DESIGN; A BUSINESS CASE

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What happens when design excellence is added to strategy ?

We have identified a handful of strategic challenges facing many – according to PwC a majority – of the CEO's around the world, and for each one of the five areas, ***innovation, human capital, digital and technological capabilities, competitive advantage*** and ***customer experience.*** [1] an abundant range of literature exists to guide and comfort the leaders of this world's enterprises. And yet, the case studies presented and the actions recommended are not always directly applicable to one's own situation as described. One might think that adding an additional layer to the tested and proven theories would make them even less likely to be adopted and applied by managers around the world. We beg to disagree. Reframing is a common and extremely valuable component of the processes based on design thinking, and we believe that re-contextualizing the literature referred to, researched and written by some of the world's greatest gurus within the fields of strategic management, might add some new and valuable layers to their ideas, thus encouraging new audiences to try them out and already converted audiences to see them in a new light.

To do so, we need to dig a little deeper into the two main components of our frame of thinking; design thinking and design management.

Design Thinking in practice

Design thinking is an ***inspirer***. While tons of books have been written about it over the last decade, and some have aspired to capture it in formulas and models, a group of researchers from the Hasso Plattner Institute in Potsdam found through interviews with a number of design thinking experts, that *While the term 'Design*

[1] PwC (2017): *20th CEO Survey: 20 years inside the mind of the CEO... What's next?* – page 12

Thinking' seems to allude to a common set of practices and a common theoretical matrix, the experts held ready an astonishing variety of understandings. [2]

Moreover, the experts had opposite beliefs with regard to several key issues within and interpretations of the concept. Fortunately, in the same research, a series of commonalities were also found, in particular an understanding that a strong focus on ***user needs***, a common understanding that the objective of design thinking is ***true innovation***, that ***reframing*** is an inevitable part of the process, ***multidisciplinarity*** and the presence of a ***positive communication culture***, are all pivotal elements of an undertaking under the "design thinking" label.

Another question, which has been discussed vividly over the same period, is what design thinking actually is. Most commonly used are method, approach, skill or mind-set – often confused and used quite arbitrarily. Such as in an article in Financial Times, where the heading is *"Design thinking — the **skill** every MBA student needs"* and the sub-heading reads **"***It is an important **mind-set** that lends itself to solving complex human problems."* In the article, a third caption adds to the confusion;

*They got here through design thinking — **creative strategies** used by designers that can be applied to finding solutions for other issues.* [3]

In other contexts, design thinking has been referred to as a process;

*Unlike the typical creative design **process**, which is usually an intuitive and individual process, design thinking consists of a flexible sequence of process steps and iteration loops, each including several tools and resulting in different artefacts.*" [4]

Richard Buchanan even introduces the concept of technology as a relevant label;

Indeed, the variety of research reported in conference papers, journal articles, and books suggests that design continues to expand in its meanings and connections, revealing unexpected dimensions in practice as well as understanding. This follows the trend of design thinking in the twentieth century, for we have seen

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[2] von Thienen et al., Plattner et al., eds (2011) : *The co-evolution of Theory and Practice in Design Thinking – or – 'Mind the Oddness Trap!'* in *'Design Thinking: Understand – Improve – Apply'* - Springer-Verlag, Heidelbeg

[3] Stigliani (2017): *Design thinking — the skill every MBA student needs* – Financial Times, 22 June 2017

[4] Thoring and Müller (2011): *Undersanding design thinking; A Process Model based on Method Engineering* – International Conference on Engineering and Product Design Eucation, London – 8-9 September 2011

design grow from a trade activity to a segmented profession to a field for technical research and to what now should be recognized as a ***new liberal art of technological culture****.* [5]

Depending on how it is applied, within which context and with which motives, design thinking can be any of the aforementioned. In his book from 2009, Roger Martin somehow applies a more grounded approach to design thinking, labelling it what is claims to be – a way of ***thinking***; one, which merges analytical thinking with "the randomness" of intuitive thinking, thus exploiting both existing knowledge and the exploration of the unknown. [6]

This notion aligns quite well with the views of late Bill Moggridge, one of the founders of IDEO. In an interview made by one of the authors of this series of articles back in 2008, he said that:

The core skills of the designer are the abilities to lay out alternatives, to visualize them, to choose between alternatives and to give their solution some kind of tangible representation. While anyone can tap into design thinking with his own skills and background knowledge, designers do it as part of their professional approach. Others need to adapt to it, but all of us represent - just like an iceberg - a tip of logics, articulate skills and methodologies, but underneath that, an incredible resource of tacit knowledge and intuition. Having the courage to access this reservoir and to try out the ideas that emerge from it is design thinking. As I see it, design thinking is merely ***a licence to apply intuition to your processes****.* [7]

However, whether a process in its own right or not, it fits into processes of development and change, and to benefit from design thinking, a series of skills are needed; the skills to engage stakeholders and moderate ideation processes, to visualize and prototype based on verbal input, to plan and structure, and to manage a flow of information, consecutive loops and iterations, different forms of expertise and technological, economic and human resources. All those are skills, which require certain types of training and experience to master, and very few master them all. Nonetheless, they are all key skills to undertake successful design management.

Moreover, to benefit from design thinking, a methodological framework is needed. This might be standardized or bespoke, as long as all key players in the process understand and embrace the chosen protocol. However, it seems difficult to claim that design thinking in itself is such a framework, as it – as already discussed – takes on a broad variety of forms and interpretations.

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[5] Buchanan (1990): *Wicked Problems in Design Thinking* - based on a paper presented at 'Colloque Recherches sur le Design: Incitations, Implications, Interactions', October 1990, (Design Issues, Vol. VIII, Number 2, Spring 1992 5).

[6] Martin (2009): *The Design of Business – Why Design Thinking is the next Competitive Advantage* – Harvard Business Press

[7] Moggridge (2008): *It's all about Design Thinking* – Inform 3-2008, Danish Designers, Copenhagen

And, while design thinking might not in itself be a mind-set, there is no doubt that it does require a growth mind-set to foster change and innovation. According to the author of the bestselling "*Mindset: Changing The Way You think To Fulfil Your Potential*", Dr. Carol S. Dweck, there are only two fundamental mind-sets; a *fixed* mind-set and a *growth* mind-set. Having a growth mind-set means, according to the author, that *"the hand you're dealt is just the starting point for development"* [8]. This mind-set is needed to believe in the explorative nature of a design process – seeking opportunities and gold, where nobody else found it before you.

