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Competitive Advantage through Innovation Management – Analyzes and Results of the IHK-InnoMonitor 2015

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Content

1 Introduction

The Research Group „Innovationsexzellenz“, Dortmund University of Applied Sciences and Art, systematically investigates the innovative behavior of the companies in the „Westfälisches Ruhrgebiet“ (eastern part of Ruhr area). The contribution at hand deals with the factors significantly determine the success of the above mentioned companies based on the results of the *IHK-InnoMonitor 2015*.

166 companies participated in the data collection of the IHK-InnoMonitor 2015 (March until May 2015). Due to the matter of completeness data of 157 companies were incorporated in the analyzes.

The questionnaire of the IHK-InnoMonitor survey incloses 57 questions covering systematically all levels of the *House of Innovation Excellence* (innovation success, innovation process and – internal and external – conditions to innovate) which provides a sound conceptual framework to explain innovative success of companies.[1]

The participating companies of the IHK-InnoMonitor 2015 belong to different size-based classes (cp. Fig. 1).

	Frequency	%	cumulative %
Microcompanies	71	45,2	45,2
Small companies	49	31,2	76,4
Mid-sizes company	25	15,9	92,4
Large company	12	7,6	100,0
Total	157	100,0	

Fig. 1: Distribution of companies of the IHK-InnoMonitor 2015 by size.

From a *sector-specific perspective*, the sample is spread over services (64 companies); manufacturing (43); trade (21); media, telecommunications and information technology (15); hotel industry, transportation (8) and credit and insurance (6).[2]

The key question for the further discussion is: *What is the difference between successfully innovating companies and the less (or not) successful innovators?* The task of identifying the impact variables that are actually decisive for innovation success is strategically important to help companies setting the right priorities in the design of their innovation management and to support the development of *competence-driven competitive advantages*.

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[1] See in detail Büchler/Faix (2015a). The replies generally provide information on the approval or rejection to an item on a five-level rating scale (1 = „not at all“; 2 = „low“; 3 = „medium“; 4 = „to a high degree“; 5 = „to a very high degree“. Furthermore „6” stands for „answer not possible“).

[2] In size-related interpretations of results, it has to be taken into consideration that the size and the sector distribution of the companies in the sample are not completely independent. For example, companies from the services sector, media, telecommunications and information technology tend to be small and medium-sized, while those from the manufacturing sector are more likely to include medium-sized and large companies.

The differentiation of companies into the above-mentioned groups is based on a cluster analysis, which processes four variables: (1) the objective of the companies with regard to the number of innovations, (2) the innovation rate (turnover of innovations which are not more than three years old), (3) satisfaction of companies with the achievement of the financial innovation objectives and (4) satisfaction of companies with the achievement of the profitability (regarding the entire company). Figure 2 shows the characteristics of the variables used in the cluster separation:[3]

	Cluster Unsuccessful companies (n = 80)	Cluster Successful companies (n = 49)
Objective for the number of innovations (scale values)	2,80	4,24
Innovation rate [%]	13,6	36,5
Achievement of financial innovation objectives (scale values)	2,73	3,61
Achievement of profitability (entire company; scale values)	3,03	3,69

Fig. 2: Distinction between successful and unsuccessful innovators.

The further discussion of this paper deals with the *significant* differences between the above-mentioned groups of companies regarding the characteristics of the design factors of innovation management.[4]

[3] All of the differences shown are statistically highly significant, i.e., the level of significance is at most 1%. (Significance levels of no more than 5% lead to „significant“ and those of up to 10% to „weakly significant“ statements).

[4] See in detail Faix/Büchler (forthcoming) and Büchler/Faix (2015b), pp. 32 ff. (with a thorough discussion of similar results of the *IHK-InnoMonitor 2014*).

2 Success-oriented design of innovation management

2.1 Idea management, innovation development and marketing

Innovation processes basically consist of the actions undertaken by companies in the production and enforcement of innovations. Key elements of these processes are the management of ideas, the development of innovation and the development of strategies and measures to marketing the innovation.

Idea management includes the inventive and/or information-related activities (creation of new ideas, search for already existing product ideas) to find suitable ideas for new products of the company (and possibly their subsequent storage).[5] Compared to less successful innovators the successful companies of our sample have a better information base to achieve significant technological *and* market advantages with their new products. They use to a greater extent *employees of R&D and marketing as ideas suppliers*, combine the *analysis of internal and external sources* and strive to grasp *innovation inspirations of their customers* systematically.

In the field of *innovation development* – refering to elaboration and transfer of product ideas into market-ready products – the successful innovators regularly control the process with a *binding process model*, enabling them to make holistic, flexible decisions against the background of defined milestones. In addition, the development activities are focused more closely to *competitive advantages* and *integrates customers more systematically*. A more intensive use of methods (like *creativity techniques* or approaches to the *assessment (screening) of innovation ideas*, for example by means of empirically based success factors or market-oriented analyzes) better supports the different steps of innovation development and strengthens the rationality of the decisions.

