DESIGN MANAGEMENT FOR SMALL AND MEDIUM-SIZED ENTERPRISES: DEVELOPMENT OF A DESIGN MANAGEMENT GUIDE FOR THE USE OF DESIGN AND DESIGN MANAGEMENT WITHIN CORPORATE R&D AND DECISION-MAKING PROCESSES

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ABSTRACT:

In 2005, the Cox-Review (Cox 2005) identified barriers to innovation as well as obstacles to the use of design for Small and Medium-sized Enterprises (SMEs). It proposed design support to help companies use design in order to strengthen their innovation capabilities and competitiveness. Current design support focuses on design projects, advice or endorsements. Recent proposals favor a more strategic approach (Boult 2006). They suggest providing the thinking tools for integrating design into strategic R&D and decision-making processes, which requires framing design at the level of design management. However, research shows that current design support tools and methods are not sufficiently suited for supporting companies to adopt design on a managerial level. Tools and methods are either too general (e.g. SWOT analysis) or limited to a certain phase of an adoption process (e.g. auditing design capability, Design Atlas 2000); they support rather specific areas and target groups (e.g. entrepreneurs, new product and service development) or are proprietary (e.g. "Matchbox", Design Council 2006). Furthermore, they do not connect with specific implicit or explicit concepts of design that guide design decisions. According to the maturity scale model of the Danish Design Center, these concepts can be mapped onto design maturity scales, ranging from no design to styling, process and up to innovation (Friedman 2004).

Design support should help companies adopt design in relation to their actual understanding and practice of design. Therefore it seems reasonable to develop a guide for the integration of design and design management according to maturity levels. - The method is to put design-related questions of the participating firms at the beginning of the research process and to help these firms develop individual implementation scenarios that fit their specific situations. These scenarios then improve the development of a Design Management guide (DM-guide), using the maturity scale model as a structuring method. The outcome is envisaged to be a visual orientation device. Similar to a map, it offers pathways, steps and instruments that enable the adoption of design and design management.

Further research should verify the DM-guide and refine it. There is a plan to do this through a spin-off by the research team that puts it into practice through projects in the context of a regional innovation support system.

KEYWORDS

Design Management, Design Support, Decision Making, Design Integration, Small and Medium-sized Enterprises

OVERVIEW

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1. SETTING THE STAGE: INNOVATION AND DESIGN

The relation between innovation and design can be viewed from two angles: from an economic perspective, and in the context of creativity.

1.1. ECONOMIC PERSPECTIVE

A number of studies have revealed a correlation between competitiveness/innovation capability and the use of design at both macro-economic and micro-economic levels. The Global Competitiveness Report identifies a correlation between the competitiveness of a nation and its design ranking, and concludes: "24 of the 25 nations ranking highest in terms of design are among the 25 nations ranking highest in terms of competitiveness" (GCR Survey 2003).

A Danish report identifies a correlation between design investments, design maturity, and economic effects at the level of individual companies, and concludes: First, the companies that invest in design saw 22% more profits than the companies that did not. Second, the companies that increased their investment in design realized 40% more profits than the companies that did not. Third, the companies that BOTH employ designers and buy external design services export 40% of their turnover in comparison with the other companies, which only export 18% of their turnover. Fourth, the companies at the upper levels of the Danish design maturity scale – 0 = no design at all, 1 = design as styling, 2 = design as process, 3 = design as innovation – are more profitable than the companies at the lower levels of the design maturity scale (National Agency for Enterprise and Housing 2003).

1.2. CONTEXT OF CREATIVITY

The Cox-Review points at the need for creativity, innovation and design in order for SMEs to compete and innovate in a global economy. Design links creativity with innovation by shaping ideas into valuable offerings contributions to wellbeing. Design drives innovation, which in turn helps companies achieve competitive advantages. One of the report's recommendations is to advance the use of design by SMEs via design support programs. "'Creativity' is the generation of new ideas – either new ways of looking at existing problems, or of seeing new opportunities, perhaps by exploiting emerging technologies or changes in markets. 'Innovation' is the successful exploitation of new ideas. It is the process that carries them through to new products, new services, and new ways of running the business or even new ways of doing business. 'Design' is what links creativity and innovation. It shapes ideas to become practical and attractive propositions for users or customers. Design may be described as creativity deployed to a specific end." (Cox 2005)

Creativity and design yield effects on the levels of more significant products and services, improved processes, more effective marketing, simpler structures or a more efficient deployment of human skills. "It is common for those in business to see creativity and the related area of design as largely concerned with aesthetic considerations such as style and appearance. While these are often important

considerations, they are only a small part of what I am talking about here. Creative businesses are creative throughout. As well as being the path to new products and services, creativity is also the route to greater productivity, although it is not always recognized as such. As one senior executive in a big media corporation put it, ‚In our organization, you couldn't put creativity and productivity together in the same sentence. The former is seen as our business, the latter as simply cost-cutting'. In practice, greater creativity is a key to greater productivity, whether by way of higher-value products and services, better processes, more effective marketing, simpler structures or better use of people's skills. Every business needs to be cost-conscious, but that's insufficient for enduring success. No company ever cut its way to greatness'' (Cox 2005).

