

# Partnering with suppliers – an untapped opportunity for the construction industry

VIKTORIA SUNDQUIST



**CHALMERS**





# Introduction

In recent decades, companies in the construction industry are increasingly relying on input from other companies. As a consequence of this trend, purchasing strategies and behavior have an increased impact on profitability, since few industrial businesses are as dependent on suppliers and sub-contractors as the construction industry. Purchased goods and services generally represent more than three quarters of the total costs of a construction company.

Previously, in order to get the most out of a deal, customers would purchase from the supplier who offered the best terms – normally the lowest price – and preferably play suppliers off against each other. Increased outsourcing, however, has led to a re-examination of what constitutes an efficient purchase and suitable supplier relationships. This new mindset is based on a concept that increased cooperation with suppliers can improve the efficiency of construction works. The ideas about improved performance on the purchasing side are referred to as “partnering with suppliers”. What opportunities does this represent for the construction industry?

Evaluations show that the advantages of partnering on the purchasing side have not been realized to the extent expected in the construction industry. The project-based logic with a competitive tender structure, where the supplier is questioned in connection with each new project, may be one explanation. Purchasing companies strive to avoid dependency and maintain



relationships with several replaceable suppliers. The superficial supplier relationships generally lead to standardized products and solutions in the business exchange. The standard products are then modified on the construction sites according to the specific circumstances prevailing at the sites.

Hence, the need for adjustment is not less in the construction industry than in other industries. The difference is that in the construction industry, substantial adjustments are made on the construction site by where parties from different companies and with different functions create joint solutions required for the coherent whole.

# Network without network effects

There are two different types of network in the construction industry, of which one is a temporary network – a form of “project partnering” – established for each project and characterized by comprehensive adjustments by the parties on the construction site. The permanent network of companies is based on deals with standardized materials and components. No deep interaction is required since there is no need for adjustments. In the permanent network, the connections of the construction company with suppliers and subcontractors are weak, which also means that the network effects are limited.

The temporary network at the construction site features intense interaction between the various parties who are involved in the adjustment of the standard products. Despite this extensive interaction, it is difficult to recycle experiences and lessons learned in subsequent projects. This is due partly to uncertainty regarding future deals and partly to the fact that subsequent projects may be characterized by new conditions and circumstances. The result is poor knowledge transfer between companies and over projects.

Strong connections are often made in the temporary network on the construction site between material suppliers, the construction company and installers of various types. These connections also generate new knowledge in the form of adjusted solutions created jointly by the various parties. It may seem like there are

good conditions for knowledge growth through network effects, but in reality the possibilities are limited. The parties do not normally have joint plans extending beyond the specific project.

The relationships between the construction companies and their suppliers therefore differ from the characteristics of the deep relationships which form the model for partnering. It is not surprising that the expected effects have not materialized. The reluctance of construction companies to change their supplier relationships to increase partnering is mainly due to the fact that this would go against the prevailing perception of efficiency. Avoiding dependency and using market forces are always high priorities.

These circumstances are partly due to the strong project orientation, with decentralized authorities and responsibilities. The organization principle leads to optimization in the framework of individual projects and limits the possibilities of achieving long-term efficient solutions. Decentralization and focus on individual projects means it is natural that the occurrence of partnering in the building industry has stopped at project partnering. Thus, there are no desirable solutions that extend over longer periods of time.

# Need for varied supplier relationships

Competitive tendering generates significant costs which are often overlooked. First, the construction company must invest time and resources on an evaluation of the submitted bids, of which there may be many in a construction project. Before this evaluation, several suppliers have also devoted considerable work to prepare the bids. Another cost driver is the use of contracts, as research shows that the costs of analyzing the performance of contracts and amendment of contractual terms etc. are significantly underestimated.

The collaboration between a construction company and its suppliers rarely goes beyond project partnering as a consequence of fundamental differences in relation to other industries. For this reason, it is unrealistic to envisage a general transition to strategic partnerships, comprising long-term solutions

extending over several projects. The conclusion, instead, is that a construction company, like many other companies, needs variation in its supplier relationships. We have chosen to call this “focused partnering”. It may be suitable to work closely in a in-depth relationship with some suppliers, while cooperation with other suppliers may be less extensive.

