bayern
design

Design capability
in companies

Conducted by
by Prof. Jan-Erik Baars
Lucerne University of Applied Sciences

Welcome address

Hubert Aiwanger, Member of the Bavarian State Parliament, Bavarian State Minister of Economic Affairs, Regional Development and Energy, Vice Minister-President

Design is a central building block for the sustainable change and success of our business location. Hence, Bavaria has strengthened its design promotion activities continuously since the inception of Design Forum Nürnberg e.V.* in 1987.

Sponsored by the Bavarian State Ministry of Economic Affairs, the leading German design week, munich creative business week (mcbw), took place for the twelfth time this year. This edition, again, encompassed a varied, top-caliber program for design professionals and aficionados alike. An interdisciplinary platform, mcbw highlights the importance of design to the overcoming of societal and economic challenges.

However, the potential of design has yet to be tapped in its entirety: Many businesses still are not leveraging the full power of creativity and design to hold their own in a growing competitive environment.

Especially in a rapidly changing time such as we are experiencing today, designers can use their innovative skills to offer forward-thinking perspectives and thus useful orientation. For this reason, dovetailing designers with Bavaria's business sector in an optimal manner now is crucial. First and foremost, designers depend on the open minds of companies to fully tap their extensive solution-finding competencies in collaboration.

My sincere thanks go to bayern design and the author for conducting this study and thus providing our economic sector with such an essential evaluation methodology and valuable decision-making tool.

* The supporting association, bayern design forum e.V., and bayern design GmbH have since emerged from Design Forum Nürnberg e.V.

Introductory word

Nadine Vicentini,
Managing Director bayern design

The very positive response to our latest study on the value of design by Joachim Kobuss (Online, 2022) has encouraged us to further promote research on design for the economy by taking up the corresponding impulses or by providing them with bayern design.

Knowledge about design and how it works is indispensable for business. However, the use of design in companies must be strategically planned and sustainable for it to make a long-term contribution to the success of products and services, brands and customer satisfaction. Design management methods help to evaluate the implementation and success of design in the company.

We are delighted to have attracted Prof. Jan-Erik Baars from Lucerne University of Applied Sciences, an international expert in this field. He is the author of the recommended design management book „Leading Design. Strategic Use of Design. How Companies Can Unlock Their Full Potential!“ (Munich 2018).

Other partners in the study are the companies Miele and USM, which volunteered for two exploratory case studies and financially supported the study. In addition to bayern design, the distribution of the resulting online questionnaire, the evaluation of which constitutes the main content of the survey, was promoted by the design associations designaustria, the Internationales Design Zentrum Berlin (IDZ) and the Swiss Design Association (SDA).
This study is, therefore, based on a broad panel and partners from the entire DACH region.

We want to thank all partners who made this study possible, particularly its author, Prof. Jan-Erik Baars, who approached bayern design with his idea and presented the first interim results of his research at the mcbw 2023.

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Management Summary

Design is more than just a pretty surface! It has been shown in many studies that good design is an essential part of a company‘s success. Best practices such as Apple, Tesla, dm or Patagonia are proof of this, each company in its particular way. What these role models have in common is a mindset of excellence that is also reflected in their design: They want to develop their capability to the fullest and do everything they can to develop it. In successful companies, design excellence is a decisive factor. Its expression is adapted to the strategy in each case.

In a comprehensive study, the Lucerne University of Applied Sciences and Arts has elaborated on the capabilities in design and sought to clarify how these can be optimally developed in a company. Within the framework of a case study with the companies Miele and USM and a comprehensive online survey of 57 companies, a comprehensive framework was created that captures and describes design capabilities. The goal was to develop a maturity model that helps companies identify strengths and weaknesses and thereby develop design excellence. Based on a **construct** describing existing models of **design capability** resulting from a preliminary study, various aspects relating to design capability have been collected. Qualitative feedback from interviews with companies Miele and USM executives enriched these. In an empirical study using an online questionnaire, 18 criteria for evaluating design capability were derived and transferred into a framework.

The evaluation of the results of the 57 companies shows a differentiated picture: Overall, capability is rated as insufficient, with widely divergent results for the top and low companies. Management for design activities can be identified as an area of improvement in most companies; accordingly, **design management** is rated as an underdeveloped but essential capability. The participants in the survey see this competence not with the design professionals but somewhere else in the organisation. It is also clear that top companies are bundling their brands and design activities and bringing them together strategically and operationally to create a coherent and consistent overall result.

The study also shows a clear correlation between design capability and corporate success: companies that think in terms of excellence and handle design accordingly achieve a significantly higher level of customer acceptance and see themselves as more resilient. Companies with design capability can exploit the potential of managed design and thus secure top- and bottom-line advantages. The ability to use design optimally within the company must be developed primarily through management: Designers must continuously improve their expertise and adapt to change, but not to the extent that they must create and control the framework conditions for their functional role. Here lies an essential task of operational management, which is not taken up now except for brand management. Expanding the latter even further to include design management tasks would, therefore, appear to be an essential and purposeful step in developing design capability.

Lucerne, May 2023

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Problem statement

1.1 Problem statement

What customers perceive from businesses reflects what is done within enterprises. Of course, external circumstances play a role, such as market conditions, social aspects, public opinion, or competitors‘ activities. Companies carry out the principal activity, and customers receive the outcome at any given time. And the quality of the outcome correlates significantly with the design capability of the companies. The outcome of a company‘s effort is, therefore, a product offered to its customers. The more convincing this offer is, the higher the customers‘ approval, satisfaction, commitment and loyalty, and, last but not least, the value that engaged customers will return to the company through sales. So, companies try their best to optimise the outcome of their undertakings so that a qualitative and quantitative value (reputation and turnover) can be created. The goal here is to inspire and convince customers because the customer‘s perception determines success or failure.

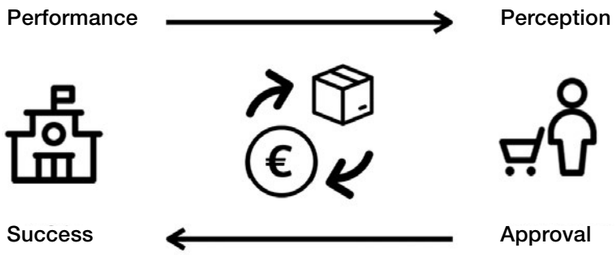

Figure 1: The customer success chain (Baars, Georgi, 2019)

The perception of the customer is not a temporary or singular event but the result of many impressions that accumulate over time. Perception is also strongly influenced by a customer‘s expectations and experiences: concrete requirements, needs, desires, and goals, as well as memories, emotions, associations and projections. Customers perceive the outcome of a company in many ways: as a functionality (what does it do?), as an offer (is it something for me?) and as an experience (does it appeal to me?). As captured in the **Kano model**, these characteristics of a company‘s performance are constantly pelting customers and are assessed and weighed up accordingly, both explicitly and implicitly. The importance and prioritisation depend on the circumstances: how customers (want to) use the offer and in which context they are situated.

The characteristics of customer perception have been recorded in an empirical study conducted by the Lucerne University of Applied Sciences and Arts. The study looked for factors that arise from entrepreneurial activity and are perceived by customers. The 15 empirically derived criteria were divided into three thematic groups: Functionality, Individuality and Emotionality.

