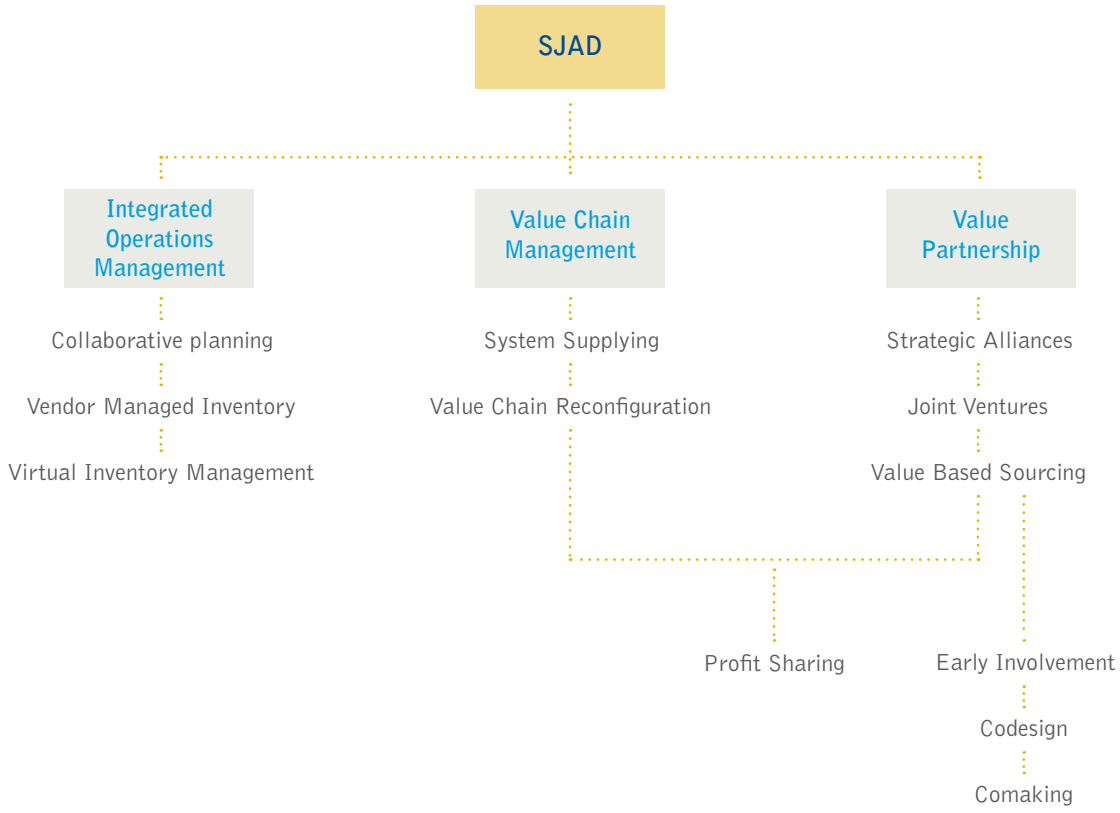
- **Information technology.** The use of technologies and advanced systems, including Internet-based applications, may support the implementation of different collaborative forms ranging from information sharing to the joint development of operational activities. However, managers must pay attention to the fact that the market offers a wide range of solutions for inventory management, for demand and production planning, as well as different ERP systems. The lack of a unique IT infrastructure and the risk of technological incompatibilities may thus become one of the strongest barriers to SCI, especially when a company aims at integrating different supply chain partners.

- **Relational and organizational aspects.** The characteristics of employees and managers but also the commitment of company executives influence both internal and external collaboration. When employees are satisfied and their interpersonal relationships are good and when top managers support the integration project and promote communication within the company, it becomes easier to successfully develop collaborative forms, both inside and outside the company. On the other hand, errors in setting up a collaboration project and/or in managing the workforce involved, (errors include lack of training on both collaborative culture and skills, with consequent resistance to change and lack of motivation of the workforce) may hinder SCI and the related benefits.

- **External relationships.** When collaboration is implemented with external partners, it becomes fundamental to properly select them, considering not only their strategic importance, but also the relationships with them and the relative network characteristics. Mutual trust, knowledge exchange, cultural alignment, balanced power and long-term relationships are fundamental factors to consider in SCI investments.