Decentralization of decisions to the individual project will remain an important condition for efficient construction. A minor change of balance toward more centralized decision-making could, however, have a positive impact on the efficiency of the construction industry. Alternative forms of procurement – based on a longer time perspective than individual projects and with space for collaborative relationships – could also improve the performance in construction.



# Example of in-depth supplier collaboration

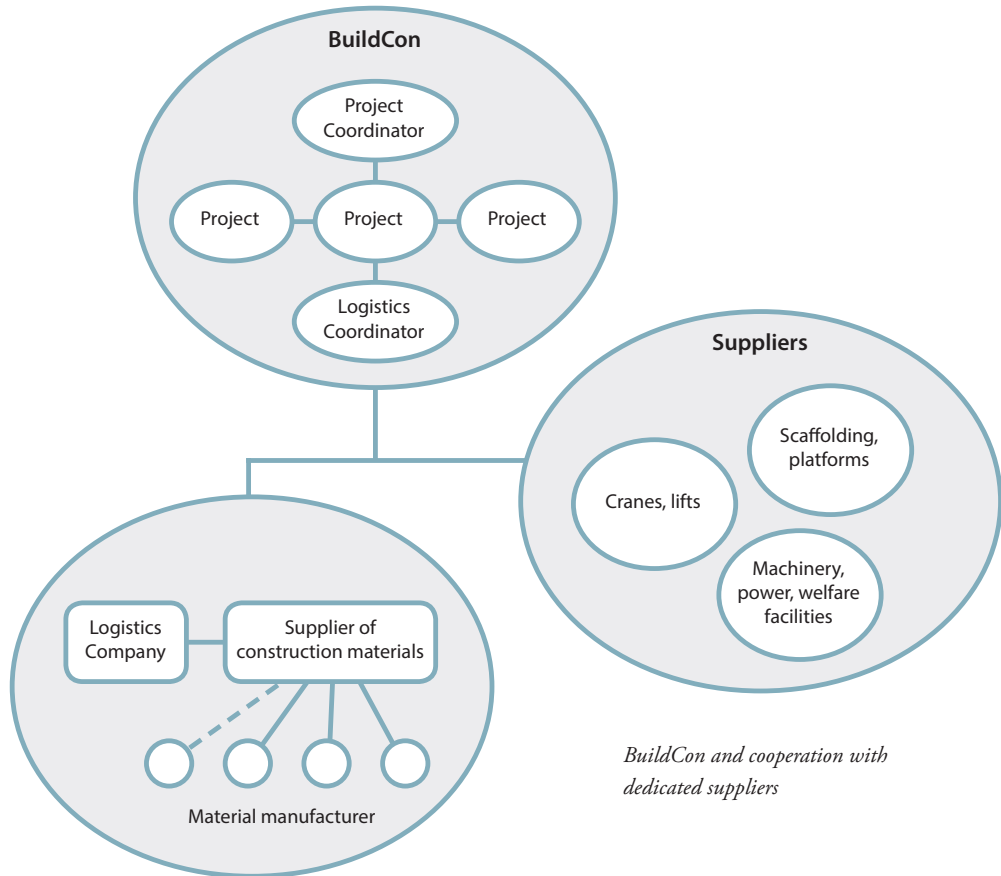
BuildCon is a Swedish medium size construction company with a turnover of approximately SEK 500 million. The part of the company that builds apartment buildings has changed the way it works. The company previously used the method which is customary in the industry: selection of suppliers via tenders in individual projects, where pricelists of materials combined with volume discounts are decisive. This led to major indirect costs related to order management processes, quality control and materials handling. Site managers spent a lot of time coordinating orders and deliveries, and construction workers had to dedicate a large part of their working hours to finding, sorting, collecting and moving materials on the construction site. Errors and delayed deliveries often hampered the construction process and urgent adjustments were required. As a consequence, projects were delayed and project budgets were exceeded.

The company wanted to streamline the construction process by increasing standardization and “working in the same way on construction projects A, B and C”. BuildCon realized that in order to move forward, purchasing and supply of materials functions had to be developed. They identified a way of achieving this – by working more closely and more long-term in cooperation with individual suppliers instead of always selecting suppliers by competitive tenders and handling each project separately.