2. MAKING IT HAPPEN: DESIGN SUPPORT

According to the Cox-Review, various internal and external factors both advance and hinder the innovation capabilities of SMEs. Regarding the use of creative talent (innovation capabilities), the report mentions the following obstacles: Lack of awareness and experience; lack of belief in the value of, or confidence in the outcome; not knowing where to turn for specialized help; limited ambition or appetite for risk; too many other pressures on the business (Cox 2005).

Regarding the use of design, the report mentions the following obstacles: cost; lack of in-house design or creative skills; lack of customer demand; manufacturing or development issues; access to external designers or creative skills; regulatory issues/government bureaucracy; design is not important (Cox 2005).

2.1. CURRENT DESIGN SUPPORT MODI

Design support programs are implemented in various countries. They are usually financed by governmental bodies and are targeted at SMEs in order to support the economic performance of a whole region or country. Design support cannot be detached from design promotion. Design promotion is meant to familiarize organizations with design; design support helps the individual company solve specific problems by using design. That relationship can be represented in the following way:
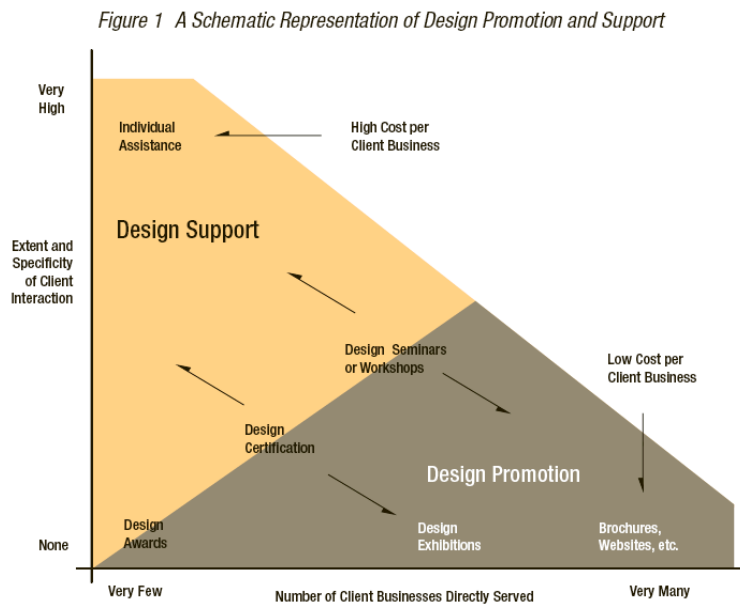
Fig 1: Schematic representation of design promotion and support (Boult 2006)

The diagram shows the following: "The options for design support (and promotion) range from providing services with no or little interaction with individual clients, but aiming to serve a large number of clients – this is design promotion – through to providing highly customized, individual assistance to a small number of clients. Design seminars or workshops, which address groups of client businesses with similar needs, fall between these two extremes. Meanwhile, award schemes typically involve very little interaction with the client firms, and restricting the number of awards granted enhances the value of the award. Certification schemes can involve greater interaction with client businesses, and there is no need to restrict the number of certified designs" (Boult 2006).

2.2. TRENDS IN DESIGN SUPPORT

It is argued within the design promotion and support community that design support should bring design and business closer together, i.e. move beyond individual assistance at a project level, and instead empower design managers within companies (Boult 2006). This serves to bring design support into the realm of "strategic business decision-making" and to provide a specific way of thinking as well as tools and methods for managing design. The ultimate objective is to integrate the management of design within SMEs in order to strengthen their innovation capabilities.

2.3. TOOLS OF DESIGN SUPPORT

To our knowledge there are only a few tools that enable and facilitate the adoption and use of design and design management at a strategic level. Even the Design Council UK, the leading organization in design support, explicitly mentions only 3 tools:

1. Design Atlas, "a tool for auditing design capability" (Design Atlas 2000)

2. Ideopoly, "an innovation toolkit for entrepreneurs, that helps to identify new ideas for products and services, and a source of information, techniques and case studies about how to spot and develop business ideas" (Design Council and Engine Creative Consultants Ltd. 2006)

3. Matchbox, "a unique Design Council tool to help integrate design into decision-making" (Designing Demand 2006)

Matchbox seems to be the only tool that specifically supports the integration of the use of design and design management in strategic R&D and decision-making processes. It has been introduced recently in the context of the Design Council's "Designing Demand" program. The tool is proprietary and no further information is available.