Designers are exploring concrete integrations of knowledge that will combine theory with practice for new productive purposes, and this is the reason why we turn to design thinking for insight into the new liberal arts of technological culture. [9]

Design thinking ***inspires***. However, by reflecting the visions and aspirations of an organisation, it also entails a mandate to work with design and designers – thus ***empowering*** the organisation and its management to explore the potential of exploiting design methodologies, design processes and design management, and in turn, the powerful embodiment of ideas that "good design "is.

Design Management in practice

Design management is an ***enabler***. It serves as a mechanism to engage stakeholders, to manage data, time and resources, to ensure continuous learning as the project progresses and to guarantee coherence with the strategic aims and objectives of the design project. It can be applied on an operational, functional and strategic level, but its overall aim is to enable and deliver at each defined stage of the design process, which could look like this;

- *Identify the problem*
- *Identify criteria and barriers*
- *Generate ideas for possible solutions*
- *Explore realistic scenarios*
- *Choose among alternatives*
- *Prototype*
- *Test and refine*

[8] Dweck (2006): *Mindset: Changing The Way You think To Fulfil Your Potential* - Random House, New York

[9] Buchanan (1990): *Wicked Problems in Design Thinking* - based on a paper presented at 'Colloque Recherches sur le Design: Incitations, Implications, Interactions', October 1990, (Design Issues, Vol. VIII, Number 2, Spring 1992).

- *Produce, execute or launch*

What, then, specifically is the role, and what are the challenges of design management? One way of summarizing it could be to amalgamate the operational, functional and strategic levels into one, based on "The Design Manager's Toolbox", as presented in *"Design Management – Using Design to Build Brand Value and Corporate Innovation"* by Brigitte Borja de Mozota:

Strategy; Align design strategies with overall organisational strategies, objectives and goals, define the role of design to products, services, user experience, communication and brand, and co-ordinate design strategies with the marketing, innovation or R&D and communications departments

Planning**;** Allocate sufficient resources to draft detailed design briefs for each design project, choose the most relevant methodologies and processes, define procedures, design and quality standards, schedules and resources, as well as measurable success indicators, observing the objectives and strategies of the organisation, its complexity and resources

Structure**;** Embed ownership of the design process at the top management level and define the roles and tasks of internal as well as external designers and design managers

Finances; Estimate key figures and financial procedures as well as realistic budget for each design process to be used for planning, continuous monitoring and final audit and evaluation purposes, to ensure correspondence with the intentions of the design strategy and the individual design brief

Human Resources; Define which specific design competences your organisation needs, strive to create a mind-set, which is favourable to design and design thinking throughout the organization and keep your design strategies in mind when hiring new staff, while constantly assessing the potential and benefits of engaging existing staff from across the organisation in design processes

Information; Make sure that your design strategies are known to all members of your organization and allocate resources to monitor new design trends and technologies

Communication; Consider design competitions as a source of concepts and ideas, communicate new design projects and solutions internally and to external stakeholders, and establish procedures to encourage cross-disciplinary working relations both internally and with suppliers, knowledge partners and others

For many, this looks all familiar, as all the above would resonate with any professional having worked as a project manager. What differ from many other similar roles are the biases of what design is and what it can

do. Not all of us understand the details of the CRM or QA systems of our organisation, but few of us would even think about questioning the importance of customer relations or quality assurance. Design, however, is often questioned, and that adds a layer of advocacy to the professional role of anyone representing design in domains, where it is not already fully embraced.

And, even though the overall idea of design resonates with an organisation's management, uncertainties seem to exist as to how to get started, or how to ensure a real benefit from working with designers.

Design has the potential to play an even greater role in economic growth in future: Three-fifths of respondents (59%) believe that design will contribute substantially to any of a range of business improvement activities in the next three years. This includes efforts to increase sales in the UK, the development of new products or services, and marketing campaigns. Yet design offers much more than this, and despite awareness of its potential benefits a sizeable proportion of businesses still do not use design as effectively as they could. [10]

Actually, the number of companies that actually work strategically with design doesn't even come close to that. The figures from the aforementioned UK study shows that, while 40% of the respondents do not apply design at all, only 10% uses it strategically. A similar study from Denmark confirms the picture, showing that while a little over half of all companies in Denmark use design, only 13% use it strategically and as a driver of their business development.[11] Which, of course, makes one wonder where the reasons for this gap should be found.

There are several reasons. In the aforementioned Danish study, 86% of the companies that do not use design at all, say that the most important reason is that they do not see design as relevant for them and their business – followed by uncertainty of which value design adds and lack of evidence for return on investment. Hence, top three all refer to the expectancy of actually benefitting from the use of professional design services – internal or external.

Another, perhaps more interesting question is why the companies that actually have embarked upon the use of design are not exploiting its potential to its fullest – despite acknowledging what design – applied strategically, can actually do to "stay competitive in the current economic climate".

These could be some; however possibly not as easily admitted;

[10] Design Council (2018): *The Design Economy 2018, The State of Design in the UK*

[11] Danish Design Centre (2016): *Exploring Design Impact*

- *not knowing enough about what design is, thus feeling unapt at procuring it as a professional service*
- *not being entirely clear on what the need is, thus being afraid of paying for a lot of fuzziness at best and nothing at worst*
- *not having clear ideas of neither where to start, what to expect from the process nor desired outcomes*
- *not being able to assess good design from bad or the quality of the delivery, thus being afraid of revealing incompetence*

Most of us would recognise one or more of those reservations from one area or another; we are not very good at commissioning skills or services of which we know very little, and when adding to that, it is not always entirely clear up front what the problem or challenge is, justifying an investment in design can be difficult for some.

Half a century ago, the renowned designer couple Ray and Charles Eames articulated a model for what they considered "good design".[12] The diagram was developed for the 1969 exhibition: 'What is Design?' at the Musée des Arts Décoratifs in Paris, France, with the objective to explain how " good design "is achieved; designs that simultaneously balance the needs and interests of the client, the design office and society as a whole.