Last but not least, in order to achieve real SCI, companies need to look for supplier and customer joint advantages. **Without joint advantages, a real long-lasting collaboration cannot exist.** Typical enablers for supplier and customer joint advantages are shown in the following diagram[1] (SJAD = Supplier Joint Advantage):

- SUPPLIER & CUSTOMER JOINT ADVANTAGE DEVELOPMENT -



1. Source translated and adapted from: Albino Russo F., Ruffini S. (2019), Pianificazione dei fornitori in condizioni di incertezza, IPSOA – Wolters Kluwer, Assago (Mi).

Luc Roesems

Information technology is a double-edged sword. On one hand, it has globalized and integrated supply chains all over the world, and offered, through internet-based technologies, a wide variety of tools to communicate, share information and collaborate with partners at low cost and with easy accessibility. However, on the other hand, information technology, business intelligence and business reporting tools remain big challenges for many companies. Not only the smallest ones. From my experience, companies are internally not that information technology strong as we would like to think and many of them are still struggling with the multiple ERP systems used in their supply chains. I would say that half of the companies lack appropriate IT resources, including programmers and developers. As a result, they develop things internally, but these are not compatible or linked with the others or with the main systems. When this happens, the benefits of SCI can really be lost.

Nico Sacco

Looking at the different experiences I have had with partnerships, I would add two fundamental conditions, two critical success factors:

1. The alignment on goals, objectives and metrics

This means not only having a clear and common goal with the partner to reach a certain result, but also being aware of the performance measurement system used to monitor the path towards that goal. For instance, if you are evaluated by your customer based on the service level you provide, you must do the same in a partnership with your supplier, which must not be focused only on cost efficiency. In addition, it must be clear for the supplier that it is paid to provide a certain performance level and that, for this reason, the performance level will be measured each week or month. If this is not the case and if the parties do not understand the impact of their service on the final customer or do not measure it, the collaboration will not be beneficial for them.

2. People and leadership

If the partnership is not supported by a proper leadership and the right level of commitment, the alignment of goals and metrics will not be enough, and the collaboration will certainly fail. During my career, I have seen two partnership projects developed by the same multinational company, with the same service provider and on the same products but in two different distribution centres. One of them is a success story, while the other is a complete catastrophe. This difference can be traced back to leadership, culture and people that are not able to develop the proper mechanisms to make the partnership effective.

BENEFITS OF SUPPLY CHAIN INTEGRATION

SCI can be really beneficial for companies, in terms of both operational measures and financial results. Sharing information with partners and working together with them especially in NPD processes enables a better understanding of customer needs and thus improves overall product quality.
Delivery and efficiency can similarly benefit from SCI because collaboration in planning activities not only reduces stock-outs and improves the accuracy of delivery plans, but it also helps to deal with the bullwhip effect along the supply chain.

When technological systems are well integrated and operational data are efficiently exchanged, companies can quickly react to market changes, aligning all the processes to the new customer requirements and thus improving flexibility performance.

All these aspects have positive effects on cost, whose reduction is also due to the higher levels of trust coming from the intensified coordination inside and outside companies.

Finally, supply chain partners can also collaborate to improve environmental performance and reach challenging sustainability goals, working together to reduce emissions, limit waste generation, control energy consumption and design environment-friendly products.

Tom op het Veld

I would emphasise that, besides these operational and financial benefits, a properly implemented SCI can be a driving force for a company's growth, since it enables the company to be differentiated from its competitors and from other supply chains.
This is what happened in one of the companies where I worked in the past. A complete alignment of volumes, forecasts and production planning with both customers and key suppliers made it possible for us to become so precise in following market demand that our levels of speed, delivery and flexibility became a competitive advantage over our competitors, driving strong customer loyalty and premium value creation. And all of this especially when our customers were facing critical situations. I believe that this is one of the most important benefits that SCI can bring.

COSTS OF SUPPLY CHAIN INTEGRATION

Besides the expected benefits, implementing one or more integration practices has significant costs that are often underestimated. The Total Cost of Ownership (TCO) of a collaborative project gives an idea of the main and most direct expenses related to collaboration.