Basic Performance	Customer alignment	Uniqueness
Functionality	**Individuality**	**Emotionality**
Consistence quality	Effectiveness	Differentiation
Competence	Relevance	Coherence
Reliability	Taking people seriously	Authenticity
Transparency	Agility	Excitement
Meaningfulness	Needs-based orientation	Engagement

Figure 2: The criteria of customer perception (Baars, Georgi, 2022)

The result of a market study in Switzerland in October 2022 is unequivocal: the more effective customers evaluated the criteria, the higher the loyalty of customers to the company. What the study also reveals is that companies obviously find it easier to meet requirements in terms of functionality but often fail when it comes to emotionality: it is precisely here that customers have high demands, or the companies do not know how to meet them effectively.

	Mobiliar	SBB	Apple	Raiffeisen	SWICA	Migros	Nespresso	Galaxus	Swisscom	Helsana	Visana	AXA	Ikea	Coop	UBS	Post	Sunrise	Salt	Credit Suisse	ø
Score	26	-7	-13	-15	-15	-17	-20	-21	-21	-23	-24	-29	-30	-39	-40	-44	-54	-59	-67	-27
Functionality	33	21	-4	-4	-8	0	-9	-6	-14	-15	-13	-22	-26	-24	-26	-22	-47	-56	-62	-16
Individuality	30	-12	-17	-11	-8	-18	-25	-21	-11	-20	-24	-22	-34	-43	-41	-49	-52	-53	-64	-26
Emotionality	15	-30	-17	-28	-28	-32	-27	-35	-38	-34	-36	-42	-31	-51	-52	-62	-63	-68	-75	-39

Figure 3: Market study CI-Score Switzerland (Customer Metrics AG/HSLU 2022)

The aspects of emotionality that customers perceive are those that can only be effectively implemented by utilising superior design capability. Criteria such as coherence, differentiation and authenticity are a result of coordinated and strategic design work. Their effect cannot be generated with management excellence; only design excellence can accomplish this. So, when companies develop a comprehensive design capability, they are more likely to meet the high demands of customers. Also, criteria such as relevance, agility or needs orientation can be better addressed with a pronounced design capability.

Therefore, conclusions can be drawn about the design capability of companies based on customer perceptions. The overall low scores in emotionality suggest that the ability to design strategically and at a high level is underdeveloped in most companies. The recent studies by McKinsey (2018) and Phoenix/Derks/Baars (2021) on the capability of design in companies strongly support this insight.

Against the backdrop of the transformation to an **experience economy** (which has been around for decades), it is surprising that companies are still struggling to develop appropriate capabilities to meet customer relevance and differentiation requirements. Many companies seem to lack the ability to design comprehensively and strategically! The outcomes of their business are focused on functionality. Their focus lies on the „product“. And the priorities lie in the profitable transaction of these products. In this way, they lay the foundation for all their customers‘ requirements and gain market access, but they cannot inspire and emotionalise with this approach. The challenge for many companies is thus to develop their design capabilities further. They need an instrument with which they can assess their current strengths and weaknesses to develop approaches to improve their capabilities.

1.2 Preliminary study on the construct of design capability. Case studies at USM and Miele

Typically, each corporate function produces its formal design work (design activity). For example, R&D provides for industrial or product design, marketing provides for communication design, and brand management provides for brand design. A unified and cohesive management of these distinct activities occurs, if at all, based only on corporate design guidelines.

However, the effectiveness of this guideline-driven management depends on the degree of authorisation and competent application, something for which none of the three aforementioned organisational functions hold themselves ultimately responsible. In most of the ‚classic‘ organisations, brand management assumes part of this responsibility. As a staff unit, it usually reports directly to the executive management. It is responsible for creating the corporate identity, from which a corporate design emerges as part of the corporate identity mix (Birkigt, 2000). In this way, it describes the organisational gestalt employing formal aesthetics but usually limited to communications content and behaviours - brand management itself is rarely active in the primary activities of product and service development (Baars, 2018).

Although the design of the organisation‘s other outputs can be undertaken following CD guidelines, the determining factors are the specifications created within the functions in each case, such as **design principles** or user interface principles (interaction paradigms). This aspect leads to the creation of organisational outputs and services not subject to any CD guideline or regulation of formal design. Comprehensive coordination of all these guidelines and their contents usually does not take place, and there is rarely a systematic approach that consolidates all design activities and their results. This situation poses a dilemma since the customer experience, as has been described in depth, is always an interplay of an organisation‘s design activities, and their coherent and consistent execution is crucial to their effectiveness. **Design leadership** is, therefore, a prerequisite to a guided and coherent design effort within organisations. Design leadership implies that the management of all design activities must be advanced from a downstream and siloed organisation to a processual and comprehensive level. It also means that the classic separation between brand and design activities must be eliminated and instead managed from one perspective and by one function.

In most organisations, developing and implementing design leadership is one of the most challenging aspects of achieving a coherent gestalt and creating an effective organisation. Therefore, this study explored two case studies involving companies of brands in different industries (white goods and furniture industry) to investigate essential characteristics of design leadership and transform the findings into a model describing the necessary capabilities of design leadership. The companies Miele and USM are very well suited as case studies because they address all aspects of design work, exercise it in a clearly defined brand position, and have the complexity of an organisational structure that requires coordinated and overarching leadership. Also, the dominant corporate language is German, which simplifies qualitative research because translations are largely eliminated (the study was executed in German).

The established roles of brand and design management are extensively described in the literature and have been introduced in many companies. Role models here are companies that operate in a competitive environment and have gained a market advantage through a differentiating brand identity and stringently designed product offerings. In the consumer goods, consumer electronics, apparel and automotive industries, the role of design is undisputed. However, even in these industries, not all aspects of design capability are equally developed. Studies by various researchers and institutions have evaluated and described capability in design using maturity models. The notion of „design maturity“ is based on a description of the different roles that design can take in an organisation, as described by Koostra (2009) in the Design Management Staircase or the Danish Design Ladder (cited in Maffei et al., 2014), and combines them with the required skills that correspond to that role.

Given the extensive body of research on design maturity (Liedtka, 2003; Borja de Mozotta, 2003; Maffei, 2014; Topaloglu, 2017; Moultrie et al., 2008; Valade-Amland, 2021) and the preliminary work conducted by the author himself (Baars, 2018), the evidence on the causes of poorly defined and underdeveloped design competence is well researched and robust.
Based on these studies and the state of the science on design capability, it can be stated that only if design is holistically led and managed across the entire value-creation process in a company can an outstanding level of competence be achieved. If this is the case, companies can create coherent and valuable customer offerings and thus realise a structurally higher sales volume and net profit (McKinsey, 2018; Baars et al., 2021).

In a comprehensive design management approach, the design function would be a stand-alone business function tasked with ensuring the availability of appropriate competencies in design. A competency framework can be deployed to describe the necessary capabilities for this task. In it, the functional maturity of capabilities is contrasted with organisational maturity.

- The functional aspects encompass the application levels at which the function operates, from implementation-oriented elements to directional characteristics, according to the „design ladder“ (Danish Design Centre, 2017).
- The organisational aspects reflect the levels at which the formal design activity is applied, from an execution level to an enterprise/organisation-wide level (De Mozota, 1998).

These two dimensions form a construct that provides a framework for capturing design capabilities. The nine fields of design capability map the aspects of the necessary characteristics required for an organisation‘s comprehensive functional leadership of design.

