

Collaboration Management – an Important Core Competency for the Future (Part 2)

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Abstract:

Not enough attention is paid to collaboration management as a management discipline today nor is there much awareness of it as a distinct management function. In the future it will become even more important to benefit from the experience, the know-how and the network of other companies. In this context the need for professionalization arises.

The first part of this series explained the significance of the topic, especially as it applies to the manufacturing industries. This part will derive a classification that can be applied to manage collaborations. The following two articles will then discuss the strategic and the operational management of collaborations.

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Not every collaboration is the same

The first step to professionalize collaboration management is to differentiate between the existing types of collaborations. Based upon the differentiation of types the strategic and the operational management of collaborations will be discussed in the following two articles. But first we will present the classification.

The topic of collaborations is too complex to handle with a “one size fits all” approach. Therefore a suitable classification, that distinguishes the differences between several collaborations, is the basis for managing collaborations correctly and successfully. In the following chapters we will provide a classification that will help identify the key challenges and stumbling blocks for different types of collaborations, as well as derive suitable measures and consequences. The knowledge of the predominant value creation principles and

logic as well as challenges of the different types of collaborations is important as it may alter the allocation of suitable resources and capacities.

The classification is defined by three criteria. Based on these criteria a cube is developed whose fields are separated by the predominant value creation mechanisms of the respective collaborations (fig. 1). Subsequently the different combinations will be presented in detail and implications for the management of the collaboration will be derived.

Value creation, potential conflicts and implications for management. Regardless of the fact that the classification cube consists of eight fields, at this point we will only differentiate between four of those fields. The criteria “competitive situation” has no direct impact on the underlying value creation of the collaboration itself, and thus, there is no need to include it for our purposes. This stresses that different planning and management is necessary, not different methods of value creation. In case of collaborating with a direct competitor the obvious problems companies face are to keep control over their competencies. Therefore questions about protecting proprietary know-how, areas of collaboration, communication policies, behavior of the involved employees, etc. should be predominant. The underlying additional value of the collaboration itself is mostly independent from those kinds of questions as we will see.

