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# Unity is strength: A study of supplier relationship management Integration

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## 1. Introduction

The intensive global market competition encourages the manufacturers to establish strategic long-term relationship with their suppliers in order to have more efficient and effective performance with the purpose of attaining higher competitive advantage (Tseng, 2014).

In this regard, supplier relationship management (SRM) process which is one of the key concepts of the supply chain management (Croxtton et al., 2001), can be integrated between the manufacturer and its first upstream tier of suppliers in order to improve the performance and reduce the costs to achieve higher competitive advantage (Vanpoucke et al., 2014; Croxtton et al., 2001; Barua et al., 2013).

For what concerns the definition of the integration, Berente et al., (2009) define it as a synchronizing action that cause coordination between two or more organizational processes with the goal of performance improvement. In addition, Forslund and Jonsson (2007) define the integration as a process in which two or more enterprises together conduct and carry out the activities and processes within the supply chain. Moreover, SRM process integration is also explained by Smith and Rupp (2013) as a jointly performance of activities that refer to material-related acquisition, flow and storage in order to reduce the cost and enhance the performance.

Given the benefits of the SRM integration that have been mentioned above, various authors (Vanpoucke, et al., 2014; Kato and Schoenberg., 2014) have recommended further studies about this integration within the supply chain actors. In this context, Park et al. (2010) provided a research study in order to develop a framework for the SRM process integration. Kato and Schoenberg (2014) studied the impact of the SRM process integration on the customers. Perols et al. (2013) made a research on SRM process integration with respect to

the time-to-market process within the industry of healthcare and information technology (IT). In addition to the studies mentioned above, there are other authors (Choy, et al., 2003; Vanpoucke, et al., 2014; Zhang and Preechawipat, 2012) who made studies which refer to the concept of SRM process integration. However, there is no evidence within the researches mentioned above or other researches that illustrate a case study that has been developed over the concept of SRM process integration between the manufacturer and its first upstream tier within the construction equipment industry of Sweden. The significance of such a research is magnifying, when the literature review indicates that there is no available case study about the SRM process integration within any industries of Sweden.

Moreover, any attempt toward the process integrations within the supply chain could face potential obstacles. In this regard, number of authors provided study about the obstacles to the supply chain integration. For instance, Forslund and Jonsson (2009) researched about the obstacle to performance management process integration within a dyad. Lam (2013) provided a study about the obstacles to the supply chain integration in liner shipping. Katunzi (2011) made a conceptual study about the potential obstacles to manufacturers in order to integrate with partners of their supply chains. Despite the effort provided by various authors to study the obstacles to the supply chain integration, there is a research gap that no one yet studied the obstacles to the SRM process integration between the manufacturer and its first upstream tier within the Swedish construction equipment industry. In fact, such study about the obstacles to the SRM process integration has never taken place within any particular industry of Sweden.

With respect to the existing research gaps about the SRM process integration and its relative obstacles, a particular industry supposed to be selected in order to provide a case study and fulfill the research gaps. In this context, Swedish construction equipment industry is chosen because this industrial sector encounters low demand level which is noticeable in its little activities in the export market (Teknikföretagen, 2014b). In order to overcome this issue, solid theoretical base and framework for SRM process integration within Swedish construction equipment industry can contribute to achieve higher competitive advantage for the firms that are active in this sector and it can lead to higher demand for their products.

Based on the statements above the research questions are designed as follows:

1. How the supplier relationship management process is integrated between the manufacturer and its first upstream tier?

2. How the potential obstacles to an integration of the supplier relationship management process between the manufacturer and its first upstream tier can be overcome?

In this study, it is aimed to contribute to the managers by providing them with required theoretical base to implement the SRM process integration with their partners. It is also intended to identify the obstacles to this integration and recommend the potential solutions in order to overcome these obstacles. In addition, it is targeted to contribute to the literature world by fulfilling the existing research gaps about the SRM process integration and its respective obstacles. The results of this study can open rooms for the future expansions over the subject of SRM process integration.