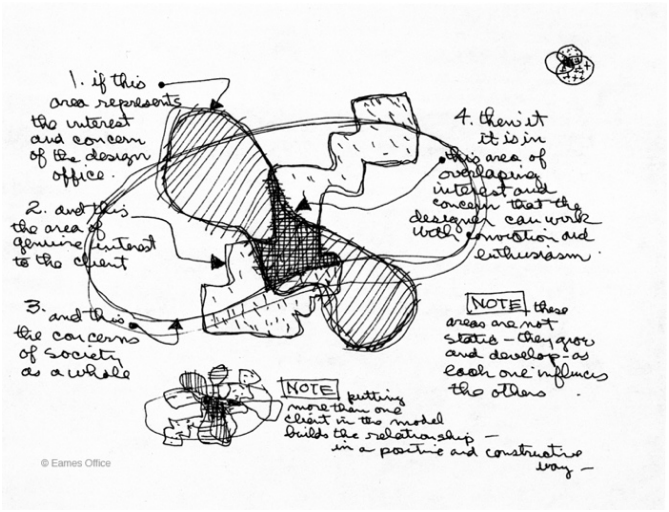

Fig. 1: Eames (1969): ***"The Design Process Diagram"***

Design Thinking and **Design Management** are largely the mechanisms needed to achieve this; to manage all the factors influencing on whether the solution achieves the goals it set out to resolve. If successfully undertaken, the design process leads to an outcome, where the aspirations of the designer (create meaningful products and services, make the world more beautiful and people's life easier, humanize technology and improve user experience) go hand in hand with the needs and interests of the client (differentiation,

[12] Eames (1969): *The Design Process Diagram*

competitiveness, brand positioning, effectiveness and profitability) and the overall concerns for society at large (protect the planet and eradicate poverty, famine and decease). Hence, the **The Designence model ™**[13], as previously introduced, proves an appropriate measure, as good design serves as **differentiator**, a source of competitive advantage in the market through brand equity, customer loyalty, price premium or customer orientation, as an **integrator,** improving new product development processes and favoring a modular and platform architecture of product lines, user-oriented innovation models, and fuzzy-front-end project management, as a **transformation factor** allowing the creation of new business opportunities and improving the company's ability to cope with change, and finally as a vehicle for **good business**: fostering increased sales and better margins, more brand value, greater market share, better return on investment.

The father of the Stage-Gate development model, Robert G. Cooper has summarized the critical factors determining success or failure of a new product or service as 1) Doing the *right projects,* and 2) Doing *projects right*.[14] Many would claim that at large, we are far better at doing projects right than doing the right projects, but real change is achieved only when the two go hand in hand.

Design Thinking – inspiring meaningfulness, relevance and attractiveness – ensuring that we do the right project and empowering the organisation to pursue design as a strategic measure, and **Design Management** – bringing innovation and creativity to life and making sure that we do projects right, are key components of what could also be referred to as **Design Excellence.** However, one vital element needs to be added to complete the equation. **Design**. Design – while encompassing elements of strategic considerations – at its core is the ***embodiment*** of the visions, strategies and ideas of an organisation.

Thus, we go all the way back to what Herbert Simon, Donald Schön, Willemien Visser and Don Norman have in common; the understanding of design as – for some amongst other – a tangible representation of ideas; "*The intellectual activity that produces **material artefacts** is no different fundamentally from the one that prescribes remedies for a sick patient or the one that devises a new sales plan for a company or a social welfare policy for a state."* (Simon)[15]; "*When someone reflects in action, he becomes a **researcher in the practice context**."* (Schön)[16]; *"...designing is most appropriately characterised as a **construction of representations**."* (Visser)[17] and *"The move from craft-based to evidence-based design, from simple objects*

[13] Borja de Mozota (2005): *The complex system of creating value by Design : Using the Balanced Scorecard model to develop a system view of design management from a substantial and financial perspective* , The 6th European Academy of Design Conference "Design System Evolution", University of the Arts, Bremen, Germany, March 29-31

[14] Cooper (1999): *From Experience: The Invisible Success Factors in Product Innovation* - Journal of Product Innovation Management, 16, 2, April 1999, 115-133

[15] Simon (1988): *The Science of Design: Creating the Artificial* - Design Issues Vol. 4, No. 1/2, Designing the Immaterial Society (1988), pp. 67-82

[16] Schön (1983): *The Reflective Practitioner – How Professionals Think in Action* – Basic Books, NY, USA

[17] Visser (2007): *Designing as Construction of Representations: A Dynamic Viewpoint in Cognitive Design Research* - Human-Computer Interaction 21, 1 (2006) 103-152

to complex sociotechnical systems, and from craftspeople to design thinkers suggest that we are now faced with a fork in the road with two different possible futures for design: 1) ***A craft and practice****; 2) A mode of thinking."*[18] The commonality lies in their focus on design requiring a form of output, an embodiment. Thinking is not enough; the thinking must be challenged and tested and embodied one way or another to be labelled design.

Hence, **design excellence** requires the mandate to embrace design; the ***empowerment,*** the knowledge and structures needed to work strategically with design; the ***enablement,*** and the skills and creative capacity to explore and materialize the visions of the organisation; the ***embodiment*** in the form of representations of design.

What happens when design excellence is added to different strategies?

In this section, we will discuss the role and effect of design excellence – of design as inspiration as well as enabler – in the context of ***innovation***, ***human capital, digital and technological capabilities, competitive advantage*** and ***customer experience*** – as a response to the challenges of management, as discussed in our previous article. Our aspiration is to argue the relevance, role and value of ***design excellence*** as a key vehicle for successful growth through a strengthening of each of the five contexts.

Innovation strategies; How can design excellence contribute to fostering innovation?

There are many claimed drivers of innovation; or rather reasons for engaging in innovation activities. Some of these reasons could be: financial pressures to decrease costs, increase efficiency, do more with less, increased competition, shorter product life cycles, value migration, stricter regulations, industry and community needs for sustainable development, increased demand for accountability, community and social expectations and pressures (giving back to the community, doing good, etc.), demographic, social, and market changes, rising customer expectations regarding service and quality, greater availability of potentially useful new technologies coupled with the need to keep up or exceed the competition in applying these new technologies and the changing economy. [19] Moreover, as previously mentioned, OECD in its "Oslo Manual", defines four different kinds of innovation; *product, process, marketing* and *organizational* innovation, while defining innovation as;

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[18] Norman (2016): *The Future of Design: When you come to a fork in the road, take it* – jnd.org

[19] Gary (2000): *Leading the Revolution* - Harvard Business School Press, Boston

The implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations. [20]