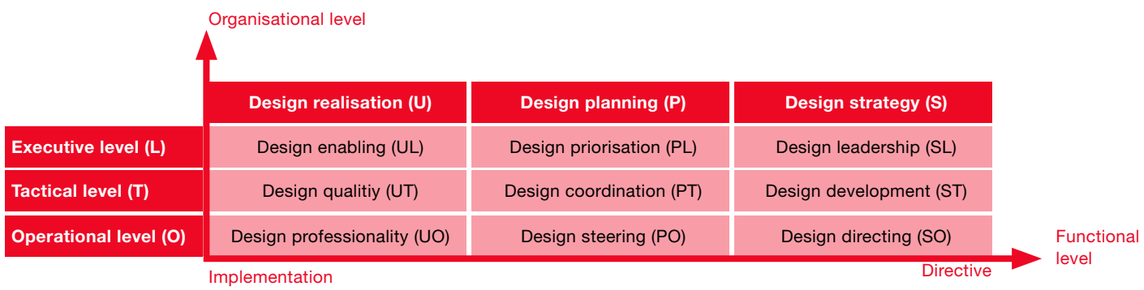

Figure 4: Construct for organizational capability in design (Baars, 2022).

1.3 An empirical study based on a questionnaire

The basis for evaluating design capability in organisations can be established on the foundation of the model derived above.

In the context of a third-party-funded research project at the Lucerne University of Applied Sciences and Arts, assessment criteria were identified that can be used to describe and evaluate design capability in organisations. The study also aimed to support a working hypothesis that, regardless of the business strategy, a distinctive and high design capability is always required to implement it successfully.

Based on an empirical survey, the study aims to support the following hypotheses:
1. Companies with solid design capabilities are more successful than those with weak capabilities. (Success here is primarily the fulfilment of corporate goals).
2. Companies with design excellence (highest design maturity) are the most resilient companies.
3. Companies with design excellence (highest design maturity) generate the highest customer value/loyalty.

The project included the following work steps:
1. Based on the preliminary study on design maturity, an extended framework or construct was developed using interviews with experts and literature research.
2. Employing qualitative interviews with experts (from the two participating companies) and the results of the literature research, a collection of items (list of questions) was created and transferred into a questionnaire.
3. A final framework was determined via the statistical evaluation of an online questionnaire.
4. The evaluation of the online assessments was carried out, interpreted and commented on using the framework.
5. A framework for design capability assessment was established.

The following research questions have been established:
1. What are the properties of each capability in the chosen construct? How can they be queried and expressed as a property?
2. How can companies assess their capability and derive concrete measures for improvement (=assessment criteria)?
3. How can companies assess whether the design capability is appropriate to their strategy (=evaluation framework)?

1.4 Derivation of the items related to design capability

Three to five **items** were recorded for each of the nine aspects of the model. The selection was based on an initial, comprehensive item collection enriched by qualitative interviews with representatives from the Miele and USM companies. Both companies were also willing to provide executives from development (R&D), marketing, design and management (CEO and business managers), allowing aspects of design capability to be discussed in semi-structured qualitative interviews.

A total of ten people were interviewed at Miele and five at USM. The online interviews were guided, and the same questions were used and adapted according to the course of the conversation. The interviews lasted about 25 minutes. They were then transcribed and analysed. After coding (Excel file) and thematic ordering into focal points, a summary content analysis was conducted and summarised in a report. The coding and subsequent analysis resulted in additional items in the collection.

A total of 59 items have thus been collected in an online questionnaire. The items included 17 assessment questions on the role and tasks of design and design practitioners and 32 coded items evaluating ability in design. (see Appendix.)

To support the working hypothesis, in addition to the relevant metadata on the position and role of the participants in the survey, their assessment of the status and situation of the company was also requested. This enclosed the following aspects:

1. To which corporate function do you primarily belong?
2. To which hierarchical level do you belong?
3. Which term best characterises the company‘s business strategy?
4. Which KPI (key performance indicator) is the most important in your company?
5. What best describes the company‘s success from your company‘s point of view?
6. How good or bad was your company‘s growth over the last three years?
7. How would you rate the resilience of your company?
8. What is currently the focus of the company?

In addition, each respondent was allowed to provide qualitative feedback on challenges related to design in their company.

1.5 An online questionnaire among experts

Based on the questionnaire, the criteria should be evaluated as broadly as possible in the context of expert surveys, which can then be condensed to a selection in a statistical evaluation. For condensation to be permissible, it must be ensured that not only are the items for design capability coherent in terms of their content and relate to the same factor, but also that they are consistent in terms of their content.

Based on the following selection criteria, 18 items were selected from the 32 original ones to create an actionable and concise assessment tool.

– Content validity: each of the nine criteria related to design competence should be considered to the same extent. Accordingly, two items per criterion were selected.
– Reliability / internal consistency: Additionally, items that contribute to the most reliable measurement possible were selected. For this purpose, **Cronbach‘s alpha** was used as a reference. Those items were selected that, combined with the other items, contribute to a relatively high Cronbach‘s alpha (at least 0.8) compared to different varieties.

Thus, the internal consistency can be classified as very good.

Consequently, 18 items represent the evaluation model. In each case, two items are used to determine the score for the evaluated design capability criterion.

1.6 Survey sample

The survey‘s sample was obtained from German-speaking countries. Company representatives were approached directly through professional associations and funding institutes in Germany, Austria and Switzerland. Companies were also acquired through contacts from within the network. The respondents should have a comprehensive knowledge of the design activities in their company and be able to evaluate the organisational capability. Represented industries are household appliances, sporting goods, office supplies, furniture, transportation, tools and consumer goods.

The Lucerne University of Applied Sciences and Arts invited participants to participate via an online survey tool. About 2,000 participants opened the initial questionnaire link, but only about 200 requested the link to the survey. Ultimately, 73 questionnaires were completed fully and correctly, and apparent „test responses“ (placeholders or with little information on the estimation questions) were omitted. Of the 73 respondents, only 17 did not provide the name of their company. Since these 17 are all from different industries, they are included as individual responses.

Among the companies are manufacturing companies, but also some service companies. The sample is, therefore, 73, with some companies represented more than once. In the case of multiple responses, the average value was taken as the result so that 57 organisations are featured in the evaluation. Some participants come from the group of external design service providers (9). The evaluations refer to their work for a single primary customer.

1.7 The criteria of design capability in companies

Two evaluation criteria were added to each of the nine, originating from the selection process. Thus, the evaluation instrument now includes 18 measures in six dimensions, two of which are assigned to each topic area.
The six dimensions have now become independent aspects of design capability and allow for a granular view of the company‘s overall capability.