3. FRAMING THE CONTEXT: INNOVATION SYSTEM OF CENTRAL SWITZERLAND

Central Switzerland is home of many SMEs. A recent study revealed that these SMEs face the same types of obstacles as mentioned in the Cox-Review. The project "RISforCCH" (Wolf, Schweikert, Küchler, Stössel 2005), undertaken by the Lucerne University of Applied Sciences and Arts, Business Administration, identified typical patterns of innovation capability. While the majority of the most innovative SMEs give recognition to aspects of design management in their innovation processes, most of the others lack attention to factors relevant to design management, e.g. early inclusion of all relevant stakeholders in the product development process, and appreciation for creativity and innovation capabilities of all members of the company.

Projects such as "RISforCCH" are aimed at increasing the innovativeness of regional SMEs through either intensifying cooperation with the University or with all relevant actors of the regional innovation system. A recent research project on design management undertaken by the Lucerne University of Applied Sciences and Art, Art & Design, revealed the necessity of design support within the regional innovation system (Acklin, Stalder, Wolf 2006).

4. IDENTIFYING THE GAP: FACILITATING DESIGN INTEGRATION

Insights on current design support modi, trends in design support policies, the limitations of current tools, and further insight that existing tools do not relate to design maturity scales, reveal a gap in tool-innovation. Therefore the envisaged DM-guide should fulfill the objective of supporting SMEs to raise their

design maturity level by helping them assess their design capability and recommend specific steps towards realizing the full potential of design integration at their current level, or reaching the next higher level.

5. RESEARCH PLAN: GOALS, PROCESS AND METHODS

5.1. RESEARCH CONSORTIUM

The research consortium consists of the core research team (a professor, a lecturer, a graphic designer and an assistant of the department of Art & Design) and an extended research team (a professor and a researcher of the department of Business Administration, and a professor of Engineering and Architecture). There are 6 SMEs participating in the research project. Their profile regarding the use of design can be mapped onto a continuum ranging from very little design to advanced use of design. All of these research partners are manufacturing companies.

5.2. ECONOMIC GOALS

The economic goal of the research project is to strengthen the innovation capabilities of each participating SME through design management in order to achieve a sustained increase in competitiveness and profitability. The project does not aim to establish a direct cause-impact relationship in monetary terms. However it is argued that measurability can be assumed if the process resulting from the project leads to sustained change at the levels of strategy, brand, culture/identity, product or process.

Based on this general goal, the SMEs each work towards their own individual goals, which emanate from specific questions related to five problematic areas that are to be improved by means of design and design management.

5.3. SCIENTIFIC GOALS

The project aims at developing a guide that can be used by SMEs regardless of economic sector and size. The research consortium will collaboratively work out individual design integration scenarios based on individual situations and questions of the participating SMEs. The project analyses individual corporate contexts in order to find patterns. This will identify the relationships between specific corporate contexts and generalized design integration scenarios, which will be used as the basis for the formulation of the DM-guide.

5.4. PROCESS

The development of the DM-guide follows a 3-step process that employs a variety of formats and methods.

Phase 1
Research and analysis of
design usage

Phase 2
Formulation of options for
design integration

Phase 3
Development of
design management guide

Audits
Interviews
Observations
Workshops

Workshops

Workshops
Prototyping
Evaluation

Insights
(current situation)
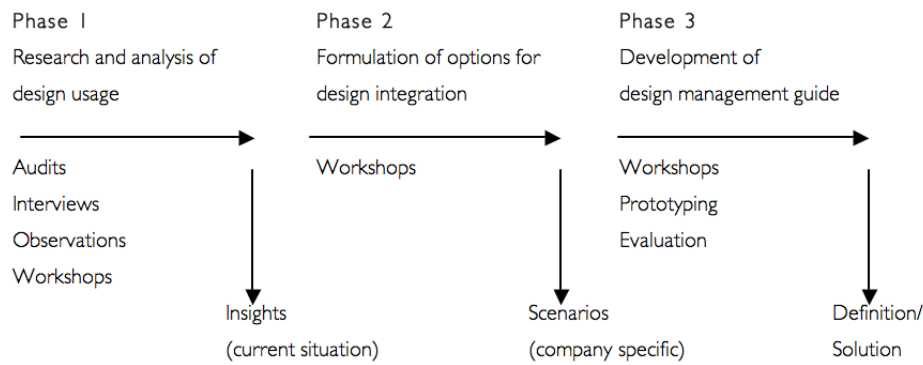
Scenarios
(company specific)

Definition/
Solution

Fig 2: Research process, main methods and results

5.5. METHODS

During phase 1 and 2 of the work with the research consortium, the methodology of consulting work (audits, workshops, analysis and discussion, etc.) was mainly used. The following tools were helpful to frame context and discussion between research team and companies with little design know-how so far:
– the Design Staircase® of the Danish Design Center (Design Staircase 2001)
– the Design Atlas of the British Design Council (Design Atlas 2000)
– the Design Management Framework (DM-Framework) of the Design Management International program at Lucerne University of Applied Sciences and Arts, Art & Design (Acklin 2007)

