International Journal of Business and Economic Affairs (IJBEA)
4(1), 1-11 (2019)
DOI: 10.24088/IJBEA-2019-41001
ISSN: 2519-9986

Potentials and Success Factors of Early Supplier Integration into Own Product Development

WANJA WELLBROCK [1*], DANIELA LUDIN [2],
JAVIER VILLALBA-DIEZ [3]

[1,2,3] Heilbronn University of Applied Sciences, Schwäbisch Hall, Germany

Abstract: The paper focuses on the research question, how a supplier integration into the own development process can be successfully arranged and what are the main potentials of early-stage supplier integration. A large-scale literature study has identified relevant success factors, including logistics peer-reviewed journals since the year 2000. Relevant peer-reviewed journals are used for the analysis, and the results are evaluated in the sense of a meta-study. Altogether 36 papers could be identified as relevant for this topic. Overall, five main success factors could be identified, which are detailed in the paper: (1) efficient supplier management, (2) strategic partnership and supplier network, (3) overall view of the supply chain, (4) contractual design of the partnership, (5) common interests and goals. The identification of potentials of early-stage supplier integration focuses on cost reduction, innovation and quality improvement, time-to-market reduction and flexibility. It would be interesting to learn from the experiences and opinions of companies and suppliers regarding joint development activities and their success. To gain practical insight a future research project should focus on interrogating customers and suppliers which factors, according to experience, successfully promote joint development from a practical perspective.

Keywords: Supply chain management, Logistics, Supplier integration, Success factors, Product development

Received: 2 January 2019 / Accepted: 4 February 2019 / Published: 28 February 2019

EARLY SUPPLIER INTEGRATION AS A MAJOR POTENTIAL FOR SUPPLY CHAINS

Value chains have become more complex because of ongoing globalization and the increasing cost pressure in product manufacturing and development. As part of these trends, companies must make far-reaching decisions about vertical integration and early-stage supplier integration during product development. Jan Danneberg from the strategy consulting company Berylls Strategy Advisors estimates that 70% to 90% of the value added is generated by suppliers, especially in the automotive industry (Magzine, 2016). Thus, suppliers play a significant role in how the product is developed and produced. That is why a functioning supplier integration in the development process is essential for the success of a product. Therefore, it is crucial for a company to know which factors make the collaboration a success and which potentials can arise through the integration of suppliers into the own development process. Exactly at this point, the present article starts by answering the following two research questions:

1. Which factors are decisive for the success of early supplier integration into the own product development process?
2. What kind of potentials can be generated through a successful collaboration?

Relevant peer-reviewed journals are used for the analysis and the results are evaluated in the sense of a meta-study.

*Corresponding author: Wanja Wellbrock
†Email: wanja.wellbrock@hs-heilbronn.de

FORWARD SOURCING EARLY-STAGE SUPPLIER INTEGRATION

In the context of integration, suppliers become a part of the companys internal structures and procedures. Furthermore, the processes and systems are synchronized. In doing this, strategic and high-performance partners need to be identified and integrated into the development process as early as possible to achieve as many benefits as possible. The early involvement of suppliers in product development is not only targeted at reducing production costs, but also at bringing innovations and technologies to the company through the transfer of knowledge (Hofbauer, Mashhour, & Fischer, 2012). Another goal of supplier integration is the creation of competitive advantages using external knowledge and the innovation potential of the partner.

In addition, the costs shall be reduced, spanning the entire product development process (Helmold & Terry, 2016) Furthermore, the goal of supplier integration is to create a framework for an efficient and cooperative collaboration. This requires the build-up of functioning Information Technology (IT) structures and defining of contacts with clear areas of responsibilities in both companies. Moreover, the increasingly shortened product life cycles reduce the development time for products. Thus, it is significant to use the knowledge and innovations of suppliers for their own product development. This reduces the time until the product will be released (Hofbauer et al., 2012).

Figure 1 illustrates the product development process, which covers the period from the presentation of the product idea to after-sales, distinguishing between development and industrialization phases. Suppliers can be integrated during the whole product development process, but the timing of the suppliers strategic value to the company is crucial: the more important the product, the sooner integration should tend to take place (Helmold & Terry, 2016).