Innovation marketing focuses on the effective introduction of innovation into the market and its long-term enforcement by planning and realizing a suitable marketing-mix.[6] The successful companies are characterized by a strong, consistent market orientation in that respect: they are more focused on the *target groups and their needs* in the planning of innovative activities and are also better equipped to *predict competitor reactions* to their initial moves. However, successful companies are more likely to make use of a *first-to-market strategy* and avoid follower strategies.[7] In addition, they strive for *superior quality positions* with their new products and a *larger number of product modifications* for customers, which are consequently *marketed at relatively high prices*.

The successful actors use *market tests* more intensively in order to proactively assess the acceptance of their new products and possibly competitor reactions as well. A comprehensive *market controlling* (as an accompanying analysis and evaluation of success factors, strategic and operative measures for innovation management) is also being implemented by the suc-

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5 See Faix (1998), pp. 320 ff. However, measures for the storage of developed or found ideas were not empirically investigated.

6 Büchler/Faix (2016), pp. 216 ff., develop a contingency approach of Innovation marketing.

7 On the basis of IHK-InnoMonitor-data it is determined, that companies pursuing a *pioneer approach of innovation strategy* tend to achieve higher innovation successes. See in detail Faix (2017).

cessful innovators and improves the information basis for fostering the success of the innovation.

2.2 Organisation, leadership and culture as essential internal contingency factors

Apart from a wide variety of influences outside the company, the intensity and quality of the activities of the innovation process can be explained by various *internal conditions* driving the propensities and possibilities of individuals in the company (especially organisation, company culture, leadership).[8]

The term „organisation" stands for a system of rules aiming at coordinating the activities of actors and working units of companies. Successful innovators, in comparison to less successful companies, rely more heavily on an *efficient project organisation* to implement innovation activities, so that resources and competences can be coordinated more precisely for innovation purposes. *Project managers*, who act as the „engine" of the innovation process, take over different promoter roles (like power, specialist or relationship promoters) and help to overcome capability- and willingness-related barriers of stakeholders and establish relationships within and outside the company. The successful group of companies *coordinates emphatically the different functions involved in the innovation process* (in particular R&D and marketing), e.g. with the help of workshops or Liasion managers. Overall, the successful companies integrate innovation tasks more substantially with suitable organisational measures.

The stronger *concentration of decision-making power* can also have a positive effect for the management of innovation processes, especially with respect to the execution of concepts and plans. In addition, successful innovators of our sample are characterized by a relatively *higher specialization* of the employees.

The *culture* that prevails in a company can be best understood as a quite stable network of basic assumptions, values, norms and artefacts, which strongly influences the perception, thinking and behavior of the employees of a company. If companies have a strong, concise and broadly accepted culture that focuses on the emergence of innovation, this is undoubtely an important driver to achieve above-average innovation success.[9]

The successful innovators differ from the less successful players by a more fundamental focus on the *creation of novelties for their – current and potential – customers*. Furthermore, their culture is characterized by an extraordinary *productive exchange between functions and areas*, so that favorable conditions for a close interlinking of abilities and ideas of different functions are created. With regard to the circumstances, in which individuals develop innovative initiatives in the company, it has to be stated, that we found no significant differences between successful and less successful innovators in terms of *granted scope for developing new ideas* through employees and the *extent of tolerance with regard to faults when a new paths is taken*. The reason for this has primarily to be seen in the quite high values in the respective scales in the less successful comparison group, which can hardly lead to withdrawals.

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8 See for relevant influencing variables e.g. Lawson/Samson (2001); Sammerl (2006) and Terziovski (2007).

9 See also the results in Lawson/Samson (2001), pp. 394 ff,; Ernst (2003), pp. 31 ff.

With a stronger emphasis on innovation as a value, an innovative company is characterized by a climate, that encourages employees to develop new ideas and promote innovation. In successfully innovating companies members *try out new ideas with greater emphasis* than in less successful units. It can be assigned to the considerations on the use of promotors and their favorable (long-term) effects on the success of innovation, that the *leaders in successful companies stress the importance of innovations* to a stronger extent.

Leadership is a process of social influence, through which people interact with other people in order to lead them to specific activities. Leadership measures have to be closely coordinated with HR-management instruments (for example, Human resources development, training and education), which are equally aimed at individuals and their actions (as well as the prerequisites) in the company. Both activity complexes are of great importance for successful innovation management.[10]

With regard to leadership, we identified, that successful companies are remarkably more concerned with formulating *binding, measurable targets for the individual stages* of the innovation process and to regularly *review their achievement*, e.g. by means of early warning indicators.[11] This reduces the risk that projects without real success prospects will be pursued (too long) and that scarce resources of the company are wasted.

The high degree of importance of top management for the successful initiation and implementation of innovations can refer to different promoter roles; in particular the activities of power promoters, who ensure the support of the innovation project and make resources available, are emphasized as a success condition. In the successful companies, top management is more concerned with *promoting innovation development on a regular basis*. There is no significant difference with regard to the *degree of responsiveness of top management* by employees, which is however quite high in both comparison groups.