## 2. Pertinent literature review

The SRM process is developed to enable the companies to interact with their suppliers (Hong, et al., 2005). In this context, Croxton et al. (2001) divides the SRM process into 12 sub-processes. These 12 sub-processes include 5 strategic and 7 operational ones (Croxton, et al., 2001). Sub-processes can also be termed as “micro-level” processes (Lambert and Schwieterman, 2012)

Strategic sub-processes describe the definition and the structure of the entire process (Croxton, et al., 2001). These sub-processes are used to establish a strategy that can be exploited in order to implement the integration of SRM process between the supply chain partners (Ibid). SRM strategic sub-processes take place before the operational ones (Ibid). The strategic part of the SRM process aims to identify the targeted products and service components, to establish criteria for differentiating the suppliers, to enable suppliers to tailor the product and the service offering, to determine framework of the metrics, as well as to develop an appropriate mechanism with the suppliers to fairly share the process improvement advantages (Lambert and Schwieterman, 2012).

In this regard, operational sub-processes refer to the executive phase of the process (Croxton, et al., 2001). In other word, operational sub-processes actualize the process after it has been established in the strategic phase (Ibid). Operational sub-processes include the supplier differentiation, management team preparation, internal supplier review, identification of the opportunities with the suppliers, development of the product and service agreement (PSA) and communication plan, implementation of the PSA, as well as the performance measurement and relative reports (Ibid). All sub-processes are explained in the table below:

<b>Study</b>	<b>Name of the sub-process</b>	<b>Type of the sub-process</b>	<b>Activities included in the sub-process</b>
(Lambert and Schwieterman,2012; Choy, et al., 2003)	Review corporate, marketing, manufacturing and sourcing strategies	Strategic	Identifying the current and future key success factors for the firm, determining the key product and service components
(Lambert and Schwieterman,2012; Burt, et al., 2003; Croxton, et al., 2001)	Identify criteria for segmenting suppliers	Strategic	Developing criteria for Suppliers categorization, criteria such as technology, capacity, innovation, quality, purchased volume, criticality, sophistication, sustainability, and supply risk
(Lambert and Schwieterman,2012; Croxton, et al.2001)	Provide guidelines for the degree of differentiation in the product and service agreement	Strategic	Assessing the degree of PSA customization through the consideration of cost/quality implication of various differentiation alternatives
(Lambert and Schwieterman,2012; Payne and Frow, 2005; Zablah et al., 2005; Croxton et al., 2001;)	Develop framework of metrics	Strategic	Creating the set of metrics for future evaluation of suppliers impact on the firm profitability and vice versa
(Lambert and Schwieterman,2012; Croxton et al., 2001)	Develop guidelines for sharing process improvement benefits with suppliers	Strategic	Clarifying the structure for the distribution of profit shares that results from the process improvement
(Lambert and Schwieterman,2012)	Differentiate suppliers	Operational	Differentiate the suppliers into the key and standard ones based on the criteria that developed in the strategic sub-process
(Lambert and Schwieterman,2012)	Prepare the supplier/segment management teams	Operational	Creating and assigning the team to conduct the relationship with the suppliers based on the differentiation result that took place in the previous sub-process
(Lambert and Schwieterman,2012; Lambert and Pohlen, 2001)	Internally review the supplier/supplier segment	Operational	Having an internal assessment of suppliers based on their role in the supply chain and their impact to the company (purchaser)
(Lambert and Schwieterman,2012; Croxton et al., 2001)	Identify opportunities with the supplier/supplier segment	Operational	Highlighting the potential performance improvement with the suppliers in terms of sales growth, service improvement and cost reduction
(Lambert and Schwieterman,2012; Lmbert, 2008; Blau, 1964)	Develop the product and service agreement and communication plan	Operational	Developing the PSA by the assigned supplier team, negotiating and finalizing the PSA with the suppliers, defining the communication set up and continuous improvement plan
(Lambert and Schwieterman,2012)	Implement the product and service agreement	Operational	Implementing the PSA that has been agreed upon in the previous sub-process.