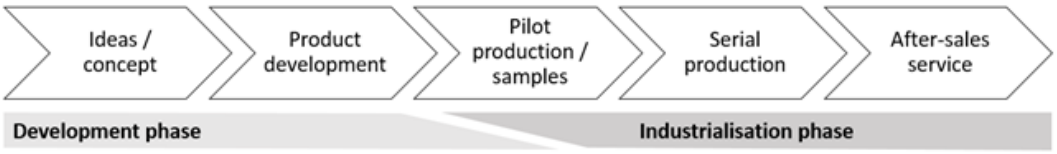

Figure 1. Product development process. Source: (Hofbauer et al., 2012)

When integrating a supplier in the development phase, it is essential to classify him based on different portfolios. On the one hand, the classification can be generated with the corporate specifications to create precise guidelines for the selection of the supplier. This makes it clear whether the supplier is appropriate for product development. On the other hand, a complete supplier evaluation can be carried out to determine the necessary resources and knowledge of the supplier in order to be able to be commissioned early within the product development. The definition of concrete guidelines and requirements is necessary to ensure successful cooperation and to achieve the intended goals, such as cost reduction and shorter development time (Kehl, 2005).

The difference in a later integration within the industrialization phase is that the development process is already completed, and changes can only be yielded via change management. Thus, the supplier has only a small proportion of the actual product development and is rather commissioned with the manufacturing of an already developed product. Nevertheless, this is considered as an integration into the product development process, because pre-series parts and prototypes are needed. This integration aims at optimizing production processes and enabling a continuous advancement of the serial production (Hofbauer et al., 2012).

The early integration of suppliers into the product development process is also known as “forward sourcing”. The premature involvement of a series or development supplier has the goal that both partners develop the product in the form of simultaneous engineering teams. The joint development makes it possible to increase quality, reduce development time and cost (Wannenwetsch, 2014). As is otherwise the case, various individual components are not procured from different suppliers, but a supplier is commissioned to develop the component and to procure the required components himself. For example, the supplier receives a specification sheet with all relevant information and is commissioned to develop

the component based on these requirements. This development is mostly done in cooperation between the development teams of both companies. This holistically reduces the information and coordination cost, and optimally exploits the knowledge of both parties (Schreiber, 2018).

METHODIC PROCEDURE

The basis of the literature review is peer-reviewed journals, which are characterized by a high scientific standard and several content checks by experts. In this context, the opinions of experts and managers from the industry are also relevant. Thus, occasional practitioner journals have also been integrated that constitutes interview, opinions and statements of persons who work in the relevant departments. To ensure the topicality of the study, only articles published since 2000 are considered. In order to determine the potentials and success factors, an extensive literature analysis was carried out, with a focus on the keywords "forward sourcing","outsourcing", "supplier relationship management", "supply chain management" and "production research". The research based on the mentioned keywords resulted in an amount of almost 150 articles, with 36 being identified as relevant for the study after detailed evaluation. The excluded sources include studies that examine another field of buyer-supplier relationship.

SUCCESS FACTORS OF EARLY INTEGRATION OF SUPPLIERS INTO THEir OWN PRODUCT DEVELOPMENT PROCESS

Success factors are factors and key sizes that are essential for the achievement of an objective. The company will be successful, if these factors are correct. If there are deficits, this will directly affect the success of the company (Szczutkowski, 2018). As shown in Figure 2, the literature review highlights five groups of success factors for integrating suppliers into the product development process, which are described in detail below:

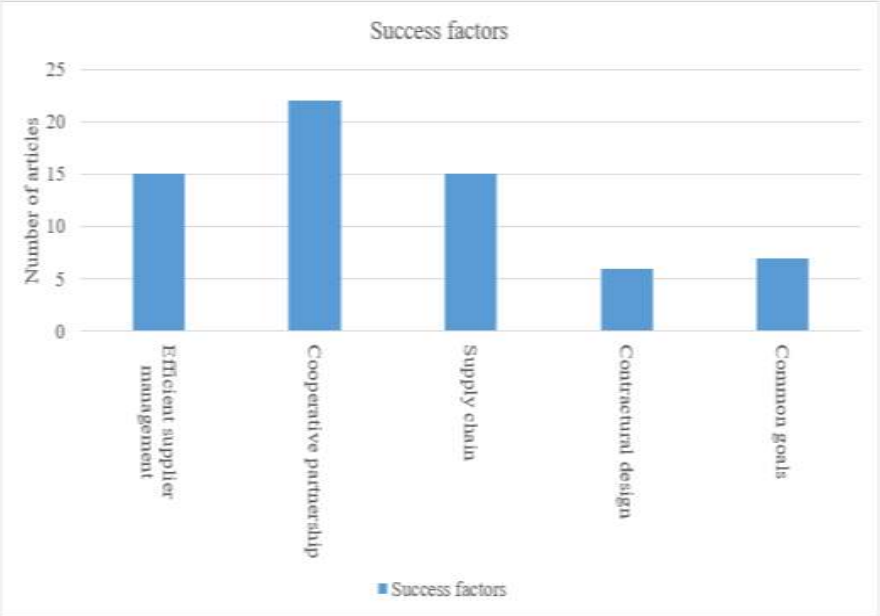

Figure 2. Success factors of early supplier integration in their own product development process.