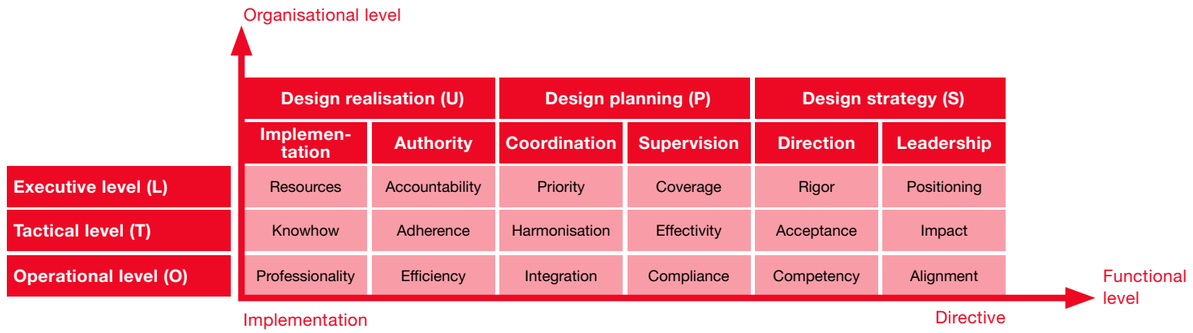

Figure 5: Empirical derived criteria to evaluate design capability, the author

	Implementation	Authority	Coordination	Supervision	Direction	Leadership
Executive level	Resources: The necessary resources are structurally assured for design in the company (budget, time, personnel, materials and rooms). The design function is installed and recognized.	Accountability: The design specifications are binding documents (for further implementation). Design results are taken seriously.	Priority: Design activities follow the company‘s objective. All design activities are demonstrably related to the strategy.	Coverage: There are binding guidelines (brand or design principles) for all design work. There is qualitative control of the coverage.	Rigour: All activities of the company are guided by binding principles and guidelines. Brand values, or a codex, guide decision-making.	Positioning: Brand positioning has the highest priority in strategic decision-making. Differentiation is the company’s dominant strategy.
Tactical level	Knowhow: The designers involved have the necessary knowhow to work optimally for the company. The designers are integrated, they possess organizational knowledge.	Adherence: In the company, design activities are carried out according to the development processes. Targets for design activities are set.	Harmonization: the design activities are aligned and coordinated throughout the company. It is always known what it is being done and planning is coordinated.	Effectiveness: The company has the knowhow to use the „design“ function effectively and appropriately . The functional role is translated into programmes and reponsibilities.	Acceptance: „Design“ is regarded as a core competence. It is structurally promoted and demanded. Roles are fixed in HR or bought in and managed as a strategic service.	Impact: Design capability is structurally developed in the company. Even outside the design function, there is a structural understanding of what design entails.
Operational level	Professionalism: All design activities in the company are carried out by professional designers (internal and external). Design excellence i a given.	Efficiency: Design activities are carried out efficiently. Projects and work methods are managed, project goals are recorded and adhered to.	Integration: The design activities are part of corporate processes. The design work is defined as a process and is part of higher-level processes.	Compliance: All design activities are carried out according to binding guidelines. Compliance is checked, a quality system is active and can intervene.	Competence: All design requirements can be implemented as specified. No touchpoint is unspecified and creates inconsistencies.	Alignment: The design and brand objectives are aligned in terms of substance. Structurally, both are deployed, managed and implemented in an integrated way.

Figure 6: Detail description of the criteria

2.

Study result

2.1 Study result

For the evaluation of the overall result, the sample was evaluated as a whole and in respective groups: All participants with an average score higher than eight were placed in the top group (n=15), those with scores between six and eight in the mid group (n=23), and those with scores below six in the low group (n=19). For more precise readability of the results, the item ratings were also reported according to Reichelt‘s NPS method (per item, the proportion of mentions higher than eight is subtracted from the ratio of mentions below seven. This results in a scale between -100 and 100 in %).

The overall result of the sample shows a generally negative picture of design capability in companies. All constructs, with a few exceptions, were evaluated negatively on average. Only the criteria of know-how and professionalism show a positive value. The dimensions of leadership and supervision fare the worst, with criteria such as harmonisation, compliance and positioning being clearly negative.

	Design Realisation -13		Design Planning -25		Design Strategy -22	
	-5 Implementation	-20 Authority	-22 Coordination	-29 Supervision	-20 Direction	-25 Leadership
Leading level (L) -23	-26 Resources	-26 Accountability	-2 Priority	-30 Coverage	-19 Rigor	-33 Positioning
Tactical level (T) -16	4 Knowhow	-7 Adherence	-42 Harmonisation	-11 Effectivity	-12 Acceptance	-26 Impact
Operational level (O) -22	9 Professionality	-28 Efficiency	-23 Integration	-46 Compliance	-28 Competence	-14 Alignment

Figure 7: Result of the survey, averaged over the whole sample, evaluated according to NPS.

– Although realisation is rated the best overall with -13, the capability is weak, especially regarding management issues: Accountability, securing resources, and the efficiency of design are criticised. The know-how in dealing with designers stands out positively, as does the designers‘ professionalism. These criteria are the only ones that were rated positively.

– Design planning is identified as the most significant „construction site“: The rating of -25 is negative; only a few companies see a capability given here and score positive.
Above all, the coordination of all design and brand activities across the company is criticised. Overall, this is an indication of weak design management. The criterion compliance (-46) has the worst result of all.

– In the strategy of design, respondents see deficiencies in competence at the operational level and in effectiveness across all areas. Positioning is also poorly developed here.

2.2 Additional questions

Nevertheless, the items not included in the framework selection provide essential clues to organisations‘ capability assessment. For example, aspects concerning authority and self-determination of the design function are poorly rated. Since this function is not critical in all companies, this evaluation must be viewed critically. Collaboration and coordination between design and brand activities are also rated negatively. However, it was confirmed that brands promote differentiation and positively contribute to strengthening the competition.

In our company, designers can meet all requirements.	5,6	-35%
In our company, the product design (the appearance of the products) is determined by the function ‚design‘.	7,0	2%
In our company, the development of the brand follows long-term strategy.	7,4	14%
In our company, brand management determines the CI (the brand identity).	7,3	5%
In our company, close cooperation between all designers (internal and external) is a matter of course.	7,1	14%
In our company, design and brand are planned and implemented together.	6,0	-33%
In our company, the ‚design‘ function can prevent product decisions if design principles are not followed.	5,3	-39%
The brand identity of our company is differentiating from the competition.	7,5	14%
In our company, the brand identity guides all corporate actions.	5,2	-49%
In our company, the design function is organisationally self-determined.	5,9	-33%
In our company, the design role is firmly established organisationally.	6,6	-9%
In our company, all design activities are centrally managed.	6,5	-14%
Our companiy‘s brand identity is a clearly differentiating competive advandage.	7,2	-2%
In our company, design principles are considered in all product decisions.	6,4	-23%

Figure 8: Result supplementary questions, 1 (Left value: average according to result; Right value: evaluation according to NPS method)

Most respondents attest to a lack of allocating resources to design activities and believe that companies are not optimally positioned to carry out design activities. In very few companies, design activities are carried out internally.

In our company, the ‚design‘ function is responsible for its specifications and requirements.	6,5	-12%
In our company, the design function significantly influences product policy decisions.	6,2	-23%
In our company, the management knows, how to use the design function in a meaningful way.	6,3	-18%
In our company, corporate identity specifications are applied in all areas of the company.	6,6	-19%
In our company, the results of design activities create a consistant overall image.	6,8	-19%
In our company, design ist the responsibility of the owner, the board or the management.	5,7	-28%
In our company, design activities are carried out intemally.	6,3	-25%
Our company has the design recources it needs.	5,6	-40%
Our company is optimally positioned in terms of design capability.	5,9	-35%
Our company is leading (in the industry) in design.	6,4	-25%

Figure 9: Result supplementary questions, 2 (Left value: average according to result; Right value: evaluation according to NPS method)

2.3 Evaluation of the role and tasks of design professionals

In addition, questions were asked to evaluate design professionals‘ roles, tasks and skills. This feedback allows for differentiation between the perceived relevance of the function and the actual activation in companies. A high level of agreement among respondents to these items (the majority of which are not from the functional area of design) would support the argument that design as a core capability is essential to companies.

What is striking about the results is that the participants assign a significant role to design. With an average of 33 points, they clearly agree with these characteristics. Above all, against the background that customer loyalty is seen as an important goal of the enterprise, design is valued as relevant and essential here. Furthermore, it is noticeable that the designers are denied the ability in the Design management (-28). This assessment indicates that any corporate function probably does not perform this task satisfactorily.