(Lambert and Schwieterman, 2012; Lambert and Pohlen, 2001)

Measure performance and generate supplier cost/ profitability reports

Operational

Measuring the performance of the supplier based on the metrics that developed in strategic phase and reporting the result to the managers in order to make decisions about the future relationship with that particular supplier

Table 1: SRM sub-processes

Despite the positive influences of the SRM process integration, there is a growing debate about the integration benefits that could be achieved by firms (Danese and Romano, 2011). For this reason, several authors (FabbeCostes and Jahre, 2008; Van der Vaart and Van Donk, 2008) strongly emphasize on accurate implementation of the business process integration in order to maximize the firms' benefits. In this regard, the potential obstacles to SRM integration should be addressed and overcome in order to reach the objectives of the integration.

Given these statements, Cousins and Menguc (2006) highlight the costs of the integration implementation as one of the major obstacles. They continue by saying that the unorganized integration can cause extra costs which lead to the opposite outcome of what was expected previously.

Moreover, Das et al. (2006) say that the corporate inflexibility and slowness of the responses to the external changes and uncertainties are obstacles to the integration. In this context, Schoenherr and Swink (2012) assert that the inflexibility and slow responses to the changes is associated with the very nature of the integration which makes individual integrated corporates interdependent.

Another obstacle that has been addressed is the lack of willingness of integrated partners to share their key information with one another (Pohlen and Coleman, 2005). This is also crucial since integration entails flow of certain key data between the corporates.

Furthermore, lack of common tools in various terms such as information technology (IT) and performance measurement can also prevent the effective integration between the partners (Faisal et al., 2007; Ngai, 2004).

Faisal et al. (2007) imply the security issues into the obstacles. In this regard, Santos and Smith (2008) claim that the illegal access and interference of the competitors to the integrated corporate's informational system strongly discourage the supply chain firms to integrate with one another.

In addition to the obstacles mentioned above, Zineldin and Jonsson (2000) state that the lack of commitment is considered as an obstacle to the long-run integration. In this context,

beneficial integration needs financial, moral and technical support and commitment from the higher managers (Gunasekaran and Ngai, 2004). Therefore, it is crucial for the success of the integration to be led by the managers that have committed opinion about it (Akyuz and Rehan, 2009).

More so, Ellram (1995) counts the lack of trust as one of the main barriers to the fruitful integration. In this context, Lee and Whang (2000) point out that some of firms' managers are reluctant to share relevant data with their integrated partners due to the lack of trust. This can cause fundamental problems to the process of integration since mutual trust on confidentiality and on the future of the partnership is required (Agarwal and Shankar, 2003; Sohal, et al., 2001; Neuman and Christopher, 1996). In this regard, trust is defined as "a willingness to rely on an exchange partner in whom one has confidence" (Moorman et al., 1993, p. 82).

Moreover, in order to develop a successful partnership and to reach the mutual goals between the partners, it is necessary to have business communications associated with the positive atmosphere of discussions, interdependence and shared constructive expectations (Zineldin, 1998; Larzelere, et al., 1980). In addition to the necessity of proper communication, goal congruence between supplier and buyer in the SRM process is necessary to enhance the integration (Uyarra and Fanagan, 2010).

What's more, Lee and Whang (2000) emphasize on the another integration obstacle. According to them, Implementation and the system specificities (e.g. Electronic Data Interchange) disagreements can become an issues for the integration (Lee and Whang, 2000). Ultimately, the lack of proportioned formality is considered as the last obstacle to the integration (Mohr and Sohi, 1995). In this regard, over formality can cause distortion and withholding of information (Ibid). On the other hand, lack of formal supplier selection and measurement as well as lack of formal procedure to conduct the SRM process can thwart the effective buyer-supplier relationship (Bemelmans et al., 2012).

### **3. Operationalization model**

Based on the theoretical findings, the operationalization model is developed as follows:

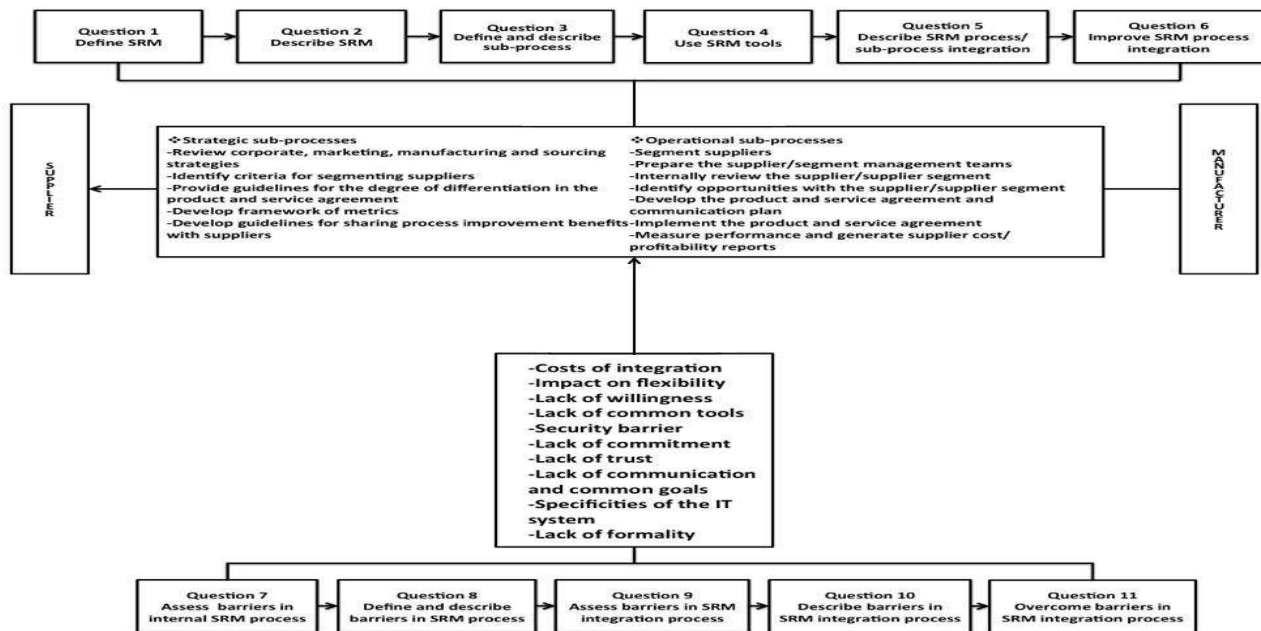


Figure 1: Operationalization model

According to the operationalization model that has been illustrated in figure 1, the integration of SRM process takes place through the integration of its sub-processes. In this context, SRM sub-processes consist of 5 strategic and 7 operational ones. Given these findings of the literature review, questions 1 to 6 of the interview guideline (Appendix) are designed accordingly. On the other hand, according to the literature, there are 10 obstacles that can slowdown and/or prevent the integration to occur. These obstacles are the lack of trust, lack of communication and common goals, lack of common tools, lack of commitment, lack of willingness, specificities of the IT system, degree of formality, security barriers, inflexibility, and cost of integration. The results of the literature review about the integration obstacles are used to provide systematic questions within the interview guideline (Appendix). Questions 7 to 11 of the interview guideline are conducted regarding the obstacles to the SRM integration.

## 4. Data and method

This study is developed by following positivist approach. In this regard, the results are developed through competitive analysis and experiments (Walliman, 2011).

Furthermore, the study in hand is qualitative because the results of it are not in the numerical form (Parasuraman, et al., 2006). This qualitative study expresses the individual perceptions and experiences rather than the conclusions based on the solid facts (Kolb, 2008; Gillham, 2010; Merriam, 2009). In this qualitative paper, personal interview with 5 different sized Swedish companies took place as it is one of the major data collection instruments for the



empirical material of the qualitative study (Churchill and Iacobucci, 2005). These five companies are Engcon, Sandvik, Volvo construction equipment (VCE), Scania and Peab which are all active in the construction equipment industry. The sizes of the organizations are classified based on the number of employees (Statistics Sweden 3, 2013). Personal interviews are normally used in the case studies (Yin, 2009). This instrument is usually preferred because it improves the flexibility during the process of data collection (Bryman and Bell, 2007). The sampling strategy that is used in this research is non-probability purposive because this study depends on the given data by professionals exercising influence on their peers.