Success factor: Efficient supplier management

As shown in figure 3, supplier management includes five key phases, each making a significant contribution to select the right supplier. This explicit pre-selection is crucial for successful cooperation between the parties in the development process. Only a complete implementation of all phases of the supplier management enables exploitation of the potentials of supplier integration. The supplier management has to be strategically adapted to the corporate objectives, and furthermore, the selection

of the right strategic partners lays the foundation for agile project implementation within the company (Abdurrahaman & Osman, 2017; Dinnessen, 2016; Hess & Kittel, 2016). Zaremba, Bode, and Wagner (2017) lists that the supplier management is crucial for identifying and integrating new suppliers with high innovation potential. A comprehensive supplier evaluation and selection process are closely connected to the success of buyer-supplier relationships (Zaremba et al., 2017).

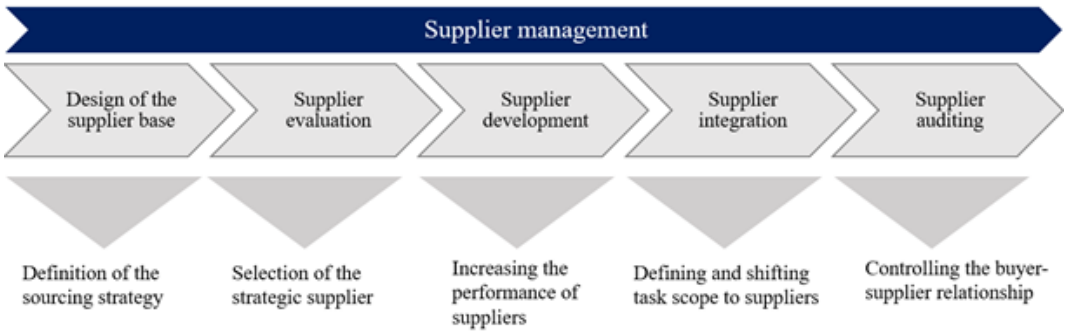

Figure 3. Design areas of supplier management.

Krause and Terpend list another reason for extensive and complete supplier management. If suppliers are only selected based on the price, smaller companies have no chance. They cannot withstand the cost pressure generated by competitors. Bigger companies have the option to subsidize the costs through other projects and therefore can offer lower prices. Thus, smaller but possibly more innovative and better companies would not be considered when choosing the supplier (Terpend & Krause, 2015).

Pratap explains that some organisations employ executives who specialise in searching the supplier base for best-in-class-abilities. This ensures the cooperation with external suppliers at the appropriate stage of the innovation cycle. The ability to proactively and simultaneously adjust with multiple industry-leading suppliers helps companies to reduce the design cycle time. These abilities of the suppliers can only be identified by means of a complex and efficient selection process. Choudhury and Sharma also indicate that there should be a knowledge asymmetry in cooperation relationships. Otherwise, it would not be necessary to exchange or share knowledge (Pratap, 2014; Sharma & Ghosh, 2014).

Supplier management also lays the foundation for the selection of the sourcing model. In the area of product development, the focus is on sourcing models such as forward sourcing, outsourcing and crowdsourcing for cooperation with the supplier. The type of model needs to be known before the actual sourcing and the supplier selection must be aligned in accordance.

In order to make supplier management successful, the extent of the product to be developed and its strategic value should be known. For significant and extensive projects, early integration of the supplier into development is recommended. Thus, its expertise can be used, and the supplier has more time to develop and deliver an optimal product (Dombrowski, Karl, & Schmidtchen, 2015).

Overall, the analysis shows that comprehensive and complete supplier management is an essential factor for the success of supplier integration. The basic prerequisite here is the evaluation of suppliers based on diverse factors that fit the respective project (Whipple, Wiedmer, & K. Boyer, 2015).

Success factor: Cooperative partnership, strategic partnership and supplier network

Supplier integration is often described as a strategic partnership in literature. This strategic partnership is less about integrating the supplier, but rather about developing strategic products cooperatively, while remaining legally separate at the company level. The collaboration with suppliers must be based on partnership because a high level of networking requires close coordination of processes and systems (Hess & Kittel, 2016).