5.5.1. DESIGN STAIRCAISE

"In 2001, the Danish Design Center developed the Design Staircase® to measure the companies' use of design. The basic notion of the Design Staircase® is that companies may work with design on several levels or steps, depending on circumstances. Higher positions on the Design Staircase® are correlated with positive effects on gross result growth as well as distinct positive effects on export ratios" (Danish Design Center 2007). The model was introduced in phase 1 during the first round of workshops with the SMEs. It makes evident at a glance where a company stands in regard to its use of design and proved to be an easy to read model for the managers involved in the workshops and later for the assessment of design use through the research team.
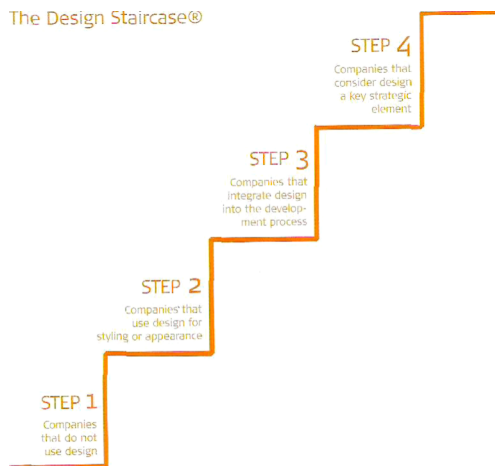
Fig 3: The Design Staircase® (Design Staircase 2001)

5.5.2. DESIGN ATLAS

The Design Atlas is a tool for auditioning design capability within an organization by the British Design Council and consists of a set of questions revolving around the following topics: planning for design, processes for design, resources for design, people for design and culture for design. Each SME-team was invited to answer the questions as outlined by the Design Atlas and to hand them in before the first workshops where the results were deepened through discussion between the management and the research team.

Fig 4: Design Atlas: process diagram and key categories (Design Atlas 2000)

5.5.3. DM-FRAMEWORK

The DM-Framework has been developed as an organizing agenda for the Bachelor course Design Management, International at Lucerne University of Applied Sciences and Arts, Art & Design. It has been used during research phases 1 and 2 and as a means to map the scenarios of design integration. The framework shows three major areas of the impact of design or three major ways of implementing design and design management into a company.

On the level of corporate strategy/brand, implementation is achieved through design planning after researching and analyzing market and user/consumer needs through quantitative and qualitative methods. On the level of corporate culture a design attitude is built through raising awareness of the strengths of design as a strategic resource, through engaging design professionals within selected areas of the company, and through fostering a climate of innovation and creativity within the company, design then can coordinate all expressions of a company consistently across all its touch points with customers etc. On the level of new product development, design managers include design capability at an early stage into the project plan and manage the interfaces with other departments such as marketing, engineering, sales, etc.
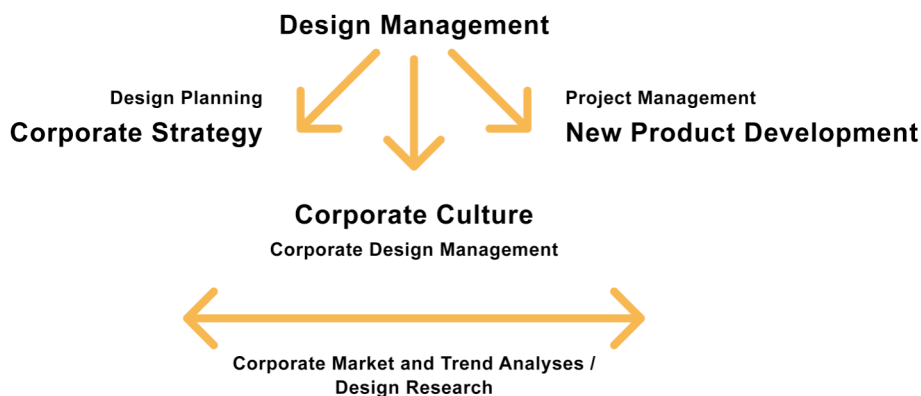

Fig 5: The DM-Framework (Acklin 2007)

6. RESEARCH PARTNERS: PORTRAITS AND QUESTIONS

In order to illustrate the process and the results of research phases 1 and 2, two out of six companies are being portrayed together with their questions regarding design use and the design integration scenarios that were developed during the workshops. A comparison makes evident that company A is the most design-driven and company B is the least design-oriented company of the consortium.