The task of designers is to understand users and their needs and to design suitable products and solutions attractively.	8,9	63%
Design capatility helps the company to critically differenciate itself.	9,0	56%
The design capability enables companies to create economic value.	8,6	53%
Visualising new ideas is a core skill of designers.	8,6	49%
The design capability helps the company to achieve higher customer loyality / customer retention.	8,7	49%
The task of designers is to design (...) solutions and products in such a way that they meet future requirements.	8,5	44%
The task of designers is to implement the company‘s brand identity in a tangible way and in conformity with the identity.	8,4	42%
Designers are tasked with solving complex problems through creative and original approaches.	8,2	42%
Creativity is a core capability of designers.	8,4	39%
Successful companies can plan, comission, coordinate and execute their design activities.	7,8	33%
Critical thinking is a core skill of designers.	8,2	28%
Design capability is as important for business success as management capability.	8,1	28%
Successful companies are comprehensively design-capable.	7,9	26%
Systemic thinking is a core capability of designers.	8,0	25%
Designing a brand-typical appearance is a core skill of designers.	7,8	21%
The task of designers is to increase ecological sustainability.	7,0	-11%
Design management is a core skill of designers.	6,4	-28%

Figure 10: Assessment of the skills, role and tasks of designers (Left value: average by result; Right value: evaluation by NPS method)

2.4 Evaluation according to top and low companies

The results for the top companies also show a slump in design planning. Coverage is a problem, but compliance and acceptance also fall behind in the evaluation. In management aspects, the companies see themselves as very well positioned.

Low companies show consistently poor results. There is a clear, but not significant, difference between implementation and strategy: if anything, operational capabilities are more pronounced. The most significant difference in the results between top and low companies lies in the professional handling of design and design professionals. The binding handling of a design specification should also be emphasised here. The top companies also succeed much better in coordinating and strategically managing all design activities connected to brand objectives. The average values of the two groups are less diverting in assessing the core competence of design and the required efficiency of design activities. An average difference of over 100 percentage points is nevertheless considerable and shows an extensive gap in the companies‘ design capability.

Question	Top Tier		Low Tier		Difference
In our company, design and brand objectives are aligned regarding content.	8,6	53%	5,3	-52%	106%
Our company has the know-how to use the „design“ function effectively and appropriately.	7,7	40%	4,9	-74%	114%
In our company, designers have the know-how to apply themselves optimally for the company.	8,9	67%	5,1	-48%	114%
In our company, all design activities are carried out using binding guidelines.	7,2	27%	3,5	-91%	118%
In our company, brand positioning has the highest priority in strategic decisions.	8,3	40%	4,4	-78%	118%
In our company, all activities are guided by binding principles and guidelines (codex, values, etc.).	8,1	40%	4,4	-83%	123%
In our company, design is given the necessary resources (budget, time, staff, materials and spaces).	9,0	67%	5,0	-57%	123%
In our company, there are binding guidelines for all design work (brand- or design principles).	8,3	47%	4,3	-78%	125%
In our company, all design activities are carried out by professional designers (internal and external).	9,5	80%	5,6	-48%	128%
In our company, design activities are carried out efficiently.	8,6	53%	4,4	-78%	132%
Our company‘s design activities are carried out according to the development processes.	8,6	60%	4,7	-78%	138%
In our company, all design activities are part of company processes.	9,1	73%	5,3	-65%	139%
In our company, design is understood as a core competence.	8,1	53%	3,6	-87%	140%
In our company, design capability is developed structurally.	9,2	67%	3,8	-74%	141%
In our company, all design requirements can be implemented as specified.	9,2	80%	4,5	-65%	145%
In our company, all design activities are aligned and coordinated.	8,9	60%	4,2	-87%	147%
In our company, design specifications are binding (... for further implementation).	8,9	67%	4,7	-83%	149%
In our company, all design activities follow the company‘s objective.	8,8	67%	4,2	-83%	149%

Figure 11: Comparison of top and low companies with spread of results (Left value: average by result; Right value: analysis by NPS method)

All companies share a high degree of consensus when it comes to evaluating the competencies of the designers and the importance of design for the company‘s success. Here, the top and low companies differ above all in terms of organisational anchoring, management capability and design management.

Question	Top	Low	Difference
Critical thinking is a core skill of designers.	33	30%	3%
Design capability helps the company to archieve higher customer loyality / customer retention.	53	48%	6%
Successful companies can plan, comission, coordinate and execute their design activities themselves.	33	22%	12%
Visualising new ideas is a core skill of designers.	60	39%	21%
Successful companies are comprehensively design capable.	40	17%	23%
Systemic thinking is a core capability of designers.	53	30%	23%
Design capability helps the company to differentiate itself clearly.	73	39%	34%
The task of designers is to understand users and their needs and to design suitable products and solutions attractively.	87	52%	34%
In our company, design activities are carried out internally.	0	-35%	35%
The design capability enables companies to create economic value.	73	35%	39%
The task of designers is to implement the company’s brand identity in a tangible way and in conformity with the identity.	73	30%	43%
In our company, design is the responsibility of the owner, the board or the management.	0	-48%	48%
The task of the designers is to design (...) solutions and products in such a way that they meet future requirements.	73	22%	52%
Creativity is a capability of designers.	73	22%	52%
Designers are tasked with solving complex problems through creative and original approaches.	73	22%	52%
Our company is leading (in the industry) in design.	0	-52%	52%
Designing a brand-typical appearence is a core skill of designers.	60	4%	56%
Design management is a core skill of designers.	0	-57%	57%
Design capability is as important for business success as management capability.	67	9%	58%
The task of designers is to increase ecological sustainability.	33	-26%	59%
In our company, brand management determines the CI (the brand identity).	47	-17%	64%
The brand identity of our company is dearly differentiating competitive advantage.	53	-17%	71%
In our company, the design function can prevent product decisions if design principles are not followed.	7	-70%	76%
In our company, corporate identitiy specifications are applied in all areas of the company.	33	-52%	86%
Our company‘s brand identitiy is a dearly differentiating competitive advantage.	47	-39%	86%
In our company, the brand identitiy guides all corporate actions.	0	-87%	87%
In our company, all design activities are centrally managed.	40	-48%	88%
In our company, the product design (the apperance of the products) is determined by the function design.	67	-35%	101%
In our company, the design function significantly influences product policy decisions.	40	-65%	105%
Our company has the design recources it needs.	20	-87%	107%
In our company, the development of brand follows a long-term strategy.	80	-30%	110%
Our company is optimally positioned in terms of design capability.	20	-91%	111%
In our company, the ability to create is developed structurally.	33	-78%	112%
In our company, design and brand work are planned and implemented together.	33	-83%	116%
In our company, design principles are taken into account in all decisions concerning the products.	47	-70%	116%
Our company‘s results of all design activities create a consistant overall image.	53	-65%	119%
In our company, designers can meet all requirements.	40	-83%	123%
In our company, the „design“ function is responsible for its specifications and requirements.	67	-61%	128%
In our company, close cooperation between all designers (internal and external) is a matter of course.	80	-48%	128%
In our company, the design function is organisationally self-determined.	53	-78%	132%
Our company‘s management knows how to use the design function in a meaningful way.	60	-87%	147%
In our company, the design role is firmly established organisationally.	80	-78%	158%

Figure 12: Comparison of other ratings between top and low companies (analysis according to NPS methodology)

2.5 Qualitative feedback from respondents

The group of top companies has, as could be expected, different challenges than the low group. In particular, there are technical qualification issues that concern the top companies: The development of specific expertise is mentioned here, but also safeguarding organisational know-how. An excerpt from the feedback illustrates these challenges quite strikingly:

- Adhering to principles while creatively finding new solutions
- Finding qualified and broad-based specialists
- To create new creative and customer-engaging solutions that are at the same time economically feasible
- Structural integration (in processes)
- Building up internal design competence (previously strongly agency-driven)
- Unity of function - design - brand ... within the tension field of short-term, general market expectations
- Interdisciplinarity within the design discipline

In the low group, meanwhile, operational challenges are at the forefront. These revolve around fundamental aspects of design capability, such as recognising the professionalism of design practitioners and developing an understanding of design in general. Here is some exemplary feedback:

- More understanding of design beyond product design
- Creating an understanding of what role design plays for a company in the first place
- Develop a uniform design language
- The internal process and how it fits into the organisation
- Getting the various divisions and departments on the same page. Constantly convey the importance of design
- Discussions on taste, subjective decisions, lack of substantiation
- Develop a sustainable strategy and a consistent brand language in product design

2.6 Details of the sample and evaluation of the company

The largest share of respondents is in the designers' group, followed by development and management. It is noticeable that in the low-tier sample, the group of „non-specified“ (other) is extensive.