Many companies use strategic alliances to acquire new resources that they cannot receive isolated. This relates to materials, personal resources, or, for example, also to supplier networks of the partners. To build a stable relationship between the companies, the importance of trust and engagement should not be neglected. Trusting a partner is based on open communication and a continuous exchange of information.

Dividing the risk within a joint project is a further success factor of collaboration. Only when both parties have a certain risk, they are willing to work together to achieve the objectives (Carnovale, Yeniyurt, & Rogers, 2017; Sharma & Ghosh, 2014).

According to Jokela and Söderman (2017), fairness between the partners is a decisive success factor. Fairness is a personal opinion and can hardly be reproduced in numbers. Each person has a different sense of fairness, which is important to ensure that no party feels disadvantaged. During the project period, solutions must always be preferred that do not disadvantage any party significantly. Both parties should have a high level of commitment to cooperation. Only then, saving costs, working flexible, and sharing risks is possible.

Individual relationship and collaboration activities need to be aligned with the specific characteristics of the present buyer-supplier relationship to create the maximum reachable relation-oriented values. Relating to new companies and their unique characteristics, previous studies have revealed that innovative new companies will not fully exploit their potential if they are limited to simple, independent buyer-supplier relationships. This indicates that companies, which try to understand and use the potential of new companies, need a series of specific functions for relationship management and must individually shape the collaboration with suppliers. The result is that communication quality is significant to the progress and success of collaboration during the overall relationship (Zaremba et al., 2017).

Another factor during the collaboration is the power structure between customer and supplier. Especially in complex product development cooperations with strategically important partners, experts recommend dividing the power structure and entering a cooperative relationship. In this way, they can make the projects faster, of higher quality, and more efficient (Chae, Choi, & Hur, 2017).

In conclusion, the intensity of collaboration should tend to increase depending on the rising value-added share. Furthermore, the suppliers innovations and services can be used more efficiently through a stable relationship (Dinnessen, 2016). An awareness of the strategic importance of the supplier must be created in order to identify and promote his strength early. Replacing the supplier at a later stage of the development cycle can result in a substantial loss of time and additional costs. This can make higher prices acceptable in some situation if therefore a stable project progression is guaranteed. From the management level to the project team, there needs to be an awareness of the mentioned facts (Schreiber, 2018).

Success factor: Overall view of the supply chain

The overall view of the supply chain is one crucial factor for successfully fostering the joint product development with the supplier. Procurement is not only about providing raw materials for a secure supply but also about understanding that a broad and efficient supplier base creates added value for the organization. Economic success is achieved by those who pursue refined sourcing business models designed to build a trusting business base and unleash the transformative and innovative power of highly collaborative relationships with suppliers across multiple supplier levels (Vitasek, 2016).

Streamlining the supplier basis and accordingly focussing on key suppliers are current tendencies in today's industry. As a result, procurement departments can concentrate on strategically important suppliers and at the same time, improve communication and collaboration. This concentration aims to achieve zero-defect quality by optimising joint development with key suppliers (Buscher & Buger, 2017).

It is also pivotal that a key supplier per se is not examined exclusively, but also its whole supplier network that is brought into the cooperation. By integrating a supplier, a connection with its sub-contractors and partners is established concurrently leading to an expansion of the existing in-house supplier network. It is necessary to consider these connections during sourcing and collaboration to guarantee successful cooperation in the long run. The supplier network is significant for the innovation potential of a company, as it represents the immediate link to the suppliers and points out which resources the company has direct access to (Yan, Yang, & Dooley, 2017).

Another success factor while examining supply chains are the ability to adapt to changing circumstances. This flexibility can only be guaranteed, if the whole supplier network is adaptable, as the in-house real net output ratio is increasingly outsourced and therefore the adaptability of the supplier is decisive (Dinnessen, 2016).

In order to successfully design the supply chain and the associated integration of suppliers, a cross-company IT system needs to be implemented that standardizes relevant processes. Drawings or relevant information must be available to all suppliers already during the tendering process so that the supplier best suited to the product can be determined. Furthermore, with the help of IT systems demand planning of preproduction series or prototype parts can be managed more efficiently (Korkowski, 2016).

Success factor: Contractual design of the collaboration

The nomination letter regulates the allocation of responsibilities during the development of a product and sets out the general framework for collaboration. Therefore, it is crucial for the project to thoroughly develop the nomination letter. This contract constitutes the basis upon which parties concerned can rely and to which they are referred to, in case complications arise while the project is in progress or individual persons are being replaced (Besenfelder, Liesebach, & Uygun, 2011).