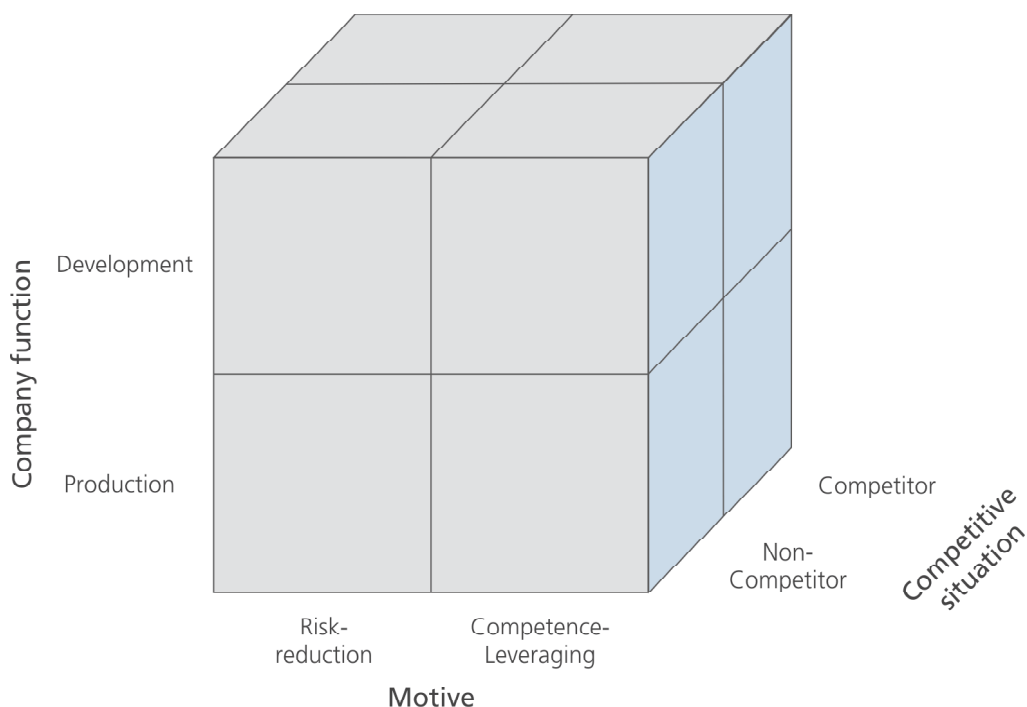


Fig. 1: Classification of collaborations

The concept of value creation provides an interesting approach to support collaboration management. Nevertheless, specific characteristics of potential conflicts can be quite different; they can be differentiated and described by the underlying logic of the collaboration's value creation. As DOZ and HAMEL explain: "Value creation expectations may also help anticipate areas of tension. Tension tends to accumulate around key areas of value creation!" As a result the underlying value creation can help anticipate potential trouble spots by giving precise hints where conflicts will most likely occur. The most critical spots can be found where the main value creation of the collaboration takes place.

Subsequently the four remaining collaboration types, the associated potential conflicts and the resulting management implications are presented:

Collaborations to reduce risk in development. Collaborations of this type naturally show two different methods of value creation to reduce risk. One is the SHARING of the financial risk. The financial risk in development is relatively high and mainly induced by high market volatility (insecure sales potential) and high technical insecurities (technical feasibility). In general, the ability to amortize the necessary investments is questionable. In this context collaborations can help involved companies to take large risks without

endangering the companies substantially. The second mechanism addresses the risk of missing an opportunity by ACCELERATING the development process with the help of additional development resources of the collaborating companies (therefore shortening time-to-production). The acceleration enables a timely market entry and ensures that not too much market potential is lost or an unnecessary chance for market entry is given to competitors.

Collaborations to reduce risk in production. Reducing risk in production through collaborations relies on the same methods of value creation as those in development; SHARING and ACCELERATION. While in development sharing financial risks (amortization of investments) was the main motivation, in production collaborations this is only an indirect effect. The main benefit can be attributed to the joint utilization and allocation of existing production capacity (sharing of capacity). This is especially important in cases where the economic operation of a machine or asset is dependent on a very high utilization rate, as for example in the case of very expensive machines and assets. The previously described mechanism of ACCELERATION applies in the same way to production collaborations. The subsequent chart summarizes the key arguments for potentials to reduce risk in development and production collaborations (chart 1).

| Risk | Root cause | Value creation | Example |
|---|--|--|--|
| Financial Risk - Development - | Necessary investment versus expected return (probability and extent) | SHARING Sharing of financial risk with a partner | Joint Venture between UMC and Infineon in Singapore. |
| Missed market opportunity - Development and production - | Insufficient resources and capacities | ACCELERATION Time saving through joint development and production | Collaboration between BMW and Magna Steyr to development and produce the new X3. |
| Under-utilized capacity - Production - | Necessary scale effects determine dimension of machines and assets. | SHARING Increase of utilization through joint use of capacity. | DuBay – Joint Venture between DuPont and Bayer to operate a high-end manufacturing facility in the chemical industry. Tritec – Joint Venture between BMW and DaimlerChrysler to manufacture small engines in South America. |

The following potential conflicts arise:

| Value creation | Potential conflicts |
|--------------------------|--|
| SHARING and ACCELERATION | <ul style="list-style-type: none"> ● Conflict of allocation (profits and losses, utilization of capacity) ● Perceived efficiency of the partner's work |

Chart. 1: Value creation and potential conflicts within risk-reducing collaborations

Implications for managing risk reducing collaborations. At this point it has to be stressed that risk reducing collaborations are not built on mutual organizational learning. The partners are involved because of their existing competencies. The effectiveness is not dependent on the enhancement of those competencies through the joint work in the collaboration. This fact has significant influence on the necessary management of the collaboration. Therefore risk reducing collaborations can also be called transactional partnerships. Because they are not dependent on generating mutual learning and knowledge, management should mainly focus on the tight organization and efficient coordination of the joint activities. As in “traditional” project management it is possible to define precise milestones and an accurate division of work between the collaborating partners. As a result such types of collaboration are heavily result-driven and definitely temporary. The controlling of these partnerships can be based on the typical triangle of quality, costs and time. To secure the satisfaction and commitment of the partners, management has to focus on balanced circumstances especially when it comes to the aspects mentioned under “potential conflicts” in the chart.