It is also noticeable that design and brand management are represented extensively in mid-tier companies, although the proportion is relatively small in the overall sample. In low-tier companies, design and brand management are not mentioned at all.

Which corporate function do you primarily belong to?

In total		Top Tier		Mid Tier		Low Tier	
Design	41%	Design	71%	Design	42%	Design	50%
Development	27%	Communication	36%	Design Management	23%	Unnamed	36%
Board of Directors/ Management	27%	Marketing	29%	Brand Management	15%	Development	21%
Marketing	14%	Development	21%	Management	15%	Marketing	14%
Management	14%	Design Management	14%	Product Management	12%	Management	14%
Unnamed	14%	Management	7%	Unnamed	12%	Product Management	7%
Design Management	12%	IT	7%	Marketing	8%	Distribution	7%
Other	12%	Unnamed	7%	Development	8%	Communication	7%
Communication	11%	Product Management	0%	Communication	4%	Design Management	0%
Product Management	8%	Brand Management	0%	Administration	0%	Brand Management	0%
Brand Management	5%	Administration	0%	Manufacturing	0%	Administration	0%
Distribution	1%	Manufacturing	0%	Distribution	0%	Distribution	0%
IT	1%	Distribution	0%	IT	0%	IT	0%
Administration	0%	Other	0%	Other	0%	Other	0%
Manufacturing	0%	Manufacturing	0%	Manufacturing	0%	Manufacturing	0%

Figure 13: Division of corporate functions (multiple references possible)

Most respondents belong to the group of managing directors or department heads. Self-employed individuals are hardly represented. Concerning the quality of the study, this can be seen as relevant: the assessment is done from a wide expertise sample. It is striking that most respondents in the low-tier group belong to the department heads, while in the top companies, it is the executive management.

Which hierarchical level do you belong to?

In total		Top Tier		Mid Tier		Low Tier	
Board of Directors/ Management	27%	Board of Directors/ Management	43%	Board of Directors/ Management	31%	Head of department	36%
Head of department	27%	Head of department	14%	Head of department	19%	Employee	29%
Division management	19%	Division management	14%	Employee	19%	Board of Directors/ Management	21%
Employee	18%	Team leader	7%	Division management	15%	Division management	21%
Team leader	11%	Employee	7%	Team leader	12%	Team leader	21%
Unnamed	7%	Self-employed	7%	Unnamed	12%	Group leader	7%
Other	7%	Unnamed	7%	Self-employed	8%	Clerical	0%
Self-employed	4%	Group leader	0%	Group leader	0%	Self-employed	0%
Group leader	1%	Clerical	0%	Clerical	0%	Unnamed	0%
Clerical	0%	Other	0%	Other	0%	Other	0%

Figure 14: Relation to hierarchical level (multiple references possible)

In all companies, the main focus is quality, with the low-tier ones prioritising markets and cost reduction similarly. It is striking that employees play a subordinate role at low-tier companies, whereas these are prioritised at top-tier, along with sustainability. The opposite is true for cost reduction. Digitisation has the same priority in all companies. Strategy is noticeably less in focus at low-tier companies.

What is the company‘s current focus?

In total		Top Tier		Mid Tier		Low Tier	
Quality	59%	Quality	64%	Quality	50%	Quality	43%
Sustainability	49%	Sustainability	43%	Sustainability	38%	Markets	43%
Digitalisation	44%	Employees	43%	Stability	38%	Cost reduction	43%
Strategy	36%	Strategy	43%	Strategy	35%	Sustainability	36%
Markets	30%	Planning	36%	Digitalisation	35%	Digitalisation	36%
Employees	30%	Digitalisation	36%	Planning	27%	Strategy	29%
Planning	30%	Markets	21%	Cost reduction	27%	Speed	29%
Cost reduction	27%	Stability	14%	Employees	23%	Planning	21%
Stability	22%	Speed	7%	Markets	23%	Short-term result	21%
Speed	15%	Liquidity	7%	Liquidity	19%	Stability	14%
Liquidity	11%	Cost reduction	7%	Speed	15%	Liquidity	14%
Short-term result	8%	Other	7%	Short-term result	8%	Employees	7%
Other	3%	Short-term result	0%	Other	0%	Other	7%
no entry	0%	no entry	0%	no entry	0%	no entry	0%

Figure 15: Focus within the company (multiple answers possible)

Top-tier companies assess their resilience positively, while low-tier companies assess it as stable or critical.

How do you assess the resilience of your company?

In total		Top Tier		Mid Tier		Low Tier	
Optimistic	51%	Optimistic	64%	Optimistic	54%	Stable	50%
Stable	33%	Stable	43%	Stable	27%	Critical	29%
Critical	16%	Critical	0%	Critical	15%	Optimistic	21%
no entry	1%	no entry	0%	no entry	4%	no entry	0%

Figure 16: Assement on resilience (multiple answers possibel)

About half of the companies assess their growth as stable, with top-tier companies setting themselves as more successful than low-tier. 43% of top-tier companies consider themselves growing faster than the market, versus only 21% of low-tier companies. Overall, the sample is relatively optimistic about their market position: this clearly indicates a correlation between design capability and business success.

How good or bad has your company‘s growth been over the last three years?

In total		Top Tier		Mid Tier		Low Tier	
above market	49%	stable	50%	stable	42%	stable	36%
stable	36%	above market	43%	above market	42%	no entry	29%
no entry	10%	no entry	14%	below market	8%	above market	21%
below market	4%	below market	0%	no entry	4%	below market	7%

Figure 17: Assessment of growth of past period (multiple answers possible)

For all companies, business success is reflected in high customer satisfaction. Price leadership, on the other hand, plays a subordinate role.
The high affirmation of brand value among top and mid-tier companies is striking, whereas it is of little significance among low-tier companies (7%). This group sees success primarily reflected in product leadership, falling behind the top companies in the number of mentions.

What best describes the company‘s success from your company‘s perspective?

In total		Top Tier		Mid Tier		Low Tier	
Satisfaction	53%	Satisfaction	64%	Satisfaction	58%	Satisfaction	43%
Brand value	45%	Brand value	43%	Reputation	50%	Product leadership	36%
Product leadership	40%	Product leadership	29%	Brand value	46%	Market leadership	21%
Reputation	33%	Reputation	29%	Product leadership	38%	Profitability	21%
Market leadership	15%	Market leadership	7%	Market leadership	27%	Other	14%
Profitability	12%	Price leadership	7%	Profitability	15%	Reputation	7%
Other	7%	Profitability	7%	Price leadership	8%	Brand value	7%
Price leadership	4%	Other	7%	Other	8%	no entry	7%
no entry	1%	no entry	0%	no entry	0%	Price leadership	0%

Figure 18: Driving success criteria (multiple answers possible)

The main driving KPI for top companies involves customer satisfaction and loyalty, while for low companies, it is the profit margin.
It is also striking that top companies focus far less on sales increases than mid and low companies.