That's not it. There are also different types or degrees of innovation; *basic research, sustaining innovation, breakthrough innovation and disruptive innovation* – all characterized by different objectives and activities.[21] Finally, there has been an evolution over the last five decades, with regard to the overall rationale of investing in innovation, as measured by the sources of competitive advantage;

- In the 1960s & 1970s, focus was on "*Making things cheaper*" exploiting the advantage of cost reductions, mass production and division of labour
- In the 1980s &1990s, focus shifted to "*Making things better*" taking advantage of new technologies, manufacturing models and automation to increase product quality and speed,
- Since the turn of the century, focus has been on "*Making better things*", harvesting the benefits of better design, smarter solutions, uniqueness and authenticity [22]

While technological advances, making the development of new products and services more efficient and the marvel at what could be done was the main drivers of innovation for decades, innovation activities today most often start with the needs and aspirations of the user. Several terms, reflecting slightly diverse approaches, are used, such as user-driven, user-centered and user-oriented. What they have in common is that they see the user – in its broadest sense – as a resource that informs the development of new products, services or processes of innovation. The way, in which these stakeholders are engaged, however differs – from studies and observations via combinations of direct and indirect influence on the development process to actual co-creation. In any case, design plays a vital role at making such processes work and of ensuring that the information gathered during the course of the process is framed and re-framed to truly reflect needs and opportunities that justify the investment in an innovation process.

Design's role as a lever for innovation is articulated quite precisely in an article by Robert W. Veryzer and Brigitte Borja de Mozota;

As products continue to embody progressively complex technologies and to offer a myriad of capabilities, it is often the user's ability to understand and to appreciate the product that stands as a principal design

[20] OECD (2005): *Oslo Manual; Guidelines for collecting and interpreting innovation data*

[21] Satell (2017): *Mapping Innovation: A Playbook for Navigating a Disruptive Age*- McGraw Hill

[22] Rosenfeld, Regional Technology Strategies, Inc. (2006)

constraint as well as being a key element in marketplace success. [23]

The role of design, as well as some kind of engagement of users in the pursuit of fostering innovation is widely recognized, and yet, there are still diverging ideas as to which "methodology" is the most valuable. The answer probably is to be found as result of an assessment of each individual project or challenge. That assessment in itself calls for design management; to moderate and manage the process of choosing the optimal "protocol", for any given project – whether its outcome objective is tangible or intangible. When the project has been clearly defined, the role of design excellence is to cater for the needs and conditions of the project team, to inspire and inform, and to manage the process as meticulously as any other investment in the organization would be managed. Even though already argued, it is crucial to understand that there is a direct correlation between the ***management*** of the process and the quality and value of the outcome. This was one of the conclusions after a study of different levels of user involvement, measured by the amount and quality of ideas generated:

The study has concluded that user involvement in service innovation, if properly managed, has a positive effect on the quality of the created service ideas and obtains valuable use information. Companies that learn how to use the potential of user involvement will gain a competitive advantage. [24]

Latching this up onto Kim & Mauborgne's "***Blue Ocean***" [25] approach, after the book became a global success, not only their readers, but also the authors realised that there was still a way to go to understand what it takes to do it, how to manage, and whom to involve in such processes. As a result, they wrote a sequel, focusing more on what it actually takes to move beyond competition.[26] In a Forbes interview, they stress the role of creative competences to actually pursue a Blue Ocean strategy;

Existing strategy work has been virtually silent on the role of people and our human spirit in creating growth. Yet, our research shows that making a blue ocean shift is a transformational journey that requires a balance of hearts and minds, of humanness, confidence, and creative competence. For any process to work, it must acknowledge our doubts and build our confidence as much as unlock people's requisite creativity. [27]

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[23] Veryzer and Borja de Mozota (2005): *The Impact of User-Oriented Design on New Product Development: An Examination of Fundamental Relationships* - Journal of Product Innovation Management 2005;22: pages 128–143

[24] Magnusson et al. (2003): *Managing User Involvement in Service Innovation Experiments With Innovating End Users* - Journal of Service Research, Volume 6, No. 2, November 2003 111-124

[25] Kim and Mauborgne (2005) *Blue Ocean Strategy: How to Create Uncontested Market Space and Make Competition Irrelevant* - Harvard Business School Press

[26] Kim and Mauborgne (2017) *Blue Ocean Shift Beyond Competing: Proven Steps to Inspire Confidence and Seize New Growth* - Hachette Books, New York

[27] Forbes Magazine, 26 September 2017: *W. Chan Kim And Renée Mauborgne: How To Shift From A Red To A Blue Ocean*

Unlocking people's creativity is a pivotal objective of user-oriented design processes and one of the hallmarks of designers, and the facilitation and management of such processes rests at the heart of design management.

On the same note, latching what we know about the effects of design excellence up onto Clayton Christensen´s thinking around *"**disruptive innovation**"* [28], even a "traditional" business consultancy like Accenture advocates the role of not only design, but also designers, as instrumental in the process of disruptive innovation;

Designers use their awareness of customer wants and needs to conceptualize high-value and differentiated offerings. They draw on existing off-the-shelf components as well as leading-edge innovations to create novel blueprints that satisfy customers. [29]

Finally, the concept of *"**open innovation**"* [30], introduced by Henry Chesbrough, goes extremely well with design excellence, requiring active engagement of both internal and external stakeholders in the pursuit of innovative products, services and business models. Bringing multiple stakeholders together, however, is not always easy and requires the right skills and tools – not least with regard to framing the project as well as the interests of various stakeholders;

When initiating open innovation, framing both the collaboration and the design space is required. Framing a design space is making explicit possible embodiments of a value proposition while framing a collaboration space is clarifying the motivations and defining boundaries between a group of profit and/or non-profit organizations. [31]

Thus, design excellence – framing and re-framing being a central element – not only enhances, but inspires and enables organizations to benefit from open innovation processes.

Hence – regardless of which approach to innovation an organisation prefers: whether incremental, radical or disruptive and whether open of closed- the role of design, well-inspired and well-managed, in it is both well documented, thoroughly tested in real-life environments and only rarely disputed.