Company A
Company A is a leading producer of stoves, chimney stoves, electric mock fires, garden fireplaces, etc. Two partners founded it 25 years ago as an importing firm. Today company A owns production facilities in Scandinavia with the overall staff of 150 employees. Its main markets are Switzerland, Denmark,

Norway, the Netherlands and France, followed by Belgium, Austria and the US. Company A has been successful so far due to highly innovative products combined with a consistent marketing and sales strategy. The design makes use of a distinctive design language and has always been part of the firm's business strategy and a means to differentiate itself from its competitors. The company's fireplaces have earned design awards in Germany and in the USA.

Company B

Company B is a leading manufacturer of measuring devices for compression, temperature and power. It employs roughly 200 people. The firm is a subsidiary of a German manufacturing group, but due to its history and its size it operates, to a large part, independently. Its clients are chemical, machinery, aviation and medicine industries all over the world. Most of the company´s products are for OEM markets, although it is also developing its own product ranges. The company has implemented a Kaizen process (continuous improvement process). Currently it is undertaking a cultural change from an engineering-driven manufacturing focus towards increasing customer orientation. Due to its OEM focus, the design of its products is engineering driven and standardized. Only recently the firm, in its quest to develop new non-OEM product ranges, identified design as a source of value creation, and currently is sourcing external design competency.

Example areas and questions from the most design-driven and least design-oriented company of the consortium:

|	Design Philosophy	Design Strategy	Brand Identity	Design Process	Product Language
Company A	How can a design philosophy, which has been applied implicitly by and which contains the tacit knowledge of the product development team, be visualized in order for other stakeholders of the company to understand its central values? How can an explicit design philosophy be communicated to all stakeholders to enhance business success?			What is the best way to visualize the design process in order to communicate more effectively at the interfaces of marketing, production in Denmark etc.?	
Company B	What significance can design achieve on the product level and on the level of corporate design in terms of appearance outwards and inwards?	How is a design strategy supposed to be conditioned in order to become part of corporate strategy, and how can such a strategy be initialized with a sustained effect?		How is a design-based process to be established in order to use the potential of design at most? Who must do what, why, how and when?	

Currently preliminary results are available for phases 1 and 2 of the research plan.

7. PRELIMINARY RESULTS (PHASE 1): PROFILES AND FINDINGS

In phase 1 the current use of the design of each company has been analyzed. This resulted in a profile for each company based on the Design Atlas framework, and subsequently in its current position on the Design Staircase® ladder.

7.1. DESIGN INTEGRATION

The profiles of company A and B reflect differences in the use of design, with company A exhibiting the most prominent design use, and company B the least design use out of all six participating companies.
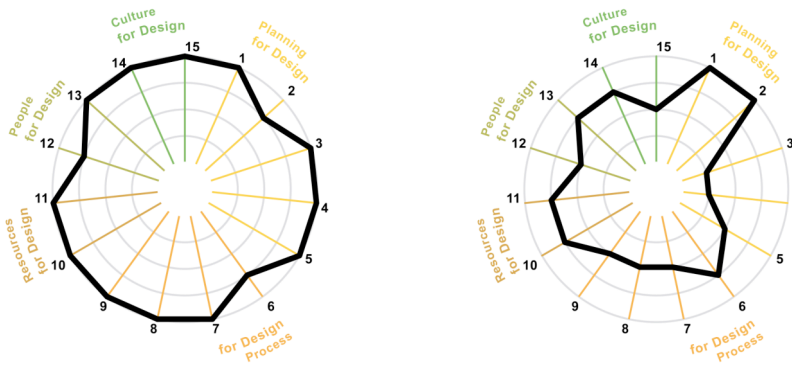
Company A   Company B

Fig 6: Company profiles of design integration

7.2. DESIGN MATURITY

The current position of the two companies on the Design Staircase ladder is informed by interviews with corporate management, the Design Atlas audit results and subsequent discussions held during the first workshops. The arrows indicate the processes of change towards attaining a higher position to be realized through the scenario plans. The text rationalizes the indicated position.
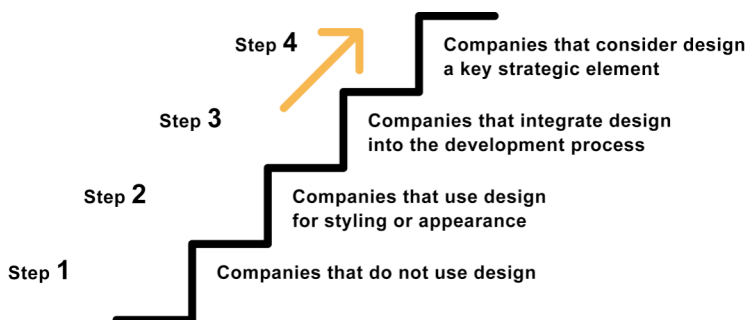
Company A