## How did they do it?

One first step for BuildCon was to use a logistics company to be in charge of all materials handling on the construction site (unloading and transport to the respective locations for installation). The transports were carried out after ordinary working hours in the frame complement phase. The construction workers were therefore able to focus on the production and begin installation works directly in the morning. The next step was to get the assistance of an external consultant to develop a comprehensive model to evaluate suppliers. This model was used in two subsequent projects to find suitable, dedicated suppliers. Based on the evaluations, BuildCon selected four companies as exclusive suppliers in each area of supply: construction materials, scaffolds/platforms, cranes/lifts and machinery / electrics /welfare facilities. None of the four suppliers was entirely “new”, as BuildCon and the suppliers had worked together in previous projects.

BuildCon also changed its internal organization and created two new functions to coordinate individual projects: one logistics coordinator and one project coordinator. The logistics coordinator is in charge of all coordination relating to supply of materials to all projects. The logistics coordinator also creates production time plans, which are converted into delivery plans based upon which the material suppliers work. The cooperation of the material suppliers and the



*BuildCon and cooperation with dedicated suppliers*

logistics coordinator in the projects is extensive, and includes daily communication.

The project coordinator is involved in the planning of all projects, including time plans and cost estimates. The project coordinator works closely with the three other suppliers, mainly in the planning stage of the project, to create solutions that take the suppliers' experiences into account. More time and resources are allocated to planning in order to streamline production.

The appointment of a logistics coordinator and a project coordinator basically leads to an increased level of centralization, from individual projects to an overall project level. The new structure is described in the figure above.

## What did they achieve?

BuildCon admit that it is hard to measure the effects of their strategic initiative. It is a question of believing in the business logic and perceiving effects from a holistic perspective, rather than sub-optimizing individual parts. The initiative is viewed as a success based on five crucial goals:

1. Sticking to the number of budgeted hours
2. Not exceeding budgeted costs
3. Sticking to the agreed production time plan
4. Running a safe production process, with few interruptions and divergences
5. Delivering good quality

What is required, then, for a successful transition to a closer, more in-depth relationship with suppliers? Viktoria Sundquist identifies the following important parameters:

- Suppliers who want to work in a long-term collaboration
- Delegate responsibility to suppliers and use their experience
- Central functions with an integrated perspective: Project Coordinator and Logistics Coordinator
- Time at the planning stage – focus on total cost
- Influence attitudes and training of production staff
- Standardizing activities
- Constant development, implementation of lessons from previous projects



# Summary

The way forward is to increase the interaction between companies. There are three forms of expanded collaboration with suppliers:

- Increased interaction in the framework of the individual construction project
- Increased interaction between projects managed by the same company
- Increased interaction in permanent network

Increased interaction in an individual project may lead to advantages if the cooperation begins at an early stage. If the supplier and sub-contractors are involved already at the drawing and planning stage, many of the problems which are currently resolved during production could be avoided.

Increased interaction between projects managed by the same company generates potential for improvements. By having more or less fixed constellations of sub-contractors it is possible to ensure that the same company and individuals meet in several projects – and hence there is no need to start a new learning curve on each occasion.

Another type of increased interaction is collaboration between several, simultaneous projects in the same company. This is also based on close relationships with a small number of suppliers with a basic concept of pooling purchases from several projects in order to achieve economies of scale.

Increased interaction requires increased centralization, which encroaches on the autonomy of the individual project. The implementation must therefore be cautious in order to avoid jeopardizing

the benefits of local decision-making. The crucial challenge is to find a balance between centralization and decentralization.

With increased interaction in the permanent network, a “strategic partnership” is achieved. The principle is based on a long-term and in-depth cooperation between construction companies and suppliers. Research about customer-/supplier relationships in other industries shows that interaction in permanent networks creates commercial relationships which support efficiency and innovation. The companies make mutual adjustments, over time, to improve the use of common resources and interests.

It is very hard to change deeply rooted traditions and work methods, since it involves re-examination of principles that have been applied for a long time. The transition to a focused partnering will be very demanding, both in terms of time and resources. Consensus and courage of all parties involved is a requirement – from the construction site to corporate management – as well as a challenging and inspiring leadership.

Despite current practice in the construction industry, a more long-term and in-depth approach is entirely possible. This would require doing away with prevailing decentralization to individual projects and traditional competitive tendering procedures for selection of suppliers. Great potential for improvement, benefiting all parties, would be the result. Partnering with suppliers represents an untapped opportunity in the construction industry!