The contract between customers and suppliers should be set up as agile as possible to facilitate innovations and should, at the same time define the framework for collaboration and be based on trustful cooperation. It should set a default target that is derived e.g. from the performance description of the product. It should also regulate duties of the individual parties with regard to reviews and regularly meetings, as well as the consequences of non-fulfillment of the contract. The design of the framework conditions and their approval of both parties is essential for a successful collaboration. Additionally, the legislation applicable in the country of the supplier needs to be considered in the contractual arrangement (Dinnessen, 2016; Dollmeier, 2016).

Success factor: Common interests and goals

Successful cooperation between customers and suppliers can only arise, if both partners develop a common interest in mutual success. Thereby both sides show great commitment to the collaboration and strive for maximum success. Consequently, a joint win-win-partnership is in the centre of attention. Concrete goals need to be defined in advance and aligned in such a way that the supplier involved in the product development is just as interested in the success of the project as the customer. From the supplier's point of view, successful cooperation also makes sense regarding a consideration in follow-up projects and the knowledge gained from joint product development (Sharma & Ghosh, 2014; Buscher & Buger, 2017). Furthermore, Paquette (2003) describes that internal company objectives need to be defined precisely. Once an understanding of internal needs with respect to applicability, specifications and all other product details has been established, it is possible to find a suitable partner (Paquette, 2003).

By means of the outlined success factors, an answer was given to research question one, "which factors are decisive for the success of an early supplier integration into the own product development process?"

POTENTIALS OF EARLY INTEGRATION OF SUPPLIERS INTO THEIR OWN PRODUCT DEVELOPMENT PROCESS

Potentials are defined as possibilities that are existent but are not yet or not sufficiently used. They are aiming at precipitating improvements or increase of a matter. Potentials of cooperative product development, executed by customer and supplier, are analysed in the following section, based on the conducted literature review. Four different potential categories can be highlighted (see Figure 4).

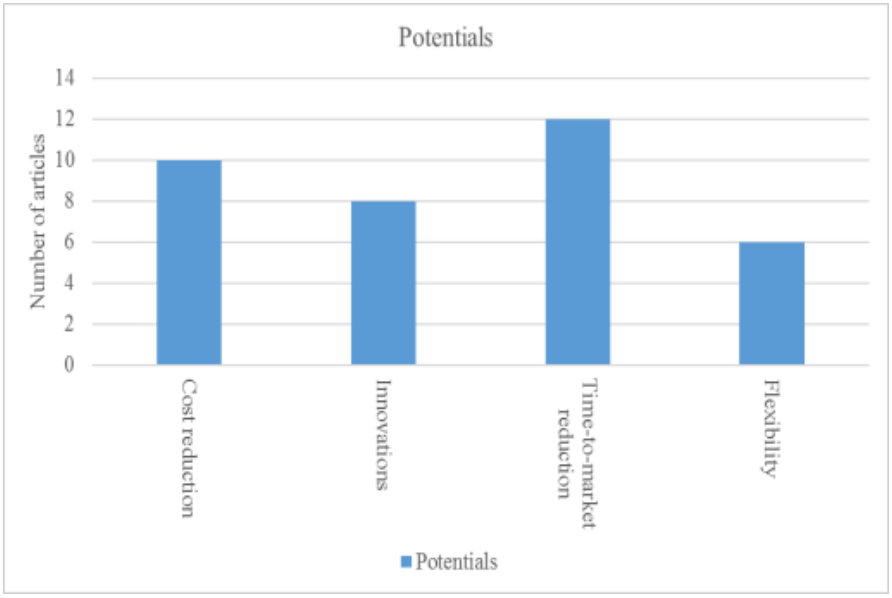

Figure 4. Potentials of early supplier integration in their own product development process.

Potentials for cost reduction

One of the central objectives of every company is to reduce the costs during product manufacturing. It encompasses all production stages from the sourcing and development phase to the distribution of the finished product. In certain parts, costs can be cut through early integration of suppliers. By streamlining the own product development and outsourcing it to suppliers, the own real net output rate is reduced whereby reductions in personnel and manufacturing costs can be made. A long-term collaboration with those suppliers is aspired; therefore other factors such as reliability and innovativeness need to be considered as well. Elsewise, significantly higher costs can be involved within the development process in form of improvement loops and acceleration costs. Replacing suppliers during the development phase might also lead to significantly higher expenses, as tools or development costs may have already been paid for (Buscher & Buger, 2017; Schreiber, 2018).