Similarly, successful and less successful innovating companies do not differ significantly in terms of the intensity with which (material or immaterial) *innovation incentives* are set up in order to encourage employees as much as possible to promote innovations. The absolutely rather low scale values in both groups indicate a potential for HR-management improvement to strengthen the motivation base for innovation management. In successful companies, *innovation-related training and continuing education measures* (such as training courses dealing with creativity techniques or the use of innovation-oriented databases) are used more intensively to raise relevant qualifications of employees. All in all, the analyzes of company's innovation-oriented leadership and HR-policies led to inconsistent, sometimes rather favorable, sometimes less favorable results.

2.3 On the external conditions of the companies

In addition to the internal factors, characteristics of the *external situation* influence the willingness, opportunities and possibilities for innovative behavior of the companies. This section focuses on analyzes on the availability of (specialized) workers as well as the compa-

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10 See for example Stern/Jaberg (2007), p. 21.

11 See the results in chap. 2.1 for the use of process models.

ny's R&D-resources (which are often provided externally), on the market and industry environment (customer requirements etc.) as well as on cooperation intensities.

The development of innovation is basically dependent on the availability of sufficient resources – mainly employees, but also equipment and research facilities – in quantitative and qualitative terms. In contrast to the less successful units, the successful innovating companies agree more strongly, that *sufficient R&D-resources* are made available for innovative activities. In addition, there is a large number of *sufficiently qualified workers* available for the realization of innovations (although that difference is only weakly significant) in the mentioned group of companies.

With regard to the *market constellations* relevant to the emergence of innovations, results from the IHK-InnoMonitor reveal, that successful companies are more exposed to a specific *demand of their customers*. They are more in favor of the statement that customers demand new product offerings. The differences between the two groups of companies with regard to the *intensity of innovation-related competition* are only weakly significant, but at least support the argumentation. The successful companies also place *greater emphasis on business model innovations* and assess the *digitalization of processes* to a greater extent as an important source of innovation. Overall, from the perspective of the successful innovators, a more complex market situation with far-reaching influences can be identified.

In principle, difficult environmental conditions (e.g. high dynamics of changes in markets and technologies) provide substantial incentives for companies – besides from significantly intensified own R&D-efforts – to improve their innovative capability through *innovation cooperation agreements* (e.g. with university or extra-university research institutions, other companies, technology transfer institutions). Cooperative arrangements are often important for the innovation success of companies of all sizes, because they provide access to complementary knowledge or assets which are difficult to acquire individually. Furthermore, joint research projects can generate knowledge in a less risky and cost-effective manner.

However, our survey did not reveal significant differences between successful and less successful innovators in terms of the investigated possible collaboration partners (extra-university research institutions, research institutions of the university-sector, as well as business-oriented (transfer) institutions such as Chambers of Commerce). Overall, the relatively low scale values in that respect indicate significant levers for improvements of innovation capabilities in this context.[12]

[12] In particular, the average scale values for *cooperative agreements with extra-university institutions* are 2,00 and 2,00 (Sig. = 1,000); for those with *research facilities of university institutions* we found scale values of 2,31 and 2,17 (Sig = 0,581) and for *collaborations with business-oriented institutions* (i.e. Chamber of Commerce) 2.13 and 2.00 (Sig. = 0.514).

3 Conclusion

The article discussed the differences between the successful and the less successful innovators in the Ruhr area (eastern part) on the basis of the empirical survey of the IHK InnoMonitor 2015 with reference to the categories of the House of Innovation Excellence.

The identified differences refer in particular to the consistent design of a customer- respectively market-oriented approach with regard to the generation of ideas and the development and marketing of innovations – a systematic approach to innovation management aimed at fulfilling customer and competition requirements can undoubtedly be seen as a strategic lever of innovation success. In addition, the methodological stringency of innovation creation and implementation (by using of appropriate process models and their suitable control, as well as the appropriate methodological support for the individual process activities, for example by using market tests) should be more important for many of the companies under investigation.

With regard to the internal conditions of innovation, a high-performance project organization, including the (internal and external) actors affected by innovation activities, was found to be a suitable foundation for sustainable innovation successes, as well as an innovation-oriented corporate culture supporting the productive cooperation and targeted leadership and HR-measures. Concerning the external environment, difficult, complex market situations should be understood as opportunities for differentiation in competition, which may be used in collaboration with external research and transferee organizations.

The reported results and their discussion enable companies to set the right priorities in the improvement of their innovation management and to avoid only „curing“ of the symptoms of unsatisfying innovation success. Experience shows that an optimization of innovation management is usually a lengthy work process, which should be interactively designed with regard to the various contributors to innovation activities inside and outside the company – an explanation of the need for this effort and the correct setting of the priorities are to be regarded as essential success requirements. A successful journey on that path helps to create emphatic *competence-driven competitive advantages* for the company.

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