The TCO includes the costs of implementing and integrating the new IT tools, those of eventual incompatibility problems and errors, the costs of developing new processes and activities but also those of training people on the new systems and procedures. In addition, one must consider also the costs of building and managing the relationships. This requires spending time on the phone, managing e-mails and participating in meetings. These are the potential costs associated with building a strong relationship with selected partners.

Potential costs also include the switching costs required to change a partner or to increase the number of partners when the developed collaborative systems are inflexible and difficult to extend. Obviously, the more the relationships are long-term and stable, the lower the opportunity costs will be.

WHEN SHOULD SCI BE IMPLEMENTED?

What conclusion can be drawn from the previous analysis? Is SCI really a good investment for companies? Unfortunately, the answer is not simple and there is not a generally valid suggestion. Indeed, even if the potential benefits of SCI are several, their achievement cannot be taken for granted, since not only the type of product, but also the context where the company works, and the relative characteristics, significantly influence SCI success.

There are many contingent variables that may influence the effectiveness of integration. These are related mainly to the external environment in which the company operates. For instance, the characteristics of the country in which the firm or its partners is located is one of the first factors to be considered. Indeed, differences between countries exist not only in terms of technological development and quality of services, but also in terms of culture and behaviour, which can change the way in which relationships are managed and thereby influencing their benefits.

One of the most important factors with a strong influence on the success of integration, and one which merits particular attention, is complexity.

"Complex"[2] is defined formally as something that derives from the union of various parts and / or components. Consequently, "Complexity"[3] can be defined as the characteristic of a system whose global behaviour cannot be predicted by the behaviour of the variables and elements that are part of it. So, you need to create a simplified model to study it.

These definitions are very important for our discussion because they go beyond formalism, and introduce the principle of "predictability" (and unpredictability) that represents a proxy[4] variable extremely useful to study the complexity of supply chains. In the following matrix[5], we can see the relation between the supply chain and the market. This is a mandatory step to be done for any kind of reasoning regarding supply chains, because supply chains themselves are just tools useful to understanding the value chain. The value chain is always driven by customers and markets (and the resulting demand).

2. Source translated and adapted from: Zingarelli N. (2006), Lo Zingarelli 2006 - Vocabolario della lingua Italiana, Zanichelli Editore, Bologna.
3. Source translated and adapted from: Zingarelli N. (2006), Lo Zingarelli 2006 - Vocabolario della lingua Italiana, Zanichelli Editore, Bologna.
4. A proxy variable is a variable useful for estimating and predicting another different variable
5. Source translated and adapted from: Slack N., Chambers S., Johnston R., Batts A., Danese P. e Vinelli A. (2019), Gestione delle Operations e dei Processi, Ed. Pearson Education, Milan and from Albino Russo F., Ruffini S. (2019), Pianificazione dei fornitori in condizioni di incertezza, IPSOA - Wolters Kluwer, Assago (Mi).

- SUPPLY CHAIN & MARKET ALIGNMENT MATRIX -

			Demand Characteristics	
			Functional Products	Customized Products
			Predictable Few changes Low variability Steady prices Short lead times Low margins	**Unpredictable** Many changes High variability Prices to be defined Long lead times High margins
Supply Chain targets	Supply Chain Efficient	Optimized costs High assets utilization Low inventories Rigid Suppliers	EFFICIENT SUPPLY CHAIN MANAGEMENT	MISALIGNMENT
	Supply Chain Reactive	Quick reaction Short transit time Buffer stocks Flexible suppliers	MISALIGNMENT	AGILE SUPPLY CHAIN MANAGEMENT

EFFICIENT SUPPLY CHAIN MANAGEMENT MATRIX

This matrix shows the relationship between Efficient Supply Chain and Predictable Demand. This is the ideal realm for functional product businesses where it is possible to pursue efficiency thanks to optimized costs, high assets utilization and low inventories.
In this context it is possible to deal with quite rigid suppliers.