In their article about fairness in buyer-supplier-relationships, Jokela and Sdermann describe the fact that fairness is closely linked to the exchange of prices. The approach implies that even in competitive markets, prices should always be at such a level that a non-disadvantaged party would accept them in order to be successful. Costs that are unforeseen and need to be negotiated should be negotiated in such a way that no party is placed at a significant disadvantage (Jokela & Söderman, 2017).

Equity partnerships are primarily used, if an organization lacks sufficient internal capabilities and does not want to outsource its entire knowledge. Several organizations do not command sufficient internal resources for autonomous project development but are not willing to withdraw entirely from in-house processes and structures as well as to outsource the project. Given such a case, organizations may decide to form equity participation, such as a joint venture or other legal forms, aiming at development in partnership to acquire critical goods and services. Such partnerships can be seen as an investment into the future because further projects can be strived in collaboration with the same supplier and not only finished products are purchased (Vitasek, 2016).

Expanding the corporate supplier network offers another possibility to save costs. It gives the possibility to the procurement department to choose from a wide range of suppliers and finding that one offering the most suitable cost-benefit-factor for the project. However, this potential can only be leveraged by efficient supplier management (Carnovale et al., 2017).

Potentials for increased innovation and quality

An assessment of the quality enhancement can be carried out on several levels, whereby, for example,

the adherence to delivery dates, the quality of the delivered parts or the willingness to communicate during the cooperation can be evaluated. Suppliers are thus required to act appropriately overall with regard to this versatile measure of performance and to stand out from their competitors. At the same time, they are restricted due to their cost structure because the project naturally also aims to generate profit. Furthermore, the cost structure among suppliers often resembles in competitive markets. Suppliers also have the opportunity to position themselves with innovative ideas and specialization and to stand out from the competition. Such suppliers should be taken into account primarily during the selection procedure, as they show great potential and are willing to adapt to changes. The innovation potential for a company can be very high (Terpend & Krause, 2015).

Previously the streamlining of the supplier basis was mentioned as a factor for successful integration of suppliers. This gives opportunity to concentrate on key suppliers and to exploit their potential regarding innovations and quality enhancement. It is crucial not only to assess the quality of the final product, but also the quality of processes and measures, relevant for the development phase. This specific evaluation applies better to a single few key suppliers than to numerous various suppliers. Furthermore, controlling just a few suppliers is more cost-efficient. The concentration on key suppliers offers several possible improvements with respect to the quality of processes (Buscher & Buger, 2017).

Technologically speaking the integration of suppliers offers a high potential for enhancement of the overall product development as well as a high level of technology exchange and innovation potential. Choudhoury and Sharma emphasize that making use of these potentials is only possible when both partners are developing a shared interest in mutual success. By transferring knowledge and applying ideas for quality enhancement, the overall quality of joint product development can be increased. Through technological exchange the quality of the final product can be enhanced as well as innovations can be introduced by integrating suppliers into the company (Sharma & Ghosh, 2014).

By integrating a supplier into product development processes simultaneously, a connection with its sub-contractors is established. This network of suppliers is relevant for a companys innovation potential, as thereby the company receives direct access to external knowledge. It is significant for using the innovation potential that companies do not choose their cooperation partners based only on the acquisition price, as smaller enterprises often cannot keep up with the prices set by market leaders. A company cannot generate innovations if it predominantly collaborates with similar industry-leading suppliers. On the contrary, smaller enterprises often approach problems in a different way and try to find new ways to solve them. This results in a high degree of innovation potential and the ability to solve problems more efficiently (Yan et al., 2017).

Potentials for time-to-market reduction

Time-to-market characterizes the time that elapses from a product idea or a service offered to market maturity (Kreutzer, 2018). Companies increasingly try to reduce the time needed to be one step ahead of the competition. As product development consumes a large part of this time, the integration of suppliers at an early-stage contributes to reduce the time needed. Normally suppliers have already gained experiences with previous products and ideally do not have to build up staff first, as concurrently other projects are finalized. In this manner, the company's own personnel recruitment is particularly eliminated; additionally the supplier's knowledge can be used to shorten the development time. However, this reduction only works if both companies show a great willingness to communicate and if the development teams fully concentrate on the project (Buscher & Buger, 2017).