For the 5 interviews, interview guideline (appendix) is developed through the operationalization process which scientifically link the theoretical findings with the interview questions. The interview guideline is sent to the interviewees few days in advance in order to enable them to prepare for the interview. The interview guideline is semi-structured which means that the main research dimensions are mentioned in the guideline and the sub-dimensions spontaneously came up during the interview. The contents of the interviews are documented through the voice recorders. The interviews are held either through the phone or face-to-face meetings. The general information of the carried out interviews are illustrated in table 2 (appendix). The interview contents and findings are available in the study that is developed by Fakhrai Rad et al. (2015).

More so, in this study, the analytic technique that is used is cross-case synthesis. Each case is dealt separately during the empirical data collection, but at the end, the analytical procedure took place by combining the findings of all the 5 studied cases (Yin, 2014). This technique is used to have better general view over the subject and respective case studies and to understand if different cases demonstrate similar results (Ibid).

In addition, this research is developed with high respect to the ethical considerations. It was intended to select competent and relative people for the interviews (Pimple, 2002). The interviewees came to the understanding about the goals of the interviews in prior to the carried out interviews (Ibid). The contents that are requested by the interviewees to be anonymous remained in the same way (Ibid). Confidentiality of the data is accurately considered (Ibid). Interviewees were voluntarily participating in the interviews (Ibid). The interviewees are provided with results of the research study (Ibid). Ultimately, it was strongly emphasized to not disrupt the privacy of the interviews participants (Kumar, 1996).

## 5. Discussion

Based on the theoretical and empirical findings, it can be stated that the integration of the SRM process between the manufacturer and its first upstream tier of supplier within the Swedish construction equipment industry can take place through the integration of the SRM sub-processes. Nonetheless, there are also obstacles that need to be tackled to enable the SRM sub-processes integration.

In this regard, the complete results of the analyses are available at the study developed by Fakhrai Rad et al. (2015).

The summary of the analyses of research question 1 is as following:

Name of SRM sub-process	Company	SRM sub-process integration
<b>❖ Strategic sub-processes</b>		
Review corporate, marketing, manufacturing and sourcing strategies	Engcon Sandvik Scania VCE	- Integration through the exchange of accurate and reliable information regarding the potential suppliers' production capability, capacity, quality, cost of product, flexibility and speed of production in order to enable the selection of competent supplier.
	Engcon Sandvik Scania Peab	- integration in order to have access to the suppliers' production capacities, technical skills and transportation facilities with the purpose of implementing a dual sourcing strategy.
Identify criteria for segmenting suppliers	Engcon Sandvik Scania VCE Peab	- Information that has been gathered from the suppliers in the first strategic sub-process can be used to identify the criteria for the suppliers segmentation into the key and standard ones. - Integration through the jointly design of a "common" product and service agreement (PSA) that meets the demand of both manufacturer and its suppliers. PSA can be jointly designed through the cross-functional meetings between the integrated partners.
Provide guidelines for the degree of differentiation in the product and service agreement	Engcon Sandvik Scania Peab	- Integration through the comprehensive negotiations with the key suppliers over the creation of "customized" PSA that satisfy their requirements in order to motivate the key suppliers to be more committed and establishing solid long-term relationship with them.
Develop framework of metrics	Engcon Sandvik Scania VCE Peab	- exchange of intra-organizational data between the manufacturer and its suppliers in order to have better understanding of each other capabilities and needs. These data are exchanged in the first strategic sub-process. - Then based on the exchanged data that reflects partners' capabilities, the integration takes place through the discussions that occur by face-to-face meetings between the partners about the feasible and realistic metrics that can be determined for future performance measurement.
Develop guidelines for sharing process improvement benefits with suppliers	Engcon Sandvik Scania VCE Peab	- Integration through the partners' agreement for sharing the profit that results from the process improvement (e.g. reducing the lead time). This can lead to higher motivation for the suppliers to fulfill the requirements. The results of the agreement should be added as a clause in the PSA during its development in the second and third strategic and fifth operational sub-processes.
<b>❖ Operational sub-processes</b>		
Differentiate suppliers	Engcon Sandvik Scania Peab	- Information exchange that results from the integration of the first strategic sub-process enable the manufacturer to assess the suppliers based on their growth rate, profitability and strategic value, then categorize them into the key and standard ones accordingly.
Prepare the supplier/Segment management team	Engcon	- holding inter-organizational meetings with each one of the five key suppliers independently. - Integration with the key suppliers through these meetings by structuring a mechanism for sharing the technical resources with one another for effective and efficient execution of the activities. - Creating a cross-functional team and involve both the key and standard suppliers into this