AGILE SUPPLY CHAIN MANAGEMENT MATRIX

The exact opposite of the Efficient Supply Chain Management matrix is the Agile Supply Chain Matrix which shows relationship between the Reactive Supply Chain and Unpredictable Demand. In this case prices are often not defined due to a heavily customized offer to the market. This also means that lead times need to be as short as possible, despite the lack of preparation regarding possible customer requests. On the other side, all these troubles are rewarded by margins higher than predictable markets. In this environment, reactivity and flexible suppliers are a MUST.
Following on from what we have already said regarding the possibility of using predictability/ unpredictability as proxy variable to study the supply chain complexity, the supply chain & market alignment matrix can be simplified by the auxiliary matrix[6] showed below:

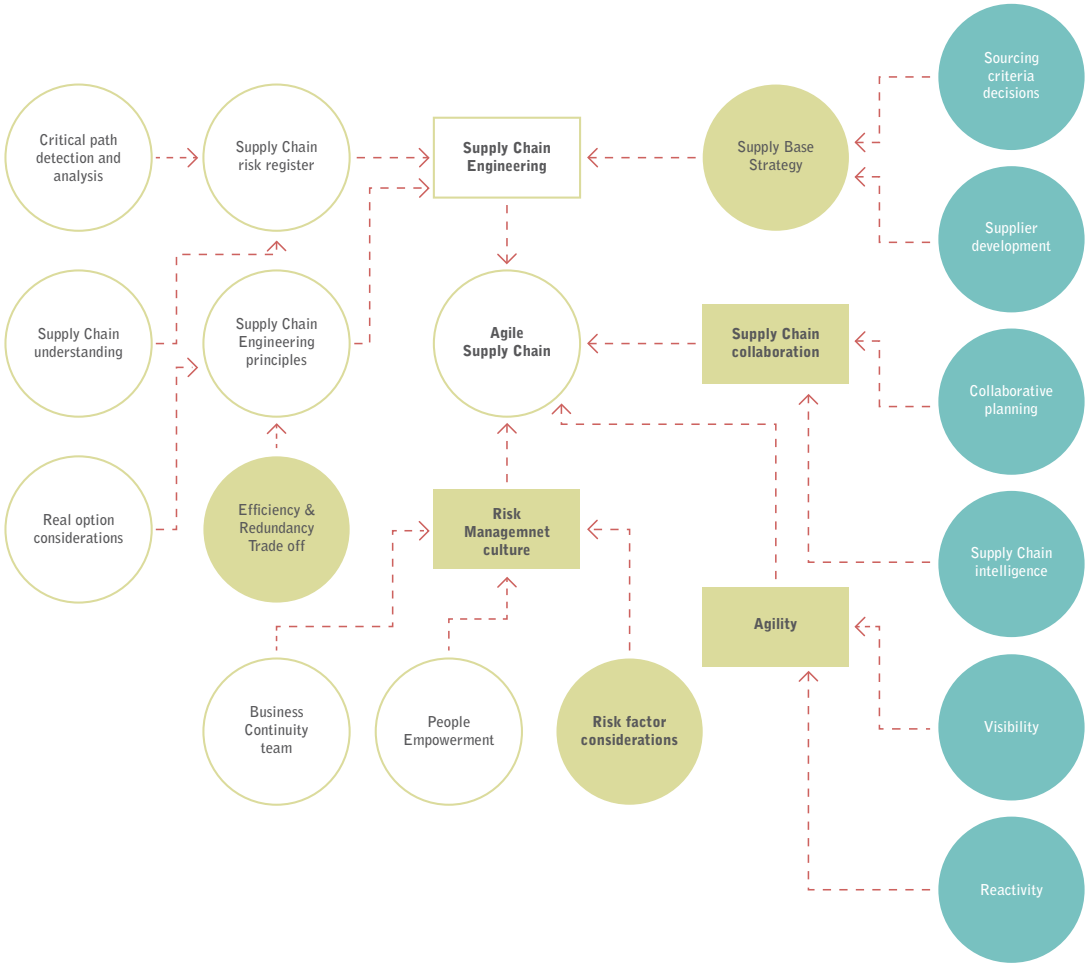
- SUPPLY CHAIN & OPERATIONAL ENVIRONMENT - UNPREDICTABILITY MATRIX

	Predictable Operative Environment	Unpredictable Operative Environment
Efficient Supply Chain	EFFICIENT SUPPLY CHAIN MANAGEMENT MANUFACTURING PLANNING & CONTROL (MPC)	MISALIGNMENT
Reactive Supply Chain	MISALIGNMENT	AGILE SUPPLY CHAIN MANAGEMENT ADAPTIVE SUPPLIER CAPACITY MANAGEMENT (ASCM)

6. Source translated and adapted from: Albino Russo F., Ruffini S. (2019), Pianificazione dei fornitori in condizioni di incertezza, IPSOA - Wolters Kluwer, Assago (Mi).