Potentials for increased flexibility

Flexibility reflects the companys capability to react to changes in customers demand as well as to unforeseen modifications due to competitive pressure. Thereby cooperations can not only bring both parties' monetary competitive advantages, but companies can also act more flexibly through the integration of network partners and thus better adapt to the needs of their customers (Fredriksson & Wänström, 2014).

The distinction between a standard buyer-supplier-relationship and a partnership approach is

related to the value of flexibility in decision-making. In traditional relationships, this value is defined in advance, then the supplier is hired to execute the project, but afterwards, possible influences are very limited. In the case of an integration or development based on partnership possibly costs may rise in the beginning in comparison to outsourcing due to greater effort, at the same time, however, it enables adjustments to be made during the development process due to changing circumstances, thus reducing the development time and increasing the quality of development in the long run (Fernandes, Gouveia, & Pinho, 2012).

In addition, the flexibility of collaboration comprises a contractual arrangement that ideally increases adaptability. The development partners need to have a certain contractual freedom to be able to carry out innovations or quality enhancements. The performance specifications of a product serve for providing a rough framework and defining the collaboration, as the supplier can only contribute its know-how and innovation potential to the project if it is not restricted by too many specifications (Dinnessen, 2016).

RESULTS AND CONCLUSION

Based on an extensive literature review, this article analyses success factors and potentials of an early integration of suppliers into the proprietary product development. As the study results show various factors are significant for the success of supplier integration. While doing so several operating divisions need to be taken into account and many processes from management of suppliers to a holistic view on the supply chain need to function optimally. The authors primarily cite cooperation based on partnership and extensive and efficient preparatory work in terms of supplier selection as keys to success. During the evaluation of the articles, it became apparent that aspects such as costs, quality and time are less seen as success factors but more as potentials for a successful collaboration. Non-monetary factors are therefore more important when it comes to success than monetary factors.

Another factor mentioned by several authors is the wrong choice of suppliers. Many companies are only looking at cost elements throughout the tendering process of the development stage and are awarding the development to the most cost-efficient one. However, suppliers who are unable to keep up with the cost pressure of industry leaders, are not taken into account. These suppliers may, however, be more innovative and would be better partners for future developments.

The study has shown that integrating suppliers into the development process is not only beneficial. By outsourcing the development, the contracting company diminishes a lot of knowledge and gives the supplier access to its own processes, which can lead to problems in the event of a later separation. Nevertheless, the leading opinion is that the advantages outweigh the disadvantages if implemented correctly. The study also shows that the integration process is very complex and can only be successful if these factors are taken into account.

The authors have mentioned a great variety of success factors, but the majority has only been examined with a theoretical approach, hardly any source contained practical examples for joint development. Therefore, it would be interesting to learn from the experiences and opinions of companies and suppliers regarding joint development activities and its success. To gain practical insight a future research project should focus on interrogating customers and suppliers which factors, according to experience, successfully promote joint development from a practical point of view.

REFERENCES

Abdurrahaman, D. T., & Osman, Z. (2017). Development of conceptual framework for nigerian generation y-ers' purchase intention and response towards indigenous celebrity-endorsed products: A PLS-SEM study on selected mobile service providers in nigeria. *Journal of Administrative and Business Studies*, *3*(1), 49-59. doi:https://doi.org/10.20474%2Fjabs-3.1.6

Besenfelder, C., Liesebach, T., & Uygun, Y. (2011). Supply chain planning. *ZWF Journal for Economic Factory Operation*, *106*(12), 939-943.

Buscher, U., & Buger, F. (2017). How industry 4.0 and lean fertilize each other. *ZWF Journal for*

Economic Factory Operation, *112*(7-8), 518-521. doi:https://doi.org/10.3139/104.111750

Carnovale, S., Yeniyurt, S., & Rogers, D. S. (2017). Network connectedness in vertical and horizontal manufacturing joint venture formations: A power perspective. *Journal of Purchasing and Supply Management*, *23*(2), 67–81.

Chae, S., Choi, T. Y., & Hur, D. (2017). Buyer power and supplier relationship commitment: A cognitive evaluation theory perspective. *Journal of Supply Chain Management*, *53*(2), 39–60.