## Future research

We need more empirical studies of partnering and in-depth collaboration between construction companies and suppliers! Previous studies identify difficulties, but the construction contractor in our study was successful, so the potential is there. In our study, the construction contractor is a medium size company operating in a limited geographical area. It is probably harder to take the step that restricts the independence of site managers in larger organizations with respect to creating consensus around decentralized responsibility and decision-making.

Large national construction contractors also operate in a less homogenous context, and it is also problematic to conclude agreements with dedicated suppliers when there are already well established cooperation structures in regions, which may then have to be broken. The agreements with dedicated suppliers included in our study take place only at local level, which is simpler.

Future studies should therefore focus on partnering between large construction contractors and suppliers since the conditions are different than those in our study of a medium size construction contractor. We also need studies of the effects of partnering over time and how a long-term perspective can be achieved. There are also connections between partnering on the client's side and partnering with suppliers which would be of interest to study further.

## References and reading tips

Sundquist, V. (2014) **The Role of Intermediation in Business Networks**, PhD Dissertation, Chalmers University of Technology, Gothenburg.

Gadde, L-E., Dubois, A. and Sundquist, V. (2013) **Partnering med leverantörer – en outnyttjad möjlighet**, in Wootz, B. (ed) Mot ett hållbart samhällsbyggande i världsklass, Sveriges Byggindustriers forskningssatsning, Strokirk-Landström, Linköping.

Sundquist, V., Hulthén, K. and Gadde, L-E. (2012) **Repositioning in supply networks – implementing supplier partnering in the construction industry**, Proceedings of the 28th IMP Conference, Rome, September 13-15.

Sundquist, V., Hulthén, K. and Gadde, L-E., (2015) **Economic consequences of alternative make-or-buy configurations, Industrial Marketing Management**, In Press: Available online 30 January.

# Northern LEAD Outlook

*Northern LEAD Outlook* is a series of summaries of scientific theses that have been produced in Northern LEAD's network. The series includes the following editions:

- 1. Materials supply and production outsourcing**  
*Anna Fredriksson*  
Logistics and Transportation, Chalmers
- 2. Urban freight transport sustainability**  
*Sönke Behrends*  
Logistics and Transportation, Chalmers
- 3. Integrated logistics platform**  
*Badi Almotairi*  
Logistics and Transportation, Chalmers
- 4. Plant material supply – Choice of principle**  
*Robin Hanson*  
Logistics and Transportation, Chalmers
- 5. Information sharing for efficient road transports**  
*Henrik Sternberg*  
Logistics and Transportation, Chalmers
- 6. Optimal schemaläggning av produktionsceller**  
*Karin Thörnblad*  
Matematiska vetenskaper, Chalmers och Göteborgs universitet
- 7. Partnering with suppliers – an untapped opportunity for the construction industry**  
*Viktoria Sundquist*  
Industrial Marketing, Chalmers



**CHALMERS**



**GÖTEBORGS UNIVERSITET**



## Partnering with suppliers – an opportunity for the construction industry

Companies in the construction industry are increasingly relying on input from other companies. As a consequence of this trend, purchasing strategies and behavior have an increased impact on profitability, since few industrial businesses are as dependent on suppliers and sub-contractors as the construction industry.

Despite current practices in the construction industry, it is entirely possible to work in-depth and with a long-term perspective with suppliers. This would require doing away with prevailing decentralization to individual projects and traditional competitive tendering for selection of suppliers. The result would be great potential for improvement, benefiting all parties.



**Viktoria Sundquist** holds a PhD in Technology Management at Chalmers University of Technology's Division of Industrial Marketing. Her area of research is relationships in industrial networks and the effects of labor division and cooperation among companies. Her thesis analyzes these specific areas in the construction industry.

As of July 2014 Viktoria conducts research in supply chain management and transport service procurement within Chalmers Transport Area of Advance, and in a project which examines the role of logistics in efficient construction processes. The construction industry is also the focus in an international joint research project regarding innovation and renewal.



*Northern LEAD is a competence centre for logistics, established by Chalmers University of Technology and Göteborg University, in collaboration with the Logistics and Transport Foundation, LTS. The centre's core consists of some eighty researchers, research students and teachers who work in five different research groups. As a link between academia, industry and authorities, Northern LEAD strives to support and disseminate leading research on logistics and transport. Further information: [www.northernlead.se](http://www.northernlead.se).*