			team.
		Peab Scania VCE Engcon	<ul style="list-style-type: none"> <li>- Having an independent cross-functional team with each key supplier. Each team includes members of both the key supplier and the manufacturer for better operationalization of the PSA in the further sub-processes.</li> <li>- Developing a key supplier account management structure for better control and coordination during the PSA execution.</li> </ul>
Internally review the supplier/Supplier segment		Engcon Sandvik Scania Peab VCE	No integration.
Identify opportunities with the supplier/Supplier segment		Engcon Sandvik Scania Peab VCE	<ul style="list-style-type: none"> <li>- There are four key performance indicators for the supply chain partners that they desire to improve during their partnerships. These indicators are cost, quality, environmental affect and delivery performance.</li> <li>- The inter-organizational team that is resulted from the integration during the second operational sub-process can develop a decision that is agreed by both integrated partners regarding the opportunities and indicators improvement. This goal can be achieved through the exchange of resources, knowledge and transportation facilities that are three initiatives which considered as triggers of the integration.</li> </ul>
Develop the product and service agreement and communication plan		Engcon Sandvik Scania Peab VCE	<ul style="list-style-type: none"> <li>- After the development of the PSA through the negotiations in the second and third strategic sub-process, the integrated supply chain partners should draft and then write down the agreed elements and factors in order to finalize the PSA to be executed.</li> <li>- Communication procedure should also be clearly defined in the PSA in order to avoid the future potential disputes.</li> </ul>
Implement the product and service agreement		Engcon Sandvik Scania Peab VCE	<ul style="list-style-type: none"> <li>-During the PSA implementation, partners should integrate through the exchange of knowledge, technical support for one another, sharing of the resources and transportation facilities.</li> <li>- For better coordination, partners should have meetings on the regular basis and discuss the implementation comprehensively.</li> </ul>
Measure performance and generate supplier cost/ profitability reports		Engcon Sandvik Scania Peab VCE	<ul style="list-style-type: none"> <li>- Integration through the the joint performance measurement along with the supplier in order to contribute the manufacturer to track the roots of deviations within wider range of supply chain actors.</li> <li>- It can also increase the accuracy of measurement since the integrated supplier is more close and involved with the further upstream tiers of suppliers.</li> </ul>

Table 3: SRM process integration through the sub-processes

The summary of the analyses of research question 2 is also as following:

Name of SRM sub-process	Company	Potential obstacles to sub-process integration	Solutions for overcoming the obstacles
❖ Strategic sub-processes			
Review corporate, marketing, manufacturing and sourcing strategies	Engcon Sandvik Scania VCE	- suppliers exaggeration over the information regarding their capabilities.	- Having a particular clause in the contract that prevent such deviations by setting certain punishment or penalty for the time that data exaggeration has been proved.
	Engcon Sandvik Scania Peab	- In dual sourcing strategy, one supplier may delay in delivering the supply which influences the manufacturer respective delivery to its own customer.	<ul style="list-style-type: none"> <li>- Suppliers should be able to supply the manufacturer without exploiting their maximum production capacities.</li> <li>- Potential changes in the supplier's production with respect to forecast should be encompassed and considered in the PSA.</li> </ul>