Which KPI (Key Performance Indicator) is the most important in your company?

In total		Top Tier		Mid Tier		Low Tier	
Satisfaction	56%	Satisfaction	43%	Satisfaction	65%	EBIT	43%
Loyalitiy	33%	Loyalitiy	36%	Revenue	38%	Satisfaction	36%
EBIT	32%	Other	21%	Loyalitiy	38%	Revenue	29%
Revenue	30%	EBIT	14%	EBIT	35%	Loyalitiy	21%
Time-to-Market	10%	Revenue	14%	Time-to-Market	19%	Liquidity	14%
Other	10%	Liquidity	7%	Liquidity	12%	Other	14%
Liquidity	8%	no entry	7%	no entry	8%	Shareholder return	7%
no entry	5%	Shareholder return	0%	Other	4%	no entry	7%
Shareholder return	1%	Time-to-Market	0%	Shareholder return	0%	Time-to-Market	0%

Figure 19: Dominant KPI (multiple answers possible)

All companies regard product leadership as the driving component of their strategy. The top and mid companies link this with the objective of high customer loyalty, which is less critical for low companies. There, responsiveness is the main focus of the strategy.

Which statement best characterizes the company‘s business strategy?

In total		Top Tier		Mid Tier		Low Tier	
best products	56%	best products	50%	best products	50%	best products	43%
highest loyalty	40%	highest loyalty	36%	highest loyalty	46%	other goals	29%
to be innovative	36%	to be innovative	36%	to be innovative	38%	to be fast	21%
to be known	22%	other goals	21%	to be known	23%	highest loyalty	21%
other goals	11%	to be known	14%	to be fast	8%	to be innovative	21%
to be fast	8%	to be fast	0%	other goals	4%	to be known	21%

Figure 20: Focus of strategy (multiple answers possible)

3.

Interpretation and evaluation of the study

3.1 Interpretation and evaluation of the study

The respondents paint a clear overall picture of design capability in companies: The spread of results between the top and low companies is considerable (over 120 points on a scale of 200), and trends are noticeable.

There is a strong correlation between the design capability criteria and the model, and the selected criteria allow for a comprehensive assessment of design capability. Measures that include an impact component (e.g., coherence of design outcomes) appear less well-suited. A dedicated survey should assess these independently (see implication for companies).

With its statistically validated items, the construct of design capability provides a sound basis for evaluating design capability in companies of any form. Large corporations and SMEs can be assessed this way, as can manufacturing and service companies.

The survey result shows an overall critical assessment of design capability, whereby the top and low ratings differ significantly in some criteria. However, the trend remains reasonably constant. Where the top companies receive quite positive scores on average, these are negative in the low companies. On average, however, a negative assessment has emerged, clearly reflecting that design capability is generally underdeveloped.

Particularly evident is the critical assessment of management aspects in a design context: commitment, planning security, securing resources, coordination and efficiency are criteria that are consistently rated poorly. Overall, design management is rated as underdeveloped, whereas, on the other hand, design leadership (brand and design coordination) tends to be in place.

There also appears to be a trend whereby all companies rate the task of design professionals equally essential and highly: What designers can do and what design can provide to companies seems clear and indisputable. Significant discrepancies are primarily noted in those criteria that relate to design management competencies.

Indicative, but not provable based on the study, is the correlation between design capability and business success. Low companies see their situation far more critically than the top companies. 61% of the top companies are confident about their resilience, compared with only 21% of the low companies. The same trend can be seen in the growth assessment: 40% of the top companies see themselves above the market, whereas only 20% of the low companies see themselves as above the market. The significantly high rating regarding design relevance supports the hypothesis that extensive design capability contributes to corporate success.

3.2 Role of the Miele and USM case studies

The derivation of the design capability model would not have been possible without the support and cooperation of the two companies Miele and USM. By providing access to the company‘s decision-makers and thus a qualitative survey of aspects of design capability, they provided the study with a significant, practical basis. The fact that both companies do not exemplify all forms of enterprise speaks for itself.

However, both are fully representative in their nature, complexity and size. What distinguishes both companies is their focus on excellence in everything they do. Excellency is reflected in some aspects of their business activity, but also in the outcome of the evaluation. In the ranking of the companies surveyed, they perform well to very well, but both are not top ranked. This fact shows potential for improvement even among established and design-savvy companies. Both companies are quite well positioned, particularly in governance and implementation, but still see opportunities to improve efficiency in the areas of authority and coordination. This finding is consistent with the overall view of the study, which shows that leadership skills (presumably because design already plays a central role) are generally well-developed and that implementing professional design practices is not problematic. However, leadership and discipline in implementation still seem to be a significant hurdle in companies. Authority, coordination, and supervision are aspects of management ability that seem challenging to achieve in the context of design activities. In addition to the apparent problem of ensuring these aspects, they also seem to contradict the aims of design activity, which is to use creativity and out-of-the-box thinking to create innovative, customer-oriented and differentiating solutions instead of cost-optimised standard solutions. Both companies explicitly mention this problem as a challenge and actively seek solutions to combine both objectives (creativity and discipline).

Miele has used participation in the study to support the planned changes and adaptations of their design function. The design capability model supports concretisation and allows for close coordination and follow-up of the actions. The extensive involvement of managers is also an essential signal to the organisation and, at the same time, a means of maintaining the necessary „flight level“ for the design function and its task. Thus, a way can be found to consolidate design as an established corporate function with straightforward duties, roles and responsibilities in the face of future challenges. The fact that Miele sees the company‘s design capability as a decisive key to its success speaks almost for itself here, but it is not self-evident. Another feature of the continuous improvement in the effectiveness of the design function is the changed reporting line. After embedding design in the R&D area, design responsibility is now located in the area of brand and marketing, where it is on the same level as brand management and sales. This move is not a shift but an extension of the scope of the design function. It means that Miele is strengthening its ability to design and deliver genuinely coherent product lines and the brand‘s associated customer and user experiences.
USM has also recently changed its organisational structure to strengthen design capability and better use it. The study gave management a deeper insight into their design efforts. In doing so, it was confirmed that the path taken to position design differently in the organisation was the right one. For many years, the responsibility for coordinating design activities at USM was divided into different areas, depending on the content that was given. The company owners played a leading role in the overarching orchestration and thus also secured the position as a „product brand“ by consistently observing the company‘s corporate identity. As a manufacturing company, the primary design work was located in the area of R&D. The Group Product Development Director was responsible for the design activities, reported directly to the CEO, and was also a member of the Executive Board.
In the new form of organisation, the Group Creative Director is now responsible for design activities, reports to the CEO and is a member of the Executive Board. Reporting to her are the Head of Group Product Development, the Head of Product Management, and the Head of Group virtual.USM (responsible for digital solutions such as configurators) and the designer‘s Modular Interior. This change enables USM to ensure that it has the necessary competencies and clout to address the objectives of its company better. It gives the management a competent extension of its design capability.

What both cases have in common (and generally is a widespread phenomenon) is their dependence on the effectiveness of individuals in design. Since the design capability of the company organisation is typically insufficient, this organisational weakness is often compensated for by the competence of the acting design leaders: Their specialist knowledge, coupled with solid organisational knowledge, „disguises“ the lack of the organisation‘s ability to integrate the design function professionally. Of course, for a company to have a high design capability, one of the prerequisites for success is the competence of the people involved (at every level). However, these competencies alone must not be pivotal to the company‘s resilience. Once the ability is tied to people, the ability leaves the company as soon as they leave it or leave for retirement reasons. Equally challenging, and thus at the risk of consistent and resilient corporate management, is the „compensation“ of design competence when structures, processes and organisational capacity are lacking.