Fig 7: Design staircase for company A

Design already is an integral part of the company's corporate culture, new product development, strategic planning, etc. The company sees a number of improvements in how its core values, design philosophy and the most basic elements of its product language could be better communicated to its staff. The idea discovery and generation phase of the design process is another subject that could be better communicated internally in order to make staff better-understand where and how ideas and product concepts emerge.
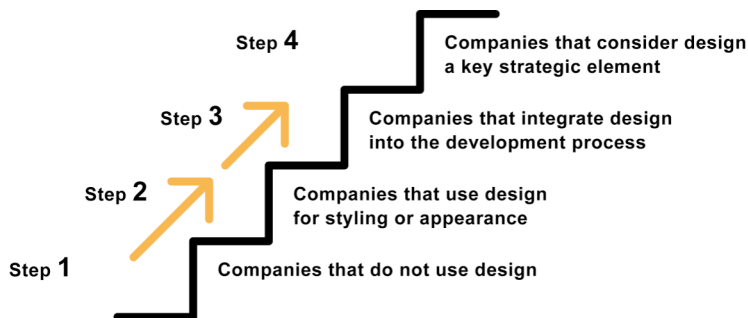
Company B

Fig 8: Design staircase for company B

Design is not yet an integral part of the company's mindset. However, the company is interested in the potential of design as a product differentiator and is engaged in explorative studies. It sees that a product language (level 2) needs to be developed and coordinated. It also understands that in order to do so beyond a pilot project, a design process (level 3) needs to be implemented alongside the engineering process.

7.3. FINDINGS

Findings from phase 1, along the structure provided by the Design Atlas, for all six companies can be summarized as follows:

1. Planning for design: Five out of six companies (e.g. company B) do not have a design philosophy and/or a design strategy to guide the formulation of a differentiated product language, which reflects the core values of the brand; company A is aware of the fact that the product development team needs to make explicit what has been guiding them implicitly over the last couple of years in order to achieve more buy-in of internal stakeholders.

2. Processes for design: Most companies (e.g. company B) are good at developing products, but lack adequate resources (space, time, people, money) for innovation; innovation is high on the agendas of the companies, but they do not know how to innovate; this finding does not apply to the design-led company A.

3. Resources for design: Most companies do not allocate separate budgets for design activities (beyond design staff salaries); they also do not have controlling tools in place to measure design investments and ROI.

4A. People for design: Most companies lack design competency; in those cases where there is some competency present (e.g. as represented by an internal product designer) it is not integrated in such a way that a strategy-based design language has been achieved.

4B. People for design: Most companies lack an internal design management structure that functions to lead and coordinate design related matters; design awareness on top management level is just about to be established. In case of the design-led company A, the founder and CEO is also the head of product development.

5. Culture for design: The management of technology-based companies (such as company B) is goal-oriented and favors a decision-making attitude with a strong focus on effectiveness and efficiency. It is in the forefront for design-led companies to find innovative solutions (such as in the case of company A); this may include an empathic and user-centered approach to problem solving. In technology-based companies design appears to be nice-to-have rather than a must-have.

8.0. PRELIMINARY RESULTS (PHASE 2): DESIGN INTEGRATION SCENARIOS

In phase 2 a scenario for design integration for each company was developed. This resulted in a plan for the implementation of new ways of using design.

Design integration scenarios build on design integration analysis. They aim at supporting the SMEs and move design use from the current level towards the next higher level through specific measures. Two scenarios are introduced, followed by their discussion.

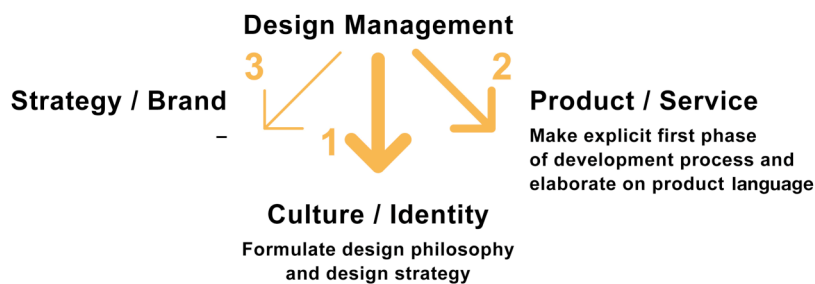## 8.1. DESIGN INTEGRATION SCENARIO FOR COMPANY A

Fig 9: Design integration scenario for company A

The design integration scenario for company A concentrates on two focal points:

1. Corporate culture/identity

Process: give shape to a design philosophy and strategy

Goal: communication of design philosophy and strategy to all internal and external stakeholders to enhance buy-in into design values and the value of design

Measures: give shape to design philosophy and deduct design strategy from it; define adequate ways of internal and external communication

2. Products/services

Process: explain product language and its central elements, and communicate process of idea discovery and generation

Goals: development of product design guidelines according to design philosophy and strategy; new visualization of product development process (with special emphasis on idea discovery and generation)

Measures: make the connection between design philosophy/strategy and product language evident; complement development process; develop adequate form of visualization and way of communication suited for the needs of different groups of stakeholders

Process: During and after the workshops, the company team worked first on a design philosophy. It then developed "mood boards", which illustrated the sources of inspiration for their products and connected them to trends in architecture, art and product design. This work in itself proved to be a valuable process of going to the roots of the firm or to the corporate core values that permeate all designed expressions of the company. The upcoming process will have to show whether communicating more vigorously what is at the center of the company's products can strengthen corporate culture and staff's identification with it.