Without repeating what has just been stated above, as the reader can easily see, the Supply Chain Efficient Management matrix is the typical matrix of the Manufacturing Planning & Control (MPC), where it is possible to work and forecast with a certain degree of certainty and steadiness.

In contrast, the Supply Chain Agile Management matrix is characterized by high unpredictability, where you need to develop new and original approaches to manage operational needs (e.g.: the Adaptive Supplier Capacity Management[7]). In such an environment, it is advisable to take into consideration a Supply Chain design and review which enables a **high level of collaboration and integration** from suppliers and all the supply chain actors. You should bear in mind that, as discussed, implementing SCI integration requires major resource investment and critical success factors, that unfortunately often are underestimated. As an example we show in the diagram below[8] what is required to implement an Agile Supply Chain.



7. For more info regarding the ASCM methodology please refer to: Albino Russo F., Ruffini S. (2019), Pianificazione dei fornitori in condizioni di incertezza, IPSOA - Wolters Kluwer, Assago (Mi).
8. For more info regarding the ASCM methodology please refer to: Albino Russo F., Ruffini S. (2019), Pianificazione dei fornitori in condizioni di incertezza, IPSOA - Wolters Kluwer, Assago (Mi).

SUGGESTIONS FROM THREE SENIOR LEADERS

Tom op het Veld

It is true that if demand is stable and predictable, a partnership may not be necessary. But such a market would be very attractive for competitors and this would require companies to find a way to differentiate themselves, so SCI may be again a potential solution. In other words, supply network structure and demand characteristics are certainly important in evaluating when SCI should be implemented, but I would say that they are not the first things to consider. What companies should look for are the strategic importance of the supply chain partners and the risk they represent for the company. For instance, a commodity or standard product, which can be easily produced by many suppliers, does not represent an appropriate candidate for SCI. Instead, if the component is strategic or if it can potentially stop production without an easily available replacement, a partnership with the supplier may be the most appropriate solution, especially if the supplier is a reliable and technically advanced one. However, the company must also make sure that the potential partnership will not bring to a situation of unbalanced power, where the supplier dominates. To be effective, the relationship must be a win-win one.

Nico Sacco

In my opinion, there are two groups of common parameters that companies must evaluate when they have to identify a partner to develop a collaboration.

1. Size, location, footprint, local vs global supply chain.
These supply network characteristics are examples of the important factors to consider, but I would say that there is no unique solution. For instance, if you are a multinational company, you should prefer a medium-large firm as a potential partner. You should not make an agreement with a small local provider that can guarantee savings only in the short-term, because you should be looking for a medium or long-term partnership and you need financial soundness, innovation capability, common values and culture. But needs and priorities and therefore the influence of a supply network can be different if you are a small local firm with the aim of improving your small local business.

2. Business line.

The decision of when and how to develop a partnership depends also on the product under consideration. In some businesses, especially those linked to the consumer sector, the competitive leverage is cost, the focus is on efficiency and the development of a partnership is not a priority for the firm. However, in the same company, there can be other more strategic business lines where the sectorial expertise of the supplier becomes fundamental to screening the partners to be selected. For instance, before developing a long-term partnership with a supplier in the pharmaceutical industry, you must make sure that this partner has some experience in the sector (e.g. with the cold chain), has appropriate regulatory skills and can provide the right quality level. In these cases, a selection based only on cost-related factors would make the collaboration useless and ineffective.

Luc Roesems

Companies must not forget that the supply chain is as strong as its weakest link and, for this reason, they need to spend time developing a reactive, robust and competitive supply chain as a whole. SCI must always be implemented, at least to some extent. However, companies must also evaluate when the benefits can really surpass the costs and efforts required to develop a collaboration, since every move and decision they take has implications for the future. A guiding principle I always use to separate the trivial from the many and set the priorities in any aspect is the Pareto Law. Focus and stay first of all focused on the 80/20 of your business for any guiding and leading principles you want to tackle. Sometimes the gain is not worth the time effort. This means focusing on those key suppliers, key leading principles and priorities to set what you want to do. Do not overcomplicate things, proceed step by step and always step back to think, in the spirit of continuous improvement.