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[28] Christensen (1997): *The Innovator's Dilemma; When New Technologies Cause Great Firms to Fail*, Harvard Business Review Press

[29] Nunes and Bellin (2015): *Thriving on disruption* – Accnture Outlook

[30] Chesbrough (2003): *Open Innovation; The New Imperative for Creating and Profiting from Technology,* Havard Business School Press

[31] Tomico et al. (2011); *Designers Initiating Open Innovation with Multistakeholder Through Co-reflection Sessions* – Proceedings from 'Diversity and Unity' – IASDR2011 – the 4th World Conference on Design Research, Delft

Human resources strategies; How can design excellence help growing and harvesting from investments in human capital

While the innovation and design of products and services is embraced by many organisations, the concept of organisational design has been far less attended to. Originally, organisational design focused on designing appropriate structures, but this has slowly evolved into several more complex and integral operations.

Organisation design is not simply about mapping out an organisational structure, but also about how the organisation is aligned with all other aspects, functions, processes and strategies within the business. [32] Thus, a more current focus is rather on designing well-functioning teams, processes and relations. That probably sounds like a challenge vested safely in the "human resource" department, but that, as well, is a somewhat out-dated view on organisational dynamics.

The global consultancy Deloitte, in its 2016 edition of the "*Global Human Capital Trends*" report, based on more than 7,000 responses to their survey in over 130 countries around the world, captures one of the most dominant trends in human resources management:

Executives are embracing digital technologies to reinvent the workplace, focusing on diversity and inclusion as a business strategy, and realizing that, without a strong learning culture, they will not succeed. Amidst these changes, the Human Resources function is taking on a new role as the steward and designer of these new people processes.

and

Human Resources is being asked to simplify its processes, help employees manage the flood of information at work, and build a culture of collaboration, empowerment, and innovation. This means that Human Resources is redesigning almost everything it does - from recruiting to performance management to onboarding to rewards systems. To do this, our research suggests that Human Resources must upgrade its skills to include the areas of design thinking, people analytics, and behavioral economics.

Moreover, the survey shows that

Respondents at companies where HR delivers the highest levels of value are almost five times more likely to be using design thinking in their programs than their peers. [33]

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[32] Stewart and Rogers (2012): *Developing People and Organisations*- CIPD – Kogan Page

[33] Deloitte Development LCC. (2016): *Global Human Capital Trends 2016 - The new organization: Different by design*

The survey also shows that design thinking is used to strengthen **organizational design** (when restructuring roles or the organization itself), **engagement** (to make work easier, more efficient, more fulfilling and more rewarding, **learning** (putting the user experience ahead of the process), **analytics** (recommending better solutions directly to the individual employee) **HR skills** (upgrading understanding of digital design, mobile application design, behavioral economics, machine learning, and user experience design) and **digital HR** (developing new digital tools that can make work easier and better).

This resonates perfectly well with Argyris "*double-loop learning"* [34], focusing on *'the modification of underlying norms, policies, and objectives*' an on creating an environment of learning and constant organisational development, as well as with Nonaka's and Takeuchi's *knowledge-creating company"* [35]*,* acknowledging the value of nurturing and further developing explicit knowledge that has been researched and documented, written down and passed on, as well as tacit, experience based knowledge. It also reflects the respect and care for the individual, commitment and true sense of responsibility, argued by Henry Mintzberg to support the idea of organisations performing at their best "*when they too are communities, of committed people who work in cooperative relationships, under conditions of trust and respect."* [36]

In a report from 2011, The Institute for the Future forecasts the drivers of the future, as well as the corresponding ten most important skills needed to deliver on those drivers. Out of those, at least a handful are key skills are normally dedicated to professional design practitioners, and beyond recognizing them all as skills of growing demand since the report was published and until today, nothing speaks against the same skills being in demand also in the forthcoming decade.

- ***Sensemaking****; the ability to determine the deeper meaning or significance of what is being expressed*
- ***Social intelligence****; ability to connect to others in a deep and direct way, to sense and stimulate reactions and desired interactions*
- ***Novel & adaptive thinking****; proficiency at thinking and coming up with solutions and responses beyond that which is rote or rule-based*
- ***Cross-cultural competency****; ability to operate in different cultural settings*
- ***Computational thinking;*** *ability to translate vast amounts of data into abstract concepts and to understand data-based reasoning*
- ***New media literacy****; ability to critically assess and develop content that uses new media forms, and to leverage these media for persuasive communication*

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[34] Argyris and Schön (1974): *Theory in Practice* - Jossey-Bass, San Francisco

[35] Nonaka and Takeuchi (1995): *The Knowledge-Creating Company: How Japanese Companies Create the Dynamics of Innovation* – Oxford University Press

[36] Mintzberg (2010): *Developing Naturally: from Management to Organization to Society to Selves*, 2010

- ***Transdisciplinarity****; literacy in and ability to understand concepts across multiple disciplines*
- ***Design mindset****; ability to represent and develop tasks and work processes for desired outcomes*
- ***Cognitive load management****; ability to discriminate and filter information for importance, and to understand how to maximize cognitive functioning using a variety of tools and techniques*
- ***Virtual collaboration****; ability to work productively, drive engagement, and demonstrate presence as a member of a virtual team* [37]

Thus, strategies inspired by design and enabled through design management are more relevant than ever as a resource to meet the skills and competencies needed to face the demands of tomorrow.

Digitization strategies; How can design excellence help build meaningful digital and technological experiences

The importance of understanding how our knowledge about perception and sensemaking influences whether our decisions of digitalization and the introduction of new technologies are good or bad, is one of the keys to successfully undertaking organisational change today. Weick duly reminds us of exactly that, [38] as does Christian Madsbjerg in his recent book about sensemaking, [39] but it doesn't necessarily make it much more obvious how to build meaningful digital and technological experiences in a real-life setting.

We live and work in a rather demanding time as far as technological advance concerns. New technologies and – not least – new terminologies and buzz-words are introduced all the time, and has been for decades, so this is nothing entirely new. However, for someone, who is not a born digital, it can be challenging to keep up – to take it all in. Obviously, all the knowledge one needs is out there and can be acquired, hence the actual challenge lies in formulating the over-riding digital strategies and in knowing which expertise to buy. To do so, a certain level of understanding needs to be present, however not necessarily in detail.