Identify criteria for segmenting suppliers	Engcon Sandvik Scania VCE Peab	- The key supplier may be reluctant to offer its highest production and service capabilities.	- Manufacturer motivates supplier to offer its bests by sharing with the supplier the profit that results from the respective supplier's performance improvement.
Provide guidelines for the degree of differentiation in the product and service agreement	Engcon Sandvik Scania Peab	- Supplier and manufacturer can't agree upon the contract clauses. Supplier has unrealistic requirements.	- Having coordinated internal sectors and creation of purchasing department to develop a solid supplier relationship plan can increase the bargaining power of the manufacturer and it can lead to the reduction of suppliers requirements.
Develop framework of metrics	Engcon Sandvik Scania VCE Peab	- Supplier intends to lower the standards of metric to ease its own operation and responsibilities by providing underrated data about its production and service capabilities.	- manufacturer Provides the supplier with the intra-organizational information in order to establish stronger ties and increase the sense of belonging of the supplier to the "bigger business group".
Develop guidelines for sharing process improvement benefits with suppliers	Engcon Sandvik Scania VCE Peab	- It is difficult to connect the supplier's improvement of the certain processes such as lead-time to the respective profit that is earned by the manufacturer. Therefore, it can cause difficulties to share the profit of respective process improvement with the supplier.	- Agreeing upon the percentage of the profit to be shared with the supplier for its improvement of certain processes such as lead time. Then adding it into the PSA.
<b>❖ Operational sub-processes</b>			
Differentiate suppliers	Engcon Sandvik Scania Peab	- Reluctance of the suppliers to provide certain information regarding its activities and capabilities because of the confidentiality concerns	- Manufacturer provides advanced knowledge and/or skill such as certain technology, or it gives significant quality of information regarding its respective operations to the supplier in order to establish stronger trust and relationship.
Prepare the supplier/Segment management team	Engcon	- Since Engcon has only three employees at the purchasing department, it is difficult for them to handle all the independent meetings with the key suppliers.	- Meetings take place only for necessary subjects that influence the products delivery and attributes.
Internally review the supplier/Supplier segment	Engcon Sandvik Scania Peab VCE	- No integration.	- No integration.
Identify opportunities with the supplier/Supplier segment	Engcon Sandvik Scania Peab VCE	- Reluctance of the supplier to share its knowledge, resources, and transportation facilities at the high capacity due to the lack of trust and/or commitment.	- Encouraging supplier for full commitment by establishing trust with it. - Having certain percentage of profit to be shared with the supplier as a result of process improvement (fifth strategic sub-process) lead to the higher supplier's trust and commitment.
Develop the product and service agreement and communication plan	Engcon Sandvik Scania Peab VCE	- More integrated the partners become, more complexities will occur in the case that they want to stop the cooperation due to the situation in which one of the integrated partners did not reach the agreed demands.	- Accurate and comprehensive assessment of the partner at the initial phase before the PSA negotiations can avoid the potential obstacle.
Implement the product and service agreement	Engcon Sandvik Scania Peab VCE	- Integrative implementation of the PSA, may cause difficulties to track the potential miss performances that may happen, because activities are carried out by high level of cooperation.	- Processes of the PSA implementation should be systematically monitored and controlled by both integrated partners.
Measure performance and generate supplier cost/ profitability reports	Engcon Sandvik Scania Peab VCE	- Integrated supplier may intend to cover its own deviations of the performance by referring it to the further suppliers tiers.	- Applying internal measurement along with the joint performance measurement with the integrated supplier for higher control.

Table 4: Obstacles to the SRM process integration and their respective solutions

In light of the tables provided above, it can be seen that 11 sub-processes (1 sub-process is internal) can be integrated between the manufacturer and its first upstream tier of supplier in order to perform the SRM process with higher efficiency and effectiveness.

The strategic sub-processes can be integrated between the partners by majorly discussions and negotiations over the PSA. Various themes such as the process improvement profit sharing and the metrics for the performance measurement should be agreed upon and the results of the agreement should be clearly defined within the respective clause of the PSA in order to avoid further potential disputes. During the PSA negotiations, it is important that the integrated partners to be team-oriented in order to enable the mutual benefits to be maximized for both sides. The integration of the strategic sub-processes is rather informational since it requires exchange of significant quality of knowledge and information (Forslund and Jonsson, 2007).

Furthermore, within the operational sub-processes information that are resulted from the strategic sub-processes integration can be used in order to categorize the suppliers into the key and standard ones for different level of differentiation. Manufacturer creates a cross-functional and inter-organizational team along with the each of the key suppliers in order to highlight the opportunities for enhancement. These teams are also responsible to draft and finalize the PSA to be implemented. Moreover, the operational sub-processes integration includes joint monitoring and measurement of the performances during the PSA implementation for more accurate and comprehensive control. Operational integration encompasses sharing of the resources, knowledge and transportation facilities. This integration is not just informational due to the exchange of data, but also organizational since it requires the exchange of ideas, trust and jointly performance measurement (Forslund and Jonsson, 2007).