When developing a collaboration with your supply chain partners,
I would suggest the following steps:

1. *define your priorities*
2. *delimit the choices you take*
3. *make a pilot project with one partner or one product*
4. *learn from what you did with the first and*
5. *extend it to the others.*

UPSTREAM OR DOWNSTREAM INTEGRATION?

Guidelines from three senior leaders.

Another important choice that must be taken is the starting point for the external collaboration. A complete integration implemented with both upstream and downstream partners is often desirable to align the entire supply chain to the market, but, since companies typically have limited resources, they must often define priorities and make a choice among all the possible available investments. A question that arises in such situation is the following: Who should be the first partner to be involved in a partnership, a customer or a supplier?

Luc Roesems

I believe it is always good to start with what customers really need and with what is critical to customers. These insights can then redirect and reshape supply chain needs upstream.
First of all, many companies lack accurate forecasting and point of sales information to properly manage their operations, and this results in overproduction and excessive stocks. In addition, they also make, too often, their own interpretations of what is important to the customers and they do not invest enough in understanding the customer's true needs through surveys, panels, customer intimacy and business tracks. Consequently, customer service is extremely poor, designs are overly complex and new products do not meet the desired expectations.
What I want to say is that, if you implement supply chain integration without being close enough to the customer side, the risk of wasting all the resources throughout the chain is really high.

The last thing I want to emphasize is that before thinking about SCI, you need to define your supply chain strategy, you need to understand where you want to be strategically different and better than competitors and where you just want to be at par with the rest of the market.
In this sense, I believe that the SCOR model is an interesting and useful way to look at supply chains and set up the related goals. This strategic choice and direction should then be deployed throughout your supply chain.

Tom op het Veld

An important thing that I want to emphasise is that before considering a partnership with customers or suppliers, companies must make sure that their internal integration works. I have seen many companies still managing their business functions independently, having trouble with their Sales and Operations Planning process and working with several independent information systems that are not well integrated with each other. The internal alignment and the sharing of a unique independent plan developed once per month is so important that in absence of such a prerequisite, any attempt to involve the external partners in a collaboration activity may just be nonsense.
Once an appropriate internal integration has been reached, the company can start thinking of a potential partnership. Assuming that, at least in my opinion, supply chain integration must be implemented with both customers and suppliers, the choice of upstream versus downstream depends on many factors and on the problems that have to be solved with SCI. For instance, if a company is not satisfied with its suppliers and their punctuality or reliability, sharing forecast data with them may be a good starting point. However, managers must not forget that they also need accurate data from the customer side. This is the reason why I state that, in order to maximize the benefits of supply chain integration, both upstream and downstream partners should be involved to create a fully integrated supply chain.

Nico Sacco

A company must always start with the customer, trying to understand his/her needs, because in the absence of such a prerequisite it would be impossible to succeed in the market. The idea widespread in the 1950s of collaborating with suppliers to develop new products and then working with a push logic on the market does not work anymore.