Organisational design skills are thus one of the essential prerequisites for design excellence, not the presence of an expert with distinct competencies alone. After all, experts can only make an effective contribution if they have the necessary framework conditions to turn their expertise into target-oriented solutions, which are ultimately indispensable for a brand.

3.3 Implications for companies and designers

The framework for assessing design capability validated here allows companies to evaluate their performance. If they conduct an assessment comprehensively, they get a differentiated picture of how well they can manage in this area. Design capability can now be mapped and addressed in the context of continuous improvement measures, which can be recorded in a quality programme. It should be noted that many aspects of design capability are not those that traditionally belong to the competencies of designers. Since many elements of design capability have to be attributed to management capability, it is questionable whether the design function itself can perform these. Generally, this is not the case, especially in companies without an internal design function, so dedicated specialists have to be qualified and established to carry out the tasks.

The introduction of design management, which primarily deals with the aspects of design planning, is a prerequisite for improved design capability. Since the necessary competence can be found either in highly experienced design specialists with appropriate corporate knowledge or in specially trained experts, who are very rare, this poses a real challenge to companies.

It must be mentioned that a glaring lack of training in the field of design management plays a role here. Most „classical“ design courses neglect design management and only occasionally offer theory courses in this field: as of May 2023, only three private universities in Germany showed a master‘s degree in design management. The public universities (still) look for this in vain. Therefore, the competence framework of design graduates is correspondingly narrow when it comes to design management issues. They do not bring relevant competence in design management with them when they enter the labour market.

But things are no better at the business faculties, where there are hardly any specific courses in this field. Brand management is a well-established subject that can be found in many universities. However, design management hardly plays a role in the usual curricula. However, it is precisely here that, through extension and adaptation, specific design management courses could be established to train skilled workers with the relevant skills. Perhaps the best place to develop design management courses in the context of business education is still in the best place. For this to happen, however, „business economists“ must be prepared and recognise design as a strategic management tool.

Therefore, companies should develop the necessary skills in programmes and recruit in-house specialists who do not necessarily have to come from the design function to acquire design management skills. This ability, described in 1987 by Peter Gorb and Angela Dumas, was called „silent design“: The actions and decisions of management decisively determine whether a company is fully capable of design. For this purpose, more and more training offers from private and institutional providers are becoming available to support employees of companies in developing competencies.

Design capability is, therefore, a property of the companies themselves and cannot be acquired by purchase, nor can it be added downstream! This fact contrasts the delivery of design results, which external specialists can deliver – if they are commissioned and managed by a skilled design manager. And if they are provided at the right time, in the right place and with the right quality. This issue is a challenge for traditional consultancy firms and strategic design agencies because most do not have the necessary expertise.

Finally, the quality of design results or output (whether by internal or external designers) is not captured in the context of organisational design ability: having outstanding design ability does not mean that design results are automatically exceptional in quality. To evaluate (or valuate) design output quality, the impact component of the customer (or user) must be considered and included in the evaluation. The quality of the design results can be checked by utilising appropriate test procedures or specific audits based on criteria taken from the design strategy. Various design quality tests are available; their consistent application and the subsequent authorisation of the objectives must be implemented in design management. The criteria of the management level are suitable for anchoring these requirements in the company. Again, the quality of the design results is only as good as the quality of the underlying company.

3.4 Outlook

The Evaluation Model for Design Capability in Companies is a tool for companies or those supporting companies in their design activities. Since it is often external design agencies that have acquired much of the design capability of companies, they, too, in the form of consultancy, can help companies to increase their design capability and, thus, their business success. However, developing design capability in the company itself is essential for sustainable business success.

Thanks to the support of the companies Miele and USM and the experts who participated in the survey, an important step has been taken to increase the ‚impact and value of design'. I want to take this opportunity to thank the supporting companies Miele and USM, as well as the design initiatives, above all bayern design, Swiss Design Association, Designaustria and IDZ. Berlin.

Design is more than just ‚beautiful' – it is a core competence of companies. One that can also be evaluated!

As a result of the study, the aim is to make the assessment model available to companies as part of an online evaluation tool. Further development work will lead to an approach to integrating the model into an existing quality system, such as EFQM or ISO. The aim is to certify companies using a validated model so that design capability can be identified as a quality standard. As a result of the study, the aim is to make the model available to companies as part of an online evaluation tool. Further development work will lead to an approach to integrating the model into an existing quality system, such as EFQM or ISO. The aim is to certify companies using a validated model, so that design capability can be identified as a quality standard.

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Glossary

A **construct** is a term used in research that describes the properties of a mental concept that cannot be directly measured. Indicators (here also referred to as criteria) are subsequently sought for such properties, which can describe the construct and thus make it measurable.

Cronbach-Alpha is a statistical technique that measures the strength of reliability (i.e. reliability of a survey). The value (from -1 to 1) indicates how well a group of items in a questionnaire measures a single, unidimensional latent construct. Values of 0.8 and above indicate high reliability and prove that the questions are aimed at the central construct.

Design capability is a characteristic of an organisation. It describes the ability of an organisation to systematically plan, structure and coordinate strategies, processes and tasks related to design. Design capability is part of organisational capability. These are defined as the ability of an enterprise to use its tangible or intangible resources to carry out a performance-enhancing task or activity (Grant, 1991).

Design leadership is complementary to design and brand management. In practice, design managers in companies often work in the area of design leadership and design managers in the area of design management. Design leadership aims to define future strategies and translate them into concrete positions and definitions that can guide design activities (Topalian, 2002).

Design management is a management discipline that focuses on a company‘s design resources and activities. It uses project management, design, strategy and supply chain techniques to steer a creative process, support a creative culture and build an organisational structure for design. The objective is the integrated management of design at the levels of management, organisation and strategy, as well as the management of the company‘s design system (dmi, 1992).

Design principles are direction-setting guidelines that emerge from design leadership or corporate identity. They can take the form of directives for behaviour (such as a codex) or lay down specific formal aesthetic requirements (design guidelines). Design principles enable organisations to ensure that decisions, actions, and executions are undertaken following the strategic objectives of the positioning (Baars, 2017).

The **experience economy** is an economic reality in which companies must stage memorable events for their customers to create added value. Here, the experience (and the memory of it) itself turns into a product. The more concise the differentiation of what is experienced and the more relevant it is for the user, the greater the potential added value that can be created. Leading companies in the experience economy are those with a strong design capability (Pine, Gilmore, 1991).

Item is a term for a question that makes an indicator or a criterion measurable.

The **Kano model** describes the relationship between the achievement of specific characteristics of a product/service and the expected satisfaction of customers. The model allows customers‘ desires (expectations) to be captured and considered in product development (Kano, 1984).

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bayern design is the centre of excellence for knowledge transfer and collaboration in the area of design in Bavaria. With its projects, it emphasises the importance of design. Design plays a key role in coping with economic, social and sustainable change. bayern design GmbH is supported by the Bavarian State Ministry for Economic Affairs, Regional Development and Energy and is the organiser of Germany‘s largest design event, the Munich Creative Business Week (MCBW), which takes place from 11 to 19 May 2024 in Munich. The umbrella organisation bayern design forum e.V. engages design-savvy companies, agencies and freelancers of all design disciplines, architectural offices, chambers of commerce, universities and associations.

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