This assumption is supported by the PwC report mapping the CEO challenges we've chosen to take as our point of departure. The gist of the challenge for today's leaders is not choosing the right software or systems, but on a much more transversal note to handle the strategic and cultural effects of digitization:

CEOs are operating in a radically new environment. So how can they address the risks of globalization and

[37] Davies, Fidler and Gorbis (2011): *Future Works Skills 2020"* - Institute for the Future, University of Phoenix Research Institute

[38] Weick (1995): *Sensemaking in Organizations*, Sage Publications

[39] Madsbjerg (2017): *Sensemaking; What Makes Human Intelligence Essential in the Age of the Algorithm* - Little Brown Book Group

technology, and realize the benefits for everyone? [40]

According to a quite recent book on the complexity of building a digital strategy, there are eight proven factors influencing on the success of strategic information systems;

1. *External, not internal, focus*
2. *Adding value – not cost reduction*
3. *Sharing the benefits*
4. *Understanding customers and what they do with the product or service*
5. *Business-driven innovation, not technology-driven*
6. *Incremental development, not the total application vision turned into reality*
7. *Using the information gained from the systems to develop the business*
8. *Monetizing information* [41]

What the eight factors boil down to is that technology – more than anything – is an enabler of business development and competitiveness. The key to building meaningful digital and technological strategies – and experiences – thus more important than understanding the technology itself is to understand the environment in which the business operates; the value-chain and all its players, the behaviours, needs and aspirations of the market and the inherent value of the knowledge and insights that is accumulated through all and every single digital transaction made.

To achieve this, it goes without saying that the resources needed to build and develop a well-functioning digital infrastructure need to be in place. However, what becomes increasingly important is that the resources needed to build and develop a well-functioning mechanism to undertake user studies, engage stakeholders and prototype the future, are also there. One approach could be to create a "lab" to explore the ways in which the organization could possibly benefit from digitization and new technologies in the future.

The concept of creating intentional spaces and focusing resources toward experimentation, discovery, and innovation, has, over time, demonstrated the relevance of Labs for invention and development, scientific advancement, medical research and new technologies, as well as the emerging application toward solving complex societal challenges. [42]

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[40] PwC (2017): *20th CEO Survey: 20 years inside the mind of the CEO... What's next?* – page 13

[41] Peppard and Ward (2016): *The Strategic Management of Information Systems: Building a Digital Strategy* – Wiley

[42] Rodrigues, Cubista and Simonsen (2014): *Pototyping our Future* - Blekinge Institute of Technology

Such labs are not in nature significantly different from what we often think about when hearing the world; environments with scientists searching for revolutionary treatments or hitherto unknown chemical agents;

Similar to traditional science labs where the scientific method dictates the iterative process by which results are achieved, the newer class of Labs offers a neutral space dedicated to problem -solving in a highly experimental environment. Labs of this nature are sometimes referred to as innovation, change or design Labs. [43]

The idea of labs and of prototyping the future is inspired by the way that designers have worked for more than a century. What has been added over the last couple of decades is a series of techniques and tools – tangible as well as digital – that facilitates the engagement of stakeholders and the way that information is sourced and processed. However, to benefit fully from a 'future lab', it's not enough to dedicate a physical space, decorate it differently from the rest of the work environment and allowing for free play. A survey conducted by the global consultant Cap Gemini Consulting showed, that by 2015, 38% of the world's 200 largest companies by revenue, across sectors, have set up Innovation Centers.[44] However, setting an innovation lab – or future lab or whatever label, you choose to attach to it – in itself is no guarantee of resolving all your qualms about the future. In another survey from Cap Gemini – this time focusing on German companies, the experiences made by 21 companies that all have established such units show that all find such a unit valuable, they all see it as a continuous learning process, and they also recognize that there are issues to be resolved. The three most commonly mentioned concerns were

- *Lack of commitment and resources from mother company*
- *Poor start-up and idea assessment*

and

- *Low level of alignment and intensity of collaboration with mother company.* [45]

Regardless of which approach to forecasting the future and staying on top of digital and technological developments chosen, there will be a need for processes that interpret all the knowledge produced and gathered into tangible value propositions. Design is one such mechanism, and if the objective is to identify where and how new technologies will serve at its best – whether externally, in the form of new products or

[43] Torjman (2012): *Labs: Designing the Future* - MaRS Discovery District

[44] Capgemini Consulting & Altimeter (2015): *The Innovation Game: Why and How Businesses are Investing in Innovation Centers*

[45] Capgemini Consulting (2016): *Insights into the German Landscape of Corporate Innovation Centers*

services or internally, as levers of organizational development and improved processes – design needs to be applied both as a mind-set and tool for exploration, framing and re-framing, and as a skill and a creative strategy to deliver profitable, viable and meaningful solutions.

Strategies for competitive advantage; How can design excellence help your organisation strengthen its competitiveness

In his book, *"Design-driven Innovation"*, which discusses design's role and aptitude as driver of radical change and what things mean, Roberto Verganti writes in the introduction that,

This strategy is called 'design-driven innovation' because design, in its etymological sense means 'making sense of things'. And design-driven innovation is the R&D process for meanings. This book shows how companies can manage this process to radically overturn dominant meanings in an industry before their competitors do and therefore rule the competition. [46]

There are several other takes on what design driven implies, but there is a particularly interesting twist to Verganti's approach; the fundamental assumption that design is primarily about designing meaning, about sense-making, and that these are the dominant factors at strengthening competitiveness.

Design can clearly contribute to making sense of products and services, as well as to create new products and services through the conception of new meaning. Both requires an intimate understanding of what the users are longing for, what makes them react and respond. This understanding can only be acquired through meaningful engagement of stakeholders and through access to tacit needs and aspirations. As Jon Kolko puts it in his book;

Design is more of a comprehensive way to think about people and human behaviour rather than engineering or marketing. It is a product development process that uses empathy with a community of potential consumers in order to identify problems to solve. Design leverages a certain way of thinking in order to infer solutions to those problems that will have meaningful emotional appeal and a strong market fit. [47]

Design thinking is often portrayed as an approach to problem solving, while a much more pivotal part of its role is informing and inspiring a deep and thorough understanding of the problem to be addressed. Solving the wrong problem – no matter how smartly it is solved – hardly strengthens any organisation's

[46] Verganti *(2009): Design-Driven Innovation - Changing the Rules of Competition by Radically Innovating What Things Mean* - Harvard Business Press, Boston

[47] Kolko (2014): *Well-Designed: How to Use Empathy to Create Products People Love* – Harvard Business Review Press, Boston

competitiveness. Likewise, solving a problem in a designerly fashion – even one that is well conceived and rooted in real needs – only reflects positively through strengthened competitiveness if it's managed effectively and efficiently. Thus, adopting design as a means to capture market shares and achieving a competitive edge is only worthwhile if design is allowed to play a role – not only as a means to solve any given problem, but is also embraced as a research instrument, a source of inspiration and a means to manage the development process from the fuzziest notions to the successful launch of a new product, service or proposition.