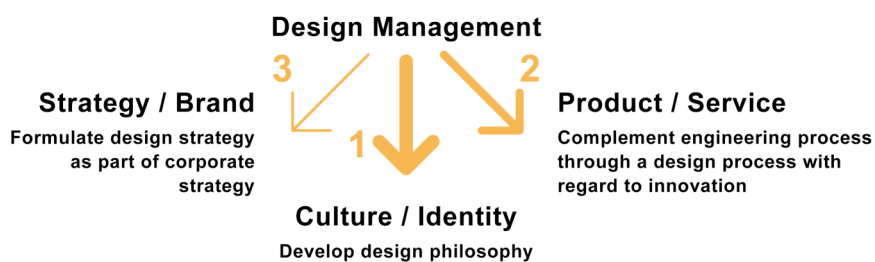## 8.2. DESIGN INTEGRATION SCENARIO FOR COMPANY B

Fig 10: Design integration scenario for company B

The design integration scenario for company B concentrates on three focal points:

1. Corporate culture/identity

Process: give shape to a design philosophy

Goal: transfer of core values into a design philosophy

Measures: establish design consciousness within the firm; embed design competency

2. Products/services

Process: complement engineering process through a design process with regard to innovation

Goal: development of a product language and its central elements

Measures: develop design brief for designers; evaluate and commission designers; develop design guidelines

3. Strategy/brand

Process: formulate design strategy as part of corporate strategy

Goals: definition of design differentiators related to brand values; evaluation of product portfolio with regard to the use of design

Measures: check product portfolio with regard to where design could create/add value

Process: During the workshops, the researchers worked with the management team on a future state regarding product design and its integration with the engineering and marketing functions. The management team then was asked to transfer aspects of their corporate vision into a design philosophy and strategy. It soon became clear that this was asking too much of the management team members. Being engineers they did not feel too comfortable in using plain language to advance an idea of how management and design could be successfully linked. The subsequent process will tell whether the engineers will be able to dive into the realm of design and embrace its full potential both from a bottom-up (include design competency) and a top-down (empower for managing design) perspective.

8.3. COMPARISON AND DISCUSSION

Comparing profiles and scenarios of design integration of company A and company B aims at clarifying success factors for the successful use of design. While company A can be clearly positioned on level 3, company B is positioned on level 1, reflecting a different maturity level on the Design Staircase® model. Current design use also reveals the significant differences of the two firms, which can be depicted clearly by comparing the two profiles on the spider diagram.

1	General planning awareness
2	General planning communication
3	Design planning awareness
4	Design planning thinking
5	Design planning horizons
6	General process awareness
7	Design process awareness
8	Design process management
9	Design process tools
10	General resource allocation
11	Design resource allocation
12	Design skills
13	Design organisation
14	Design commitment
15	Design attitudes

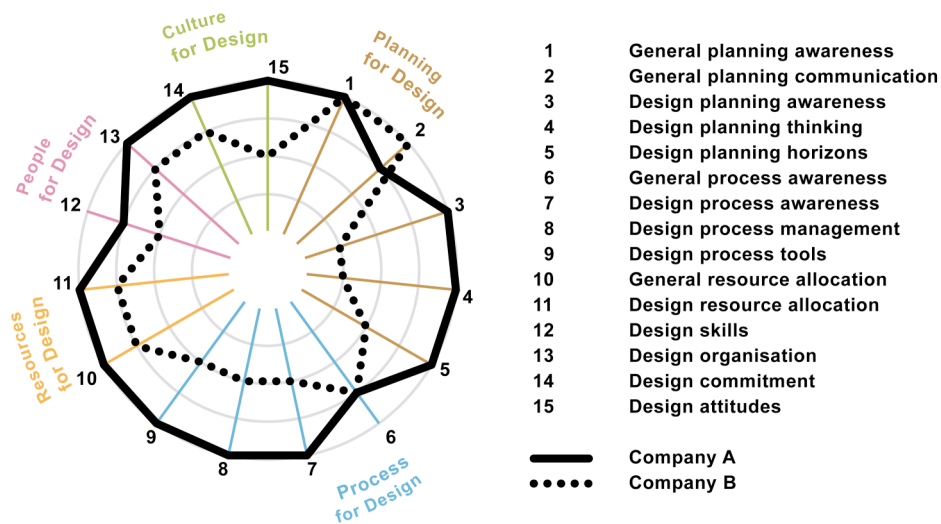**——— Company A**
• • • • • Company B

Fig 11: Comparison of design integration scenarios between company A and company B

This comparison makes evident that company A implicitly and explicitly makes use of a number of critical success factors, which company B does not. Each of these success factors has a specific potential to leverage design capability, and by doing so to transform the business, the processes and maybe even the outlook of a company.