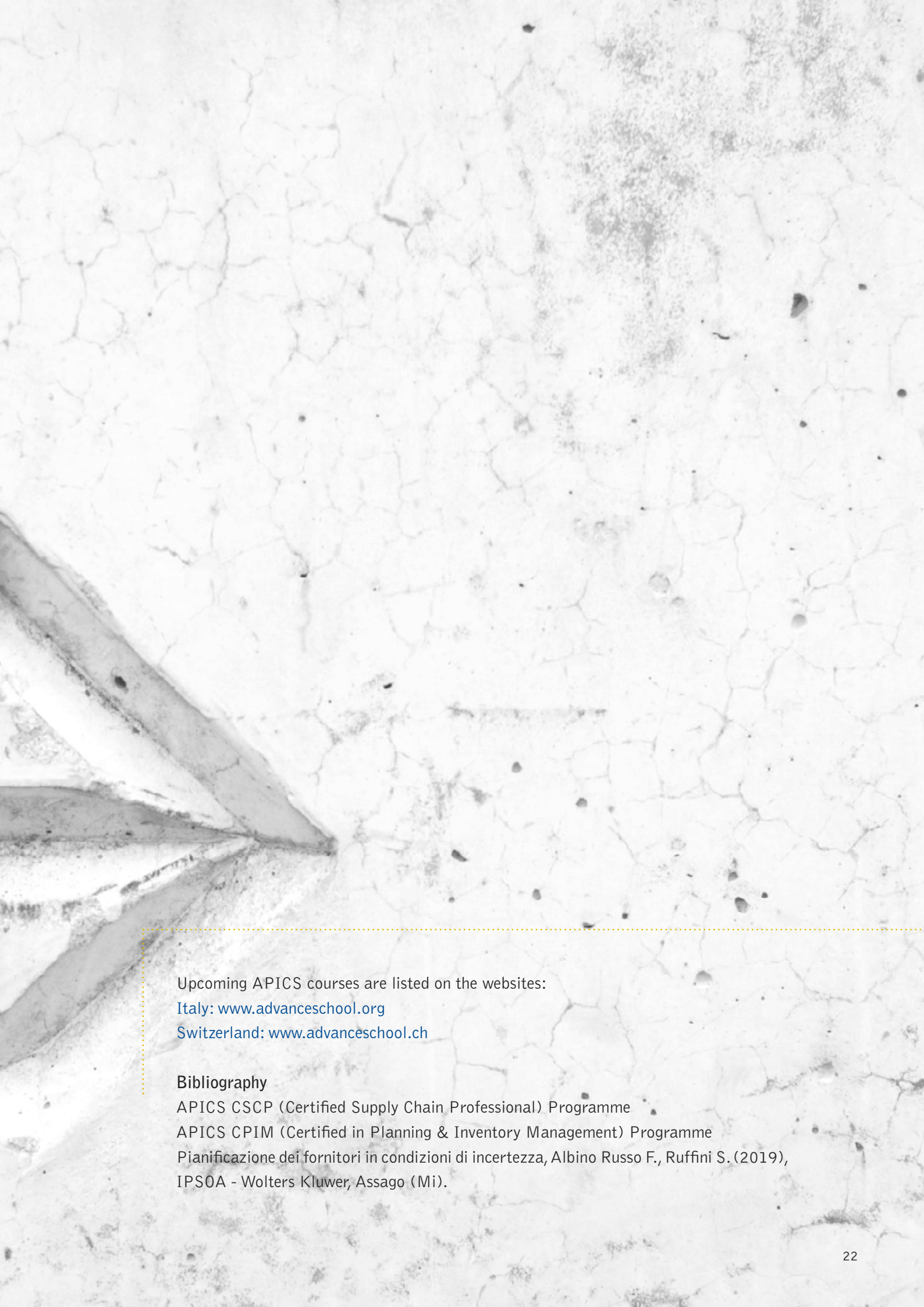
CONCLUSIONS

Implementing supply chain integration is beneficial for companies that want to improve their operational and financial performance. However, the achievement of these benefits depends on several factors and the costs and resources to invest could be very high. The company could aim for different levels of SCI. This means that the company must decide who to integrate (i.e. internal organization, suppliers, customers), what to integrate (process) and how to integrate. Therefore, before starting the investments in one or more integration practices, it is fundamental to carefully evaluate the pros and cons of each solution in order to avoid potential pitfalls and prevent losses of time and money. Geographical factors, demand and market characteristics, supplier capabilities, product attributes must all be taken into consideration to evaluate a potential investment in SCI. In order to help companies in properly managing SCI, the following guidelines can be provided:

1. Define business strategy and goals.
2. As part of the SC strategy and goals planning process, analyse the current context, the alignment between the market and the supply chain environment and identify potential gaps.
3. Assess SCI integration levels potentially beneficial for that product, in that context and under which form (i.e. internal, supplier or customer integration).
4. Assess gaps in current SC maturity, costs required and expected benefits.
5. Decide the target SCI integration level.
6. Create an Implementation Road Map.

Tom op het Veld

There is no magic formula for SCI. Every company must carefully evaluate its context and its internal organization. However, if properly implemented, SCI can really make the customer understand that a low price is not necessarily the most important factor when evaluating a supplier. When this happens, we have the real success of SCI.



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