Competitiveness can be composed of many factors, but there is no doubt that understanding user needs is one of the – if not ***the*** – most important. However, the key to acquiring such and understanding is not always evident. In the design toolbox, a series of proven techniques contribute to accessing both the articulate and tacit needs of the users; the author of "*E-commerce Usability: Tools and techniques to perfect the on-line experience",* Dr. David Travis, at the website of the London based consultancy of which he is a partner; 'Userfocus', lists no less than 60 ways to understand user needs. [48] Most of them are either formally and articulated or intrinsically part of the methodologies that design practitioners apply on a daily basis. That doesn't make them "design thinking" per se, but applied systematically as part of a project's front-end research, they inform and inspire the decisions to be made before an actual development project is embarked upon. Design management contributes to strengthening competitiveness through sustained focus on the findings from the user studies, recurring consultations and consistent exploration of the ideas generated on their basis *throughout* the phases following the research and exploration phase, through to delivery.

But, also understanding the context in which a new product, service o business model would exist is of pivotal importance. Porter's "***Five Forces***" [49]; competitive rivalry, supplier power, buyer power, threat of substitution and threat of new entry can all be addressed and understood through design excellence. Embarking on any commercial design venture, a certain degree of analysis needs to forego. Other techniques and approaches to this exist in addition to the Five Forces model, such as SWOT and PESTEL. All these three analyses or versions of them are very common – either alone or in combination. The objective of undertaking such analyses is to better understand the environment and conditions where a new product or service would potentially compete, and the extent to which it would have a competitive advantage. Regardless of which of the aforementioned models or techniques are chosen, the core of the operation is to frame and forecast the critical factors influencing its competitiveness. The most effective approach to this is also a key element in design excellence; working with scenarios.

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[48] Tavis (2014): *60 ways to understand user needs that aren't focus groups or surveys* - http://www.userfocus.co.uk/articles/60-ways-to-understand-user-needs.html

[49] Porter (1979): *How Competitive Forces Shape Strategy*, Harvard Business Review, May 1979 (Vol. 59, No. 2), pp. 137-145.

Scenario planning involves two elements: (i) constructing or developing scenarios, and (ii) integrating the content of scenarios into decision making (Fahey & Randall, 1998). Scenarios do not recast or reshape the present; rather they provide distinctive vantage points from which to re-examine, how the marketplace or industry is unfolding, which forces are shaping its evolution, and why it might evolve one way rather than another (Fahey, 2003). [50]

While Porter primarily focuses on external factors to assess future competitiveness, Hamel and Pralahad are more occupied with the organisation itself. Their thinking is based on the fundamental assumption that today's competitiveness is not something one can take for granted to continue in the future;*"There's no such thing as "sustaining" leadership; it must be regenerated again and again."* [51] This argument is strongly supported by numerous later studies. One of the determining factors of whether an organisation and its leadership succeed at "regenerating again and again" boils down to their ability to deal with complexity, as complexity is conditional – not a matter of choice;

Leadership in these circumstances requires a broad mindset that is comfortable with complexity and ambiguity. It also requires a range of discrete skills that can support this mindset and are amenable to being refined through tried and tested development interventions: the ability to be flexible and responsive to change, the ability to find creative, innovative and original ways of solving problems, the ability to learn from mistakes, the ability to balance shorter and longer-term considerations. [52]

Adding to that one of the more famous quotes by the renowned capacity on organizational culture, Edgar Schein;

In an increasingly complex, interdependent, and culturally diverse world, we cannot hope to understand and work with people from different occupational, professional, and national cultures if we do not know how to ask questions and build relationships. [53]

It seems increasingly obvious that design excellence, hallmarked by the acknowledgement of ambiguity, questions and doubts, re-iterations and mistakes as drivers of better and more sustainable solutions – could be one of the levers most readily available to facilitate and accommodate the organisational development needed to stay competitive under constantly changing, yet inevitably and increasingly complex conditions.

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[50] Cooper et al. (2009): *Design 2020 design industry futures"*– University of Salford, University of Lancaster and British Design Innovation

[51] Hamel and Pralahad (1994): *Competing for the Future*, Harvard Business Review, July-August 1994, adapted from the book Competing for the Future, published by Harvard Business School Press in September 1994

[52] Gitsham (2009): *Developing the Global Leader of Tomorrow*, Ashridge and EABIS

[53] Schein (2013): *Humble Inquiry - The Gentle Art of Asking Instead of Telling* – Berrett-Koehler Publishers, San Francisco

Improving customer experiences through design excellence

The final concern from the CEO panel was how to strengthen the organisation's ability to deliver better customer experiences. This concern cannot be discussed as a stand-alone; even less so than any of the preceding four.

Almost every successful company recognizes that it is in the business of customer experience. Many businesses understand that it's no longer enough to compete on products and services; how a company delivers for its customers is beginning to be as important as what it delivers. Customers - whether they're airline passengers, online retail consumers, or IT-services outsourcers - not only increasingly dictate the rules but also expect high levels of satisfaction from the savviest practitioners and the sleepiest industry participants alike. Companies that work to master this dynamic become superior competitors. [54]

The perceived quality of the interaction between a company and its client – whether individual or another company or organization – determines the degree of success that the company has. That sounds quite simple, and it would be, if it weren't for variables like expectations and previous experience. Moreover, the combination of factors influences our perception:

The main findings include the notion that a factor can have a different impact on customer satisfaction and efficiency depending on which other factors it is combined with. Additionally, separate factors or the same factors in a different form influence customer satisfaction and efficiency. Hence, there are tradeoffs while attempting to achieve very good levels of both customer satisfaction and efficiency. [55]

Adding to that, studies show that *"Offering wonderful products and excellent service are hygiene factors today and do not lead to competitive advantage."* [56] This only confirms Pine and Gilmore's studies of consumer economic trends, showing that the behaviour of consumers was increasingly motivated by the quality of the experience as an equally important parameter to the quality of the service or good itself. [57]

And, as if that weren't enough, there are significant differences between what triggers customer satisfaction in a B2B as opposed to a B2C transaction. Other studies support this, and moreover confirm the notion that clients and customers weigh different factors differently but also, that to succeed, companies *"will have to be*