These success factors can be summed up as follows:
– Include a design champion on the level of top management and create a design management function that has direct access to the decision-making processes of top management.
– Formulate a design philosophy as part of the mission or vision of the company, which then informs a design strategy and a consistent design language for all products and services.
– Implement processes for design such as the coordination of all internal stakeholders who make design contributions to strategy/brand, product/service, corporate design/communication, marketing/sales, etc.
– Alter the "typical" process of improving products towards a design-based innovation process.
– Allocate budgets, time and people to projects and establish adequate measurement tools. Start with pilot projects before company-wide implementation.
– Include design competency into all design-relevant business activities either through internal designers or through cooperation with an external design service provider. Provide professional design briefings.
– Create and foster a climate of innovation and creativity within the company and use every opportunity to communicate the strength of design as a strategic resource.

9. LOOKING AHEAD: PREVIEW ON DM-GUIDE

As stated before the DM-guide should achieve the following objective: it should support SMEs to raise their design maturity level by helping them assess their design maturity, and recommend specific ways towards realizing their full potential at their current level, or reaching the next higher level.

Taking into account the critical success factors of design integration as relevant criteria, the objective can be specified in the following way:

– The DM-guide should support SMEs to project their different situations and their goals onto the guide ("find my situation")

– The DM-guide should allow for different perspectives and/or pathways on design and design management integration ("discover my pathway")

– The DM-guide should employ appropriate visual form, language and guidance (e.g. case studies) ("understand my DM-guide")

In order to access the DM-guide for the purpose of discovering appropriate pathways for design and design management integration, the following perspectives are proposed:

1. Levels

The design maturity levels of the Design Staircase®:

– Companies that do not use design

– Companies that use design for style or appearance

– Companies that integrate design into the development process

– Companies that consider design as a key strategic element

2. Triggers

Triggers are external factors that arise from the fields of market needs/economy, politics, society or environment. Triggers such as the development of a new technology, new values, the need for a new product, market entry of a competitor, etc. are pushing SMEs to make greater use of design.

3. Players

Players are members of SMEs that are able to influence and/or decide on the use or integration of design and design management. There are three categories of players:

– design leaders (or design champions on the level of top management, decision makers)

– design managers (coordinators of design projects and design issues throughout the company)

– designers (in-house or external)

Players do not necessarily need to be referred to as the names mentioned above. They might just as well have job titles such as CEO, key account manager, vice president R&D, etc., depending on the nature and

history of the company. Two or three categories of players may also merge into one, such as a designer that fulfills the additional function of a design manager.

4. Success factors

Success factors are internal levers with the potential to trigger the dynamics of change inside a company. Success factors on the level of corporate culture especially, must be seen as a long-term commitment to core values that emphasize the design attitude of a company.

These success factors are:

Corporate strategy/Brand:

– Design planning through the design leader on top management levels

– Design philosophy, strategy and language for products/services

– Design budgets, time, manpower and adequate controlling tools

Products/Services

– Design management and coordination of all internal stakeholders

– Processes for design for brand/product/service/corporate design

– Design-based research and innovation processes

Corporate Culture/Corporate Design

– Design competency for all design-relevant business activities (internal/external)

– Climate of innovation and creativity including all staff members

A model of the DM-guide shows the 4 perspectives as access points for accessing the mental model or mindset behind the guide, thus making it possible for SMEs to assess their current situation regarding design maturity, become aware of the potential of higher levels, and ultimately improve design integration.
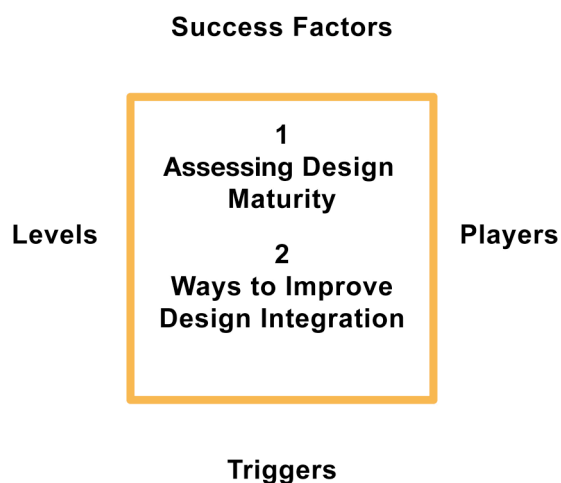
Success Factors

Levels

1
Assessing Design Maturity

2
Ways to Improve Design Integration

Players

Triggers

Fig 12: Model of the DM-guide

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