The collaboration between BMW and Magna-Steyr-Fahrzeugtechnik (MSF) is an example of a successfully managed collaboration. BMW decided to start this collaboration in order to be able to introduce the X3 to the market in autumn 2003. A speedy approach was necessary at the time as to not miss out on the chance to enter the dynamically growing SUV market. BMW's available capacities in development and production would not have been sufficient for such a short timeline. To generate new capacities would have taken too long and would have involved high risks of over-capacity later on.

The collaboration was planned on a project basis and the procedures during the project were arranged in detail. Two contracts were signed, one for development and one for production, where exact milestones (time, cost, quality) were described. Therefore the collaboration had a very transactional character. The operational structure throughout the collaboration followed already established and proven BMW processes. The intensive collaboration was supported by BMW employees who were permanently present in Graz (Austria) at the MSF site. Thus, an adequate information flow to the headquarters was possible and efficient decision ma-

king routines were implemented in case of problems and conflicts. Furthermore rapid joint solutions for technical questions were also possible.

Finally it can be concluded that the collaboration was of strategic importance to both parties. For BMW it was necessary to execute its product strategy and for MSF it supported the goal to establish the company as 0.5-tier supplier. The success of the collaboration was therefore a significant gain for all involved parties.

Collaborations to leverage development. The value creation in collaborations leveraging development is predominantly realized through the COMBINATION of different skills and competencies. In this case superior development solutions are realized through the combination of interdisciplinary know-how. These solutions would be unattainable by utilizing a single company's know-how. A major example for such an approach is the field of mechatronics. Here mechanical and electronic know-how is combined in order to generate innovative solutions e.g. locking systems in the automotive industry. Besides this interdisciplinary approach there are often optimization potentials at the interfaces between modules and components whose full functionality is often only reached after assembly. An early coordination between the companies involved in the final system could result in optimized and innovative solutions (technically and economically), that are mainly attributable to optimized and/ or eliminated interfaces. An additional leverage of abilities arises by utilizing in knowledge and competencies in ever different contexts.

Collaborations to leverage production. Collaborations that are focused on leveraging production obtain their superior value creation by INTEGRATING relevant information and know-how of up- and downstream activities into operations. This way an early optimization of the production (e.g. by early adaptation of critical manufacturing parameters) and of the logistic (e.g. storage-, sequence- and supply-planning) is possible. The deep integration into the processes of the partner will lead to a deeper understanding of its processes and routines, therefore enabling further optimization potentials. This effect leads to additional leverage of the existing know-how. The subsequent chart summarizes the key arguments of leveraging collaborations in development and production (chart 2).

| Leveraging | Focus | Value creation | Example |
|--|---|--|--|
| Use of existing know-how to create optimized and innovative products and solutions. - Development - | <ul style="list-style-type: none"> ● Product innovation ● Increase of effectiveness | COMBINATION Realization by combining different know-how (often from different disciplines and industries). New know-how that is worthy of protection is generated. | Collaboration between WEIDMANN and a metal sheet expert to develop a superior door sill protector for the automotive industry (reg. costs, design and functionality). Collaboration between REHAU and RAYMOND to optimize the interfaces of components and modules for headlight and windshield cleaning. Collaboration between UMC and a Chip-Designer to develop chips that are optimized for manufacturing. |
| Use of existing know-how to generate optimized and innovative processes (production) and workflow (logistics). - Production - | <ul style="list-style-type: none"> ● Process innovation ● Increase of efficiency | INTEGRATION Realization through integration of relevant know-how from up- or downstream activities (e.g. early information sharing). | Collaboration between UMC and a Chip-Designer to realize optimized production processes. Collaboration between WEIDMANN and a surface refiner to optimize existing production structures and systems. |