[54] McKinsey & Company (2016): *Customer experience: Creating value through transforming customer journeys*

[55] Rekilä (2013): *A study of the factors influencing customer satisfaction and efficiency in contact centers: the combined effect* - Aalto University (Master Thesis)

[56] Lemke, Wilson and Clark (2014): *What makes a great customer experience?* – Cranfield University, School of Management

[57] Pine and Gilmore (1999); *The Experience Economy*, Harvard Business School Press, Boston

capable of achieving high experience quality levels consistently across all channels." [58]

Another one of the top tier global consultancies, KPMG, some years ago published a 7-step guide to improved customer experience:

1. *Understand the needs, wants and preferences of your target audience*
2. *Establish economic frameworks to understand and prioritize impact of marketing, sales and service decisions*
3. *Track customer behaviour, distill patterns, and adapt to accommodate shifts*
4. *Develop lead nurturing and customer management plans for target audiences*
5. *Develop a customer-centric information architecture*
6. *Deploy workflow-based tools to marketing, sales and service stakeholder groups*
7. *Create a customer centric experience map to optimize touch-points* [59]

Among the interesting observations here is that the seven steps in many ways resemble and correspond to the sequences known from design management, while the contents to a great extent correspond to the exploration, insights and inspiration one would normally connote with design thinking, supporting the argument that design excellence is a viable approach to understanding current and improving future customer experiences. Designers are not only trained at, but work systematically with understanding needs, wants and preferences, with prioritizing alternative routes of impact, with tracking customer behaviour and distilling patterns, with diverse target audiences, with customer-centric information architecture, with engaging multiple stakeholders and with touch-points and user journeys – here referred to as experience maps.

At its core, what KPMG recommends is a properly conceived and professionally managed design process to achieve "*better customer experience management and improved customer management to drive profitable growth".* Some would call it user experience design, others would call it service design; what it sums up to is that the process of getting to the point where the perceived experience supports the brand values, the strategies and the aspirations of the provider of the experience – whether it includes a physical product or a service transaction – by being perceived superior to that of its competitors by its clients, is a design process;

While colloquially the word design is used to refer to the appearance or styling of a particular product or outcome, the proper meaning goes far beyond that. In particular, the approach of service design refers to the process of designing rather than its outcome. The outcome of a service design process can have various

[58] Lemke, Wilson and Clark (2014): *What makes a great customer experience?* – Cranfield University, School of Management

[59] KPMG (2011): *Seven steps to better customer experience management – Improving customer management to drive profitable growth*

forms: rather abstract organizational structures, operation processes, service experiences and even concrete physical objects. [60]

Design as making your business tangible

Traditionally, design processes result in tangible outputs; tangible as in something material that can be touched and felt. As design, as previously discussed, captured new, intangible domains, such as services and experiences, the role of, and interest in, immaterial design emerged and matured. *"*

The solutions to the "wicked problems of design" are more likely to be new processes, lifestyles, and changes in meaning, rather than purely material artefacts. [61]

And yet, one of the key roles of design and designers is to make the intangible tangible – often through visualizations, but:

The notion of bringing form to the intangible complex not only refers to visual modes of representation but also includes narrative practices and storytelling as an art.[62]

This view is widely supported:

Examples of new application areas for knowledge visualization can be found, for example, in the visual communication of corporate missions, strategies, value propositions, and business scenarios. New applications can also be envisioned by combining knowledge visualization with other innovative approaches in knowledge management, such as storytelling. [63]

Many of us have experienced how powerful it is when a visual facilitator is capturing a conference or strategy meeting. Our understanding of complex issues and not already existing solutions is significantly improved by seeing visual representations of it. Also three-dimensional props underpin our intellectual processing. An example if such is LEGO Serious Play (LSP), which is a process developed to support strategic dialogue and processes. Extensive research has been undertaken to understand how serious play enhances strategy processes. One research project showed that LSP helped motivating the workshop

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[60] Stickdorn and Schneider (2011): *This is Service Design Thinking* – BIS Publishing, Amsterdam

[61] Wahl and Baxter (2008): *The Designer's Role in Facilitating Sustainable Solutions* - MIT Design Issues: Volume 24, # 2 Spring 2008

[62] Dixon and Murphy (2016): *Educating for Appropriate Design Practice: Insights from Design Innovation* - Design Management Journal, 11: 58–66. doi:10.1111/dmj.12027

[63] Eppler and Burkhard (2007): *Visual representations in knowledge management: framework and cases* - Journal of Knowledge Management, Vol. 11 No. 4 2007, pp. 112-122

members, helped participants seeing their ideas / suggestion integrated in the overall solution, enhanced the communication of the workshop results, allowed for a guided discussion as well as creativity and strengthened the consensus around the gathered options for action.[64] Other elements of the design process, such as continuous prototyping has been adopted – first by the software and programming communities, and later on by numerous others devoted to the development of new private and public services, urban planning, new business models and disruptive challengers within all kinds of industries, in the form and shape of so-called "Hackathons."

Hackathon" combines the terms "hacking" and "marathon" and implies an intense, uninterrupted, period of programming. More specifically, a hackathon is a highly engaging, continuous event in which people in small groups produce a working software prototype in a limited amount of time. [65]

And, as mentioned before, any one out of a series of other outcomes. The point is that tools and methods, previously known predominantly from the design domain have already been taken up by other sectors on a massive scale – to generate ideas, moderate stakeholder conversations, prototyping and making tangible. Design is all about making tangible; making ideas work and bringing ingenuity to life. What remains to be seen is that the mechanisms proven to manage and extract the most value out of such tools and methods – design management – are adopted to the same degree and as widely as the individual elements referred to.

As stated earlier; design thinking seems to have captured the minds and attention of both the private and public sectors, while design management in the wake of this new, or rather newly rediscovered and by many perceived as a "one size fits all" remedy – proverbially spoken was thrown out with the bathwater.

In two weeks from today: The Design Management Series, Article # 5/7:
The convergence model of design leadership and design management

[64] Grienitz and Schmidt (2012): *Scenario Workshops for Strategic Management with Lego Serious Play* - Problems of MANAGEMENT in the 21st century, Volume 3, 2012

[65] Raatikainen et al.,(2013): *Industrial Experiences of Organizing a Hackathon to Assess a Device-Centric Cloud Ecosystem*, Proc. 2013 Computer Software and Applications Conf., pp. 790-799, 2013.