However, the sub-processes integration may face certain obstacles that have to be overcome in order to pave the integration way. Analytical results demonstrate that the lack of goal congruence, commitment and trust between the manufacturer and its supplier constitute the major potential obstacles. From this expression, it can be concluded that the significant part of the obstacles can be overcome through the establishment of the mechanism that gives the supplier the sense of belonging to the bigger “industrial family”. This encourages the supplier to align its goals with the ones of the manufacturer and creates the goal congruence. Once the supplier feels it self as a part of the “bigger family” and aligns its goals with the one of the manufacturer, it will be committed to the operations and will trust the integrated manufacturer. In order to achieve this goal, the manufacturer should prove that it values its

suppliers. For this purpose, depending on the industrial specificities and the supply chain characteristics, the manufacturer should provide the supplier with the incentives (e.g. financial incentive, technology and/or knowledge transfer, resources and information sharing) to earn its trusts.

In addition, it is vital that the manufacturer maintains its internal structure to prevent deviations. Supplier selection and categorization as well as accurate independent performance measurement are vital internal tasks that need to be carried out by the manufacturer in order to enable the integration and overcome the respective obstacles.

Moreover, it is significant to note that this study has faced certain limitations. First limitation refers to the number of interviewed companies. There are few available companies in the Swedish construction equipment industry. Nevertheless, it has been intended to interview more companies in this sector in order to expand the empirical data, but unfortunately only 5 firms agreed to cooperate. Second limitations encompass the fact that the interviews took place only with one responsible person within each company. It has been strived to interview 2 managers in different departments of each firm to strength the view over the companies' operations, but this goal remained unattained because the managers were too busy.

Ultimately, it can be recommended to the manufacturers to use the developed framework in order to improve the implementation of the SRM process. It is also recommended to the scholars to conduct further studies about the integration of other 7 key business processes that constitute the core concepts of the supply chain management (Croxtton et al., 2001).

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## Appendix

### **Interview Guideline**

- ❖ Brief background about the company

### **Supplier Relationship Management process integration**

1. Do you have a Supplier Relationship Management process (or similar) – How is it called in your company?
2. Can you explain in detail the steps followed internally in this process?
3. Does your process divide into sub-processes – How are the sub-processes called?  
How are the activities carried out in each sub-process?

4. How do you integrate this process with your supplier? Do you integrate the sub-processes with your supplier?
5. Can you explain in detail the steps followed for the integration of the process (sub-processes) with your supplier?
6. What do you think can still be improved in the integration of the process (sub-processes) with your supplier?

**Supplier Relationship Management process integration barriers**

7. Do you have barriers to implement internally a Supplier Relationship Management process?
8. Can you explain in detail the barriers you have to implement this process?
9. Do you have barriers to integrate a Supplier Relationship Management process with your supplier?
10. Can you explain in detail the barriers you have to integrate this process with your supplier?
11. How do you think can the barriers be overcome to achieve a higher level of integration?

**Interviews general information**

<b>Company</b>	<b>Interviewee</b>	<b>Position</b>	<b>Date</b>	<b>Duration</b>	<b>Interview technique</b>
Engcon	Mr. Sjölund	Purchasing Manager	March 24 <sup>th</sup> 2015	123 minutes	Face-to-face
Sandvik	Mr. Duffaut	Vice President Sourcing for Global Tools and Services	April 2 <sup>nd</sup> 2015	78 minutes	Phone
Volvo CE	Mr. Nilsson	Purchasing Manager and Site Representative	April 7 <sup>th</sup> 2015	132 minutes	Face-to-face
Scania	Mr. Råvik	Manager Material Control	April 9 <sup>th</sup> 2015	97 minutes	Face-to-face

Peab	Mr. Stenzel	Managing Director of Peab Bildrift AB and Purchasing Manager of Peab's Industry business unit.	April 13 <sup>th</sup> 2015	64 minutes	Phone
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Table 2: general information of the carried out interviews