The following potential conflicts arise:

| Value creation | Potential conflict |
|----------------|---|
| COMBINATION | <ul style="list-style-type: none"> ● Different perception of the value of know-how that is brought into the collaboration by the partners ● „Chemistry“ between the employees of the involved companies ● Property- and marketing-rights for the „new“ know-how ● Responsibility in case of failure (question, who is guilty) |
| INTEGRATION | <ul style="list-style-type: none"> ● Different perception of the value of know-how that is brought into the collaboration by the partners ● Different perception of the changed benefit sharing between the partners ● Profit-Sharing |

Chart. 2: Value creation mechanism and potential conflict within leveraging collaborations

Implications for managing leveraging collaborations. While risk-reducing collaborations are also called transactional partnerships, leveraging collaborations finally are “true collaborative” arrangements. The fact that the value creation is based on mutual organizational learning, affects the necessary management style significantly. As JOHANSON and MATTSON put it, those collaborations can be differentiated by the type of coordination, which they call “adaptive”. Since the results of such collaborations are generated by bringing together partners with different competencies, the outcomes can hardly be anticipated and planned for. Therefore leveraging collaborations have to be arranged more openly than transactional partner-

ships. The focus has to be more process and interaction-oriented than results-oriented. The design of an environment that supports creative and constructive mutual learning becomes the major management task. The suitability of such environments becomes a vital success factor. For this reason relationship and conflict management also play a crucial role in the success of such collaborations. Especially the aspects mentioned under “potential conflicts” should be tightly managed and controlled. Furthermore such arrangements cannot only be measured by means of reaching milestones. Additional aspects such as the quality and stability of the relation between the partnering companies need to be addressed as well.

An example for a failed activity in this context is the planned collaboration between the Supplier Corp. (name changed) and two additional automotive suppliers. The goal was to jointly develop a front-end module for the automotive industry. This arrangement followed the rules of a leveraging collaboration where competitors work together, which is the most complex case of the classification. The initiative was started by the OEM with the goal to further reduce coordination and integration efforts. The early discussions were conducted between attorneys and no initial agreement was reached. Based on this experience the three suppliers' top management met in the next round of discussions and agreed on the next steps. As a result Front-End Corp. was founded, trusting that cooperation should now be possible. Nevertheless the project never brought about more than declarations of intent. A subsequent root cause analysis revealed the following results:

- No specific and dedicated collaboration management was anticipated (e.g. no coordination concept, no clear division of competencies, no consideration of soft-factors, no exhaustive discussion of rules, no integration of the collaboration into the involved companies and so on).
- The preparations were unstructured and without a clear system.
- Lack of collaboration willingness at the partnering companies.
- Huge mistrust regarding a potential by-passing of partners.
- The overall responsibility remained unclear.
- The collaboration showed a strong operational character while the strategic perspective remained undeveloped.

All aspects show that the collaboration was insufficiently prepared and lacked communication, clarification of interests and experience in collaborating. No special methods and procedures clarified critical points or potential conflicts and no collaboration specific agreements were approved. The fact that the collaboration was not for all of the involved companies of the same strategic importance was also critical. A structured approach would have provided for a good preparation of the collaboration and the discussion of critical topics between the partnering companies. Of course, even such an approach is no guarantee for the later success of collaborations. But maybe better preparation would have increased the awareness that such a collaboration constellation was deemed for failure and therefore time, resources and nerves of all parties could have been saved.

Interim conclusion

The first part of this series dealt with the importance collaborations can have for manufacturing companies. It was explained that most companies still do not have professional collaboration management in place. Management approaches are mainly ad-hoc and are based on the experiences of single employees (implicit knowledge). An institutionalized collaboration management is rare but will be increasingly necessary in future.

To get a first idea of what such an institutionalized collaboration management could look like, we presented a classification that showed the different methods of value creation, the resulting potential conflicts and their management implications. Real case studies illustrated the relevance of those thoughts and arguments. The focus was on collaborations within development and production of supplying industries. Nevertheless the main principles can be transferred to other contexts such as OEM collaborations as well.

The third part of this series will deal with the strategic management of collaborations which is the basis to systematically identify attractive potentials for collaboration. The evaluation, implementation and usage of those potentials are part of the operational collaboration management and will be discussed in the final part of this series.

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