Dinnessen, H. S., F. (2016). Strategische lieferantenbeziehungen. die erfolgsentscheidende rolle des einkaufs in der digitalen transformation. *All about Sourcing*(8), 12-13. Retrieved from https://bit.ly/2P94DKO

Dollmeier, R. (2016). Relocation of production as part of the global sourcing strategy: Description of a process model. *ZWF Journal for Economic Factory Operation*, *111*(1-2), 28-31. doi:https://doi.org/10.3139/104.111470

Dombrowski, U., Karl, A., & Schmidtchen, K. (2015). Supplier integration in the product development process: The current state of the German industry. *ZWF Journal for Economic Factory Operation*, *110*(10), 625-629. doi:https://doi.org/10.3139/104.111401

Fernandes, R., Gouveia, B., & Pinho, C. (2012). Vertical integration moment in dynamic markets. *Strategic Outsourcing: An International Journal*, *5*(2), 121–144. doi:https://doi.org/10.1108/17538291211257583

Fredriksson, A., & Wänström, C. (2014). Manufacturing and supply chain flexibility–towards a tool to analyse production network coordination at operational level. *Strategic Outsourcing: An International Journal*, *7*(2), 173–194. doi:https://doi.org/10.1108/SO-04-2014-0003

Helmold, M., & Terry, B. (2016). Paradigm shift supplier management. In *Supplier management 2030* (pp. 1–14). Springer. doi:https://doi.org/10.1007/978-3-658-13979-7_1

Hess, v. L., & Kittel. (2016). Strategic supplier management. Networking with partners. *All About Sourcing*, *16*(3), 6-7.

Hofbauer, G. . M., Mashhour, T., & Fischer, M. (2012). *Supplier management: The value-oriented design of the supply relationship*. Berlin, Germany: Walter de Gruyter.

Jokela, P., & Söderman, A. (2017). Re-examining the link between fairness and commitment in buyer-supplier relationships. *Journal of Purchasing and Supply Management*, *23*(4), 268–279. doi:https://doi.org/10.1016/j.pursup.2017.08.003

Kehl, B. (2005). Involvement of the supplier in the development process. Just the right time to meet. *All About Sourcing*, *8*, 12-13. Retrieved from https://bit.ly/33EZBJe

Korkowski, L. K. D., W. (2016). Involvement of the supplier in the development process. Just the right time to meet. *All About Sourcing*, *8*, 12-13. Retrieved from https://bit.ly/33EZBJe

Kreutzer, R. T. (2018). *Definition time-to-market.* Retrieved from https://bit.ly/2KAtPFO

Magzine, M. (2016). *Auto parts supplier in Germany. The 400 billion euro industry.* doi:https://bit.ly/2HaPkv3

Paquette, L. (2003). *The sourcing solution: A step-by-step guide to creating a successful purchasing program*. New York,NY: AMACOM Div American Mgmt Assn.

Pratap, S. (2014). Towards a framework for performing outsourcing capability. *Strategic Outsourcing: An International Journal*, *7*(3), 226–252. doi:https://doi.org/10.1108/SO-04-2014-0004

Schreiber, P. (2018). *B2B sales: "Evil" manufacturers versus "poor" suppliers?* Retrieved from https://bit.ly/2z4zzkC

Sharma, S., & Ghosh, C. A. (2014). A qualitative study on evolution of relationships between third-party logistics providers and customers into strategic alliances. *Strategic Outsourcing: An International Journal*, *7*(1), 2–17. doi:https://doi.org/10.1108/SO-08-2013-0015

Szczutkowski, A. (2018). *Critical factors of success.* Retrieved from https://bit.ly/2GoKrxL

Terpend, R., & Krause, D. R. (2015). Competition or cooperation? Promoting supplier performance with incentives under varying conditions of dependence. *Journal of Supply Chain Management*, *51*(4), 29–53. doi:https://doi.org/10.1111/jscm.12080

Vitasek, K. (2016). Strategic sourcing business models. *Strategic Outsourcing: An International Journal*, *9*(2), 126–138. doi:https://doi.org/10.1108/SO-02-2016-0003

Wannenwetsch, H. (2014). *Integrated materials management, logistics and procurement.* Berlin, Germany: Springer.

Whipple, J. M., Wiedmer, R., & K. Boyer, K. (2015). A dyadic investigation of collaborative competence, social capital, and performance in buyer–supplier relationships. *Journal of Supply Chain Management*, *51*(2), 3–21.

Yan, T., Yang, S., & Dooley, K. (2017). A theory of supplier network-based innovation value. *Journal of Purchasing and Supply Management*, *23*(3), 153–162. doi:https://doi.org/10.1016/j.pursup.2017.02.002

Zaremba, B. W., Bode, C., & Wagner, S. M. (2017). New venture partnering capability: An empirical investigation into how buying firms effectively leverage the potential of innovative new ventures. *Journal of Supply Chain Management*, *53*